

Design as Common Good / Framing Design through Pluralism and Social Values

Swiss Design Network
Symposium 2021
Conference Proceedings

Edited by
Massimo Botta
Sabine Junginger

University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

Lucerne University of
Applied Sciences and Arts

**HOCHSCHULE
LUZERN**

FH Zentralschweiz

SWISSDESIGNNETWORK

Design as Common Good /
Framing Design through
Pluralism and Social Values

Swiss Design Network
Symposium 2021
Conference Proceedings

Edited by
Massimo Botta
Sabine Junginger

Conference Proceedings
Swiss Design Network Symposium 2021
25-26 March 2021, held online

Organized by

University of Applied Sciences and Arts
of Southern Switzerland, SUPSI
Lucerne University of Applied Sciences and Arts, HSLU

Conference Proceedings Design

Claudia Tambella

Proceedings Compiled by

Vanessa De Luca

Editors

Massimo Botta, Sabine Junginger

© 2021. This work is published under a CC BY-NC-ND 4.0 license.

Conference Proceedings

Design as Common Good
Framing Design through Pluralism and Social Values
ISBN 978-88-7595-108-5

Published by

SUPSI, HSLU, swissdesignnetwork

Since 2003, the Swiss Design Network has been promoting
and fostering the development, quality and constant improvement
of design research in the Swiss Universities of Design and Art.

A	Table of Contents	12	Editorial Introduction
		23	Reflecting on the Common Good
		25	Opportunities and Limitations of Design for the Common Good: An Exploration of Approaches to Designing with Communities
		26	The Role of Co-Design in National Policy Making for Sustainability - Creating England's Post-Brexit Environmental Land Management Approach Judith Tsouvalis, Ruth Little, David Rose
		40	Regaining the Right to Our City: Designing Reilly Commons Kate Catterall, Alyson Beaton, Jorge Zapata
		62	Knowledge as Common Good - Design and the Changing Frameworks for Collaboration Between Institutions and Communities Lorenz Herfurth, Jérôme Elissalde
		75	Designing With, Within, and For Common Good
		76	Design & Permaculture. Shifting Paradigms to Build Food Sovereignty in Tunisia Safouan Azouzi
		88	Urbanism for the Common Good: Assessing the Transformation of 18 de Marzo Oil Refinery in Mexico City Maitreyi Phansalkara, Beatriz Vergara Allerb, Jorge Zapatac
		118	Using Probes and Prototypes in Digital Environments for Participatory Deliberation Juan de la Rosa, Juan Sebastian Bedoya Rodríguez, Valentina Barrera García, Paul Bryan Gamboa Mateus, Carlos Andrés Garzón Pachón, Dora Consuelo Villalobos, Stan Ruecker
		133	Speculating, Acting and Deliberating About the Common Good
		134	The Problem With Problem Solving. Design, Ecology and the Common Good Felix Kosok
		146	Design For Public Thinking Youngbok Hong
		158	Designing Beyond the Common Good – an Evolutionary Process between Speculation and Reality Dustin Jessen, Simon Meienberg
		174	Challenging Design for (the) Good – New Design-Roles: Making Design Vulnerable Lucas Kuster
		189	Striving towards a Common Good
		191	Social Design in Emerging Economies
		192	Moving Mountains: Case Study of Community Based Participatory Research as an Approach to Social Design & Entrepreneurship Dhriti Dhaundiyal, Richa Pant
		206	Design for and From the Community: A Review of Social Design in Egypt Sherin Helmy

- 221 **Places, Communities and Collaboration**
- 222 **Designer Involved in Communities' Projects: Her Place and Tools to Support Collaboration**
Alice Martin, Manon Ménard
- 234 **Expanding the Common Good**
Lisa M. Abendroth, Jane Anderson, Bryan Bell, Simon Colwill, Peter Fattinger, Ursula Hartig, Jeffrey Hou, Sergio Palleroni, Nina Pawlicki, Colin Priest
- 249 **Methodologies and Research Approaches**
- 250 **Are Design Discourses Evolving to Contribute to the Common Good, Particularly in Germany?**
Michael Janzer
- 260 **The Logics of Social Design**
Lucy Kimbell
- 274 **Core Values Matter: The Role of the People in Shaping Corporate Responsibility**
Lilian Crum
- 286 **Designing New Solutions During Covid-19 through Creativity**
Gianluca Carella, Mattia Italia, Silvia D'Ambrosio, Francesco Zurlo
- 298 **The Genealogies of Social Design and Claims to the Common Good**
Patrycja Kaszynska
- 309 **Structuring Interaction: Four Viewpoints on Design Methods in Communities**
- 310 **Re-Designing Social Services for People in Transition**
Laura C. Heym, Jennifer L. Schubert, Alvise Mattozzi
- 328 **Greater Good and Good Difference**
Bryan Bell, Lisa M. Abendroth, Sergio Palleroni
- 344 **The Use of "Borderwork:" Approaches and Framing in Reconstructing Critical Interdisciplinary and Community Engagement in Design Education and Design and Social Innovation**
Scott Townsend, Maria Patsarika
- 364 **Communication Design Doing It Better**
Ana Melo, Marco Neves
- 379 **Equity, Justice and Inclusion**
- 380 **Designing the Arqive: Queering the Common**
Zachary Vernon, Cynthia Wang
- 394 **Theorizing a Queered Design and the (Im)Possibility of Design for the Common Good**
Isabel Prochner
- 404 **Queering FADU: Designing and Redesigning University Spaces from a Gender Perspective**
Griselda Flesler

- 417 **Design for Agency**
- 418 **Self-Awareness: a Participatory Design Methodology for the Co-Creation of Empowerment Images**
Sérgio Pires, Pedro Bessa
- 434 **Design as a Facilitator for Social Inclusion**
Hina Shahid
- 450 **Conversational Spaces in the Craft for Empowerment System in Pakistan**
Gwendolyn Kulick
- 465 **Diverse, Open, Collaborative: Innovative Approaches to Design**
- 466 **Open Design as an Approach for the Commoning of Design. The Collaborative Experience of Openly Defining Open Design with an Open Source Process**
Massimo Menichinelli, Serena Cangiano
- 482 **The Tridea Project: Designing Conditions to Foster Culturally Diverse Co-Creation in a Virtual Space**
Lisa Winstanley
- 494 **Digital Collaborations for the Common Good: Key Learnings from Four Community Projects**
Alejandro Salas, Giovanni Arbelaez, Ferney Osorio, Laurent Dupont
- 507 **Reflections on Designing Agency under Socio-Technical Conditions**
- 508 **Commoning UbiComp. Designing Equitable Techno-Social Hybrids**
Jonas Kellermeyer, Jan Torpus
- 522 **Deep Design: Integrating Transitions Research and Design with Agency, in the Digital Era**
Babajide Alamu Owoyele, Jonathan Antonio Edelman
- 548 **Legible AI by Design: Design Research to Frame, Design, Empirically Test and Evaluate AI Iconography**
Franziska Pilling, Haider Akmal, Adrian Gradinar, Joseph Lindley, Paul Coulton
- 566 **Designing the Exploration of Common Good within Digital Environments: A Deliberative Speculative Design Framework and the Analysis of Resulting Narratives**
Michel Hohendanner, Chiara Ullstein, Daijiro Mizuno
- 583 **Design, Toys and Commoning. A Panel of Pluriversal Approaches**
- 584 **Toy Stories for the Common Good**
Athina Fousteri, Georgios D. Liamadis
- 600 **Spaces of Commoning: Critical Reflection on Urban Commons (in ex-Yugoslavia)**
Iva Čukić, Jovana Timotijevic
- 614 **Telling Stories on Commoning with Design of Models and Simulations**
Selena Savić, Yann Patrick Martins
- 628 **Digital Tools for Collaborative Design Processes**
Moritz Greiner-Petter, Merle Ibach

- 640 **Re-Imagining Commoning Infrastructures and Economies**
Viktor Bedö, Shintaro Miyazaki
- 651 **Activating Processes in the Cultural and Civic Space**
652 **Ongoing Matters: Government Document Design in the Public's Interest**
Andre Mürnieks, Anne H. Berry, Sarah Edmands Martin
- 674 **Participatory Design in Design Museums as Platforms for Common Good**
Luisa Hilmer, Lisa Rotzinger, Iria Suárez
- 686 **Curating for the Common Good. An Activist Curatorial Framework to Foster Innovation in Design**
Viviane Stappmanns
- 697 **Making the Design Commons – Methods, Tactics and Processes**
698 **Collectivizing the White Cube: Design Gallery as Commons**
Ellen Christensen
- 710 **Walking by the Commons: Developing Design Patterns for Future Cultures of Consumption and Production in Exhibition Interview Walks**
Martina Fineder, Luise Reitstätter
- 724 **The Design of Social Independent Magazines. Multiple Translations for a New Design Sensitivity**
Elena Caratti, Giovanni Baule
- 747 **Negotiating Ethics, Methods and Responsibility**
748 **Design for Common Good Needs Some Ground Rules - The Need for Ethical Design Pedagogy**
Saskia van Kampen, Cheryl C. Giraudy
- 764 **DYING.DIGNITY.DESIGN. End of Life Design as a Common Good**
Bitten Stetter
- 774 **Design and Visual Communication as Common Good in the Field of Palliative Care**
Tina Braun
- 790 **A Systems-Centric Approach in Designing for the Common Good**
Shalini Sahoo
- 805 **Future Scenarios for Crisis and Resilience**
806 **From Fact to Artifact: a New Approach to Ethical Responsibility in Discursive and Speculative Design Practices for Public Engagement in Science**
Lynn Harles, Marie Lena Heidingsfelder
- 820 **A Research through Design Practice to Envision Home Scenarios in the Post-Covid-19 Future**
Xue Pei, Daniela Maurer, Carla Sedini, Francesco Zurlo
- 834 **Speculative Citizen Design – Design for Resilience through Low-Threshold and Community-Based Speculative Design**
Aïcha Abbadi, Luisa Hilmer

- 851 **As Strong as the Weakest Link: A Global Blueprint for Sustainable Practice**
- 852 **Quantum Thinking – Sustainability in and through Visuality**
Benedetta Crippa
- 862 **Can Plastic Be ‘Green’?**
Geoff Isaac
- 878 **The Impact of Sustainable Eco-Tourism by the Khomani San Community: An Ethnographic Study**
Celeste McKenzie
- 896 **Design as a Catalyst for Sustainability – An Approach to the Common Good and the Oceans**
Dilia Nunes, Joana Lessa
- 913 Educating for the Common Good**
- 915 **Re-Orienting Design Education**
- 916 **Hidden Connections: Holistic Approaches to Design for the Common Good**
Eric Benson, Michelle Fehler
- 932 **Design Education as a Common Good for Artisans in India**
Judy Frater
- 946 **Implementing Design for the Common Good in an MA Curriculum**
Ulla Ræbild, Richard Herriott
- 958 **How Will It Benefit the Community? Designing a Cybernetic Curriculum for the Common Good**
Michael Hohl
- 973 **Other Ways of Worlding: Interrogations of Design Education, Theory, and Practice**
- 974 **Following the Otherwise – Contributions of Intersectional Feminist Design Pedagogies Towards Socially Transformative Practices**
Maya Ober
- 990 **Design for a Feminist Future**
Alison Place
- 1002 **Exploring Feminist Modes of Hacking as a Commoning Design Practice**
Marie Dietze
- 1016 **Fluid Worldviews: Designing within the Common Good**
Ricardo Sosa, G. Mauricio Mejía, Joni Adamson
- 1031 **Calling Upon the Common Designer: An Interactive Roundtable Exploration of Design Education & Practice**
- 1032 **Bridging the Skills Gap of Engineering Students to Engage with 21st Century Challenges: A Designer’s Approach**
Marius Aeberli, Pierre-Xavier Puissant, Marc Laperrouza
- 1042 **Caring for the Commons. Teaching Design through the History of Environmentalism**
Meret Ernst

- 1054 **The Turn of Design Towards Common Good**
Raffaella Fagnoni
- 1072 **Out of the Storm. A Design Education Multi-Methodological Approach on the Topic of Migrations**
Silvia Gasparotto
- 1086 **Practices of Making: Exploring Design-Based Making Within Positive Youth Development**
William Nickley
- 1109 **Designing for the Common Good - Workshops**
- 1110 **Settings of Dying – Design as Common Good within Palliative Care**
Bitten Stetter, Tina Braun
- 1114 **The Wall as a Vertical Common: Redesigning Spontaneous Interactions in the Public Space**
Rendy Anoh, Shiri Mahler
- 1124 **Whose Common Good? Ideals and Challenges in Academic Programs Focused on Social Design**
Elise Hodson, Ana Rita Morais, Christopher Pandolfi, Heather Daam-Rossi
- 1128 **Creating Legible AI (a Digital Workshop) (Vol. 2)**
Franziska Pilling, Haider Akmal, Joseph Lindley, Paul Coulton
- 1134 **Untangling Social Justice: Design Futures for Systems Thinking**
Hillary Carey
- 1138 **Resilience Making**
Stephanie Carleklev, Wendy Fountain, Stephan Hruza
- 1142 **Just listen! Soundscape as a Designable Common Good**
Daniel Hug, Andrea Iten, Max Spielmann, Catherine Walthard
- 1154 **Building Structures For (Ex-)Change**
Moderators/Chairs: Sergio Palleroni, Michael McKeever
Breakout sessions: Bryan Bell, Colin Priest, Jeffrey Hou, Nina Pawlicki

Editorial Introduction

Massimo Botta
and Sabine Junginger

"Give design back to society and it will be an ability sought after in the soon to be realised post-mining economy with numerous regulations that will make the everyday task complex and challenging. From material to dematerial [sic] is a direction that design will increasingly focus on as business models and regulatory principles will determine what we may be permitted to do rather than what we can do with technology at hand. Design is about what you can and would do with technology and materials as well as about the spirit that drives such use. People matter and designing with people and for people is the way forward which we will need to once again integrate into our everyday lives." (MP Ranjan, 2006).

The 2021 Swiss Design Network Conference was held under the constraints and challenges of a global human crisis. Today, design is an ability sought after in private business and industry, though increasingly in the public sector. In both sectors, design has the potential to contribute to the common good: by way of making services accessible, business models social and sustainable, by way of opening new paths for outcomes that benefit individual people, producers, the public and the planet. Waheed Hussein (2018) defined the 'Common Good' to be that which "benefits society as a whole – in contrast to the private good of individuals and sections of society." This definition, published in the *Encyclopedia of Philosophy* (ed. Zalta et al., 2018) can be interpreted as a call to design for the many, not for the one. Does this call for a shift from, say, user-centered design which concerns itself with one-to-one relationships to human-centered design, which understands the one to be part of a wider community or society (Winnograd and Wood, 1997; Buchanan, 2001; Krippendorff, 2006)? What does it mean then for design to act, intervene and engage with often highly fragmented and politicized communities – be that at a local, national or global level? How, in what way and for what purpose do we find design to make valuable contributions to policies, the economies, and societies? And how might design be part of a public strategy to mobilize power and knowledge for the common good (Mulgan, 2009)? More puzzling, if we do think of design itself as a common good, is this a call for caring about design in different ways than we do currently?

The late MP Ranjan prepared his remarks for the 2006 conference of the Industrial Design Society of America (IDSA) but we find many elements that are part of our contemporary debates about 'design as common good'. In fact, the concern for consequences and impact of our design thinking and design doing is a theme throughout design" history. Long before the virus disrupted every part and corner of our lives, in communities around the globe, design researchers and design practitioners concerned themselves with questions of the social and the common good. This includes Päivi Tahkokallio's and Susan Vihma's edited book *Design – Pleasure or Responsibility?* (1995) as well as Bruce Mau's and J. Leonard's 2004 compilation on *Massive Change that was* based on the exhibit with the same title in the same year.

The focus has moved though, from scrutinizing design products and things for their value to the real world (Papanek, 1972) to closing the chasm between designing for the (consumer) market and the nonprofit, public sector (Margolin and Margolin, 2002). Margolin and Margolin's proposed 'Social Model' outlines the shared interests in the social and the market that resonate with contemporary concepts of social business and social entrepreneurship, or as Csikszentmihalyi (2004) writes, with "good business." New design professions have emerged that are explicit in their concern for societal and social impact. These include Service Design and Social De-

sign with new specializations now forming around Design in Government, Legal Design and even Policy Design. The uproar caused by the UK Design Council just fifteen years ago when it awarded its own in-house designer Hilary Codham, a designer who 'explored new solutions to social and economic problems through design' but was "no shaper of 'things'", is unthinkable today[1].

Instead, we find design central to a number of governmental frameworks. Among them, for example, the Sustainable Development Goals (SDG) by the UN and the Quadruple Helix by the OECD (Carayannis & Campbell, 2009)[2]. The SDG calls for new approaches of design to address 17 areas identified by the UN as elements of a sustainable world concerned with human well-being. In this framework, design refers and is understood as transcending the verb to design meaning creation of products, services, buildings or communication and so on, rather looking at design as "diverse forms of life, and often, contrasting notions of sociability and the world" (Escobar, 2018). Each of the 17 boxes point to the need of a new approach to an old lingering problem. It is not for lack of experts that each of these boxes have struggled to arrive at satisfying solutions, it is for lack of getting people motivated and encouraged enough to work together in new ways and to experiment together, co-developing and co-designing new possibilities. The second example, the Quadruple Helix, emphasizes the need for co-creation and co-design among governments, industries, academia and civil society in order to achieve socially desirable innovations. It is here where design as common good encounters pluralism and social values. A recently published report part of the EU initiative "We against the Virus" (WirvsVirus) underlines the fundamental need for co-creation, and codesign to achieve viable social innovation. Does this point to design being a common good?

In light of these promising but also fundamental shifts in business, society and government, the contributions of design to the common good remain under explored. This conference aims to reflect[3] critically on the implications, approaches, practices and challenges involved for design researchers, design professionals and other design practitioners participating when they engage in the creation of 'a' or 'the' common good. When everybody designs (Manzini, 2015) and design is recognized for its ubiquitousness, does this make design a common good? And if so, what are the consequences?

[1] Source: Jinman, Richard, 'Design Award Winner no shaper of 'things'', The Guardian Online, June 10th 2005. Last accessed March 2021: www.theguardian.com/society/2005/jun/10/urbandesign.architecture.

[2] Source: www.sustainabledevelopment.un.org.

[3] Source: Open Social Innovation: Gemeinsam Lernen aus #WirvsVirus, A Learning Report DOI: <https://doi.org/10.48462/OPUS4-3782>. The Hertie School

Temporality presents a key aspect for designers today (Anceschi and Botta, 2019) with a focus on processes over time. We witness this in the contemporary design language that now shapes the field of design. New terminological compounds around design topics, approaches, and processes have emerged, such as strategic design, transition design, transformative design, experience design; and co-design participatory design, Human-Centered Design; and again, collaborative thinking, iterative processes, and product life cycle. These terminological compounds identify theories, methods, and practices formulated and established in other contexts of knowledge, and are now part of the design discipline. With an openness to change and the adoption of theories, methods, and practices from other sciences, defining one's intellectual, cultural, social, and political dimension became increasingly relevant for the discipline of design and the designer role.

This last viewpoint is of fundamental importance when considered with the topic of the common good. Aristotle refers to "politics" as the administration of the "polis" for the good of all, as the determination of a public space in which all citizens participate. And politics implies the term *téchnē*, which is the art and technique of the government of society. In other words, today's design should present itself as the technical-scientific discipline which, increasingly, contributes to defining the rules and principles that designate the directions that public life should take.

1 A Working Conference: About the Pre-Conference Working Groups

Critique about design conferences has been lingering for years, if not decades. Too expensive, too stoic, too weak in terms of papers, too colonized in terms of those driving the program and the conference structure. The analogue world witnessed a rise in "unconferences". These seem to have potential but so far they have shown to have at least two issues: one concern is that they seem to work for small groups only – and here, too the question of who is in and who is out remains. Another concern is their integration into the field and discipline, that is to ensure the knowledge and insights produced are accessible to the field. For now at least, unconferences have not proven to be a sufficient answer. The shift to the digital realm has challenged us to rethink the purpose of a design research conference. It also raises the specific question of how we might mobilize power and knowledge for the common good through a conference. We have approached this question with an experimental working conference we hoped would provide opportunities for real - human - exchange and engagement while encouraging critical reviews of ideas and concepts that have the potential to lead to new collaborations and new networks within the research community that can be pursued after the conference.

1.1 A Working Conference

The moment we began to discuss if we wanted to accept the invitation to co-chair the Swiss Design Network Conference 2021, we wondered what a design research conference could add in

times of upheaval, anxiety and for most of us, double and triple workloads. We discussed expectations, minimum requirements (conference proceedings!) and before we knew it we were asking ourselves what is the greater good here? What is the added value? Why should we or anyone else invest time in this? It was at that point when we realized that the conference itself needed to take the form of a work in progress following a co-design process. Figure 1 shows the concept drawn on the back of an envelope: following a double blind abstract review, authors worked on their paper. They then were assigned into working groups by the conference chairs according to areas of interests we saw emerging. The pre-conference began in the middle of December but work really picked up in mid-January. What happened in this working conference is that the actual conference taking place on March 25th and 26th turned out to be the byproduct of a much longer and more intense process.

1.2 Co-Developing the Conference Program

Following the acceptance of abstracts, authors were asked to finish their papers. Next we opened slack working groups around the themes and topics we saw emerging and brought together authors who looked at a similar or related topic from different perspectives. In a next step, we asked each group to envision and develop their conference session. By that time most authors had their paper close to being final and were ready to present and discuss this within their group. We gave each group the task to find out what was common about their papers and to build a panel session of 90 minutes around this. We encouraged groups to go beyond classic paper presentations. In the end, we asked every panel (and workshop) group to come up with a title and description for their panel. The conference program for both days is the result of this work. Sadly, the incredible amount of work accomplished on Slack will not be visible to attendees of the culmination of this conference that is open to the public. At the height of the activity, 168 people were working together on slack, crossing all time zones from Australia to Austria, Brazil to Bath, India to Istanbul. They started on December 15th and worked together through the end of March.

What we found is that many co-authors were engaging fully in these working groups. For us as conference chairs, for the conference coordinators for the Swiss Design Network Mayar el Hawayan and for SUPSI, Vanessa De Luca, this meant a much more direct engagement with individual conference contributors. Together with our authors and workshop hosts, we embraced different kinds of human experiences and different kinds of human interactions with the design research community.

1.3 Pushing the Envelope or Succumbing to Norms?

As designers, one would think that we are eager to push boundaries and experiment with new ways to engage with each other to advance knowledge and insights. Alas, we find that we are human, too. The reality is that when it comes to conferences, we

prefer the convenience of unwritten scripts and formulae. Tell me what the topic is I shall write about, tell me when to show up for my paper presentation, and please provide the ISBN of the proceedings so I can add this to my CV is an understandable position given the workload most of us face. A workload that has come under additional strains during the Corona pandemic. It is all but impressive therefore what every author for this conference and every single person involved in any of the conference workshops has accomplished.

1.4 Digital Tools for Ongoing Communication

To make matters worse for many involved, a digital conference requires working with digital tools not everyone likes or is familiar with. We found that a good number of our authors and hosts were fairly new to slack and encountered a first learning curve. Most managed marvelously, others simply turned to email as their preferred means of communication. Zoom and other video conferencing tools were also heavily relied on throughout the pre-conference work. What we learned was that people want to work together and that the digital realm offers many different paths and avenues to locate a usable and useful workspace. Figure 1 shows a screenshot of the *Slack* channels shortly before the start of the conference.

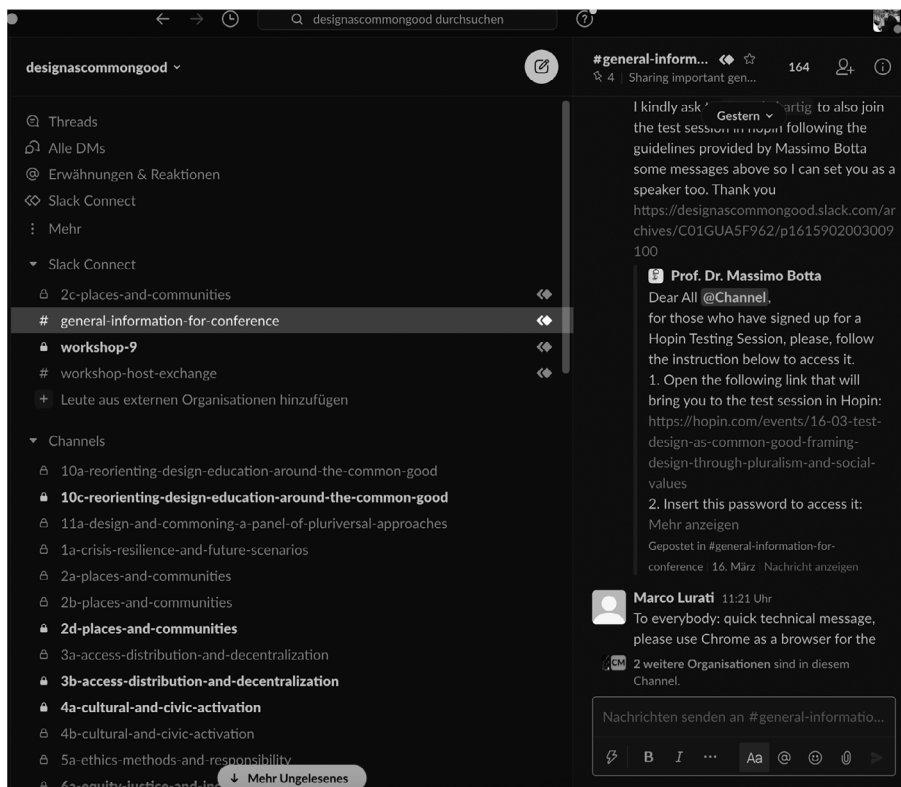


Fig. 1: Screenshot Slack Communication March 18th 2021 (Junginger).

1.5 Technical Support Sessions

Much thought was given to the conference platform. We eventually decided on *Hopin*, knowing full well that this would impose yet another learning curve on our contributors. Many had requested we stay on Zoom, a tool they were by now veerey familiar with and knew their way around. For the conference, we needed a place in cyberspace where everyone could check in at any point in time and move around freely between sessions. After much exploration, we zoomed in (pun intended!) on Hopin. We organized tech support sessions for all interested contributors to familiarize them and to enable them to run their own *Hopin* event. We are fully conscious that a platform like Hopin has its limitations and will disappoint some while delighting others. A judgement on the appropriateness of the platform for our conference will be possible only after the event has run its course, which will be only after the finalization of these proceedings.

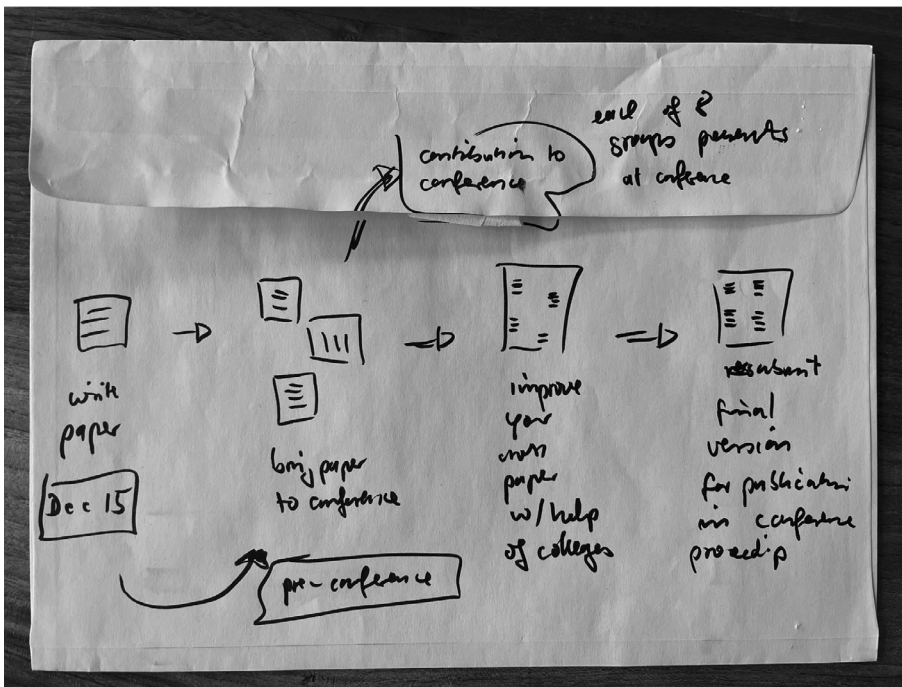
1.6 Time Zones & Cultural Diversity

An analogue conference brings together people, many of whom show signs of jetlag as they have traveled through different time zones to meet in the assigned location. For a digital working conference, time differences pose new challenges over a prolonged period of time. In our case, contributors dealt with these complications from mid-December through the end of March. Fewer than five contributors 'were lost' in this process, which is an encouraging sign. Being aware of this added complication, each panel and workshop group was asked to identify a time window that would work for them. The resulting three time slots reflect these wishes but there are still individual contributors for whom the conference means a 5 am start in the day or a 9 pm session.

There was a notable rise in awareness of power dynamics ranging from concepts of decolonialization, queer literature and gender perspectives. As we have been able to witness in other conferences, there is a broader concern about eurocentricity and western cultural norms[4]. This inspired us to think of the digital conference hang out places in terms of different cultures. We invite you to meet in a middle-eastern Shisha lounge, or relax in an Asian tea house, perhaps move to the beer garden or visit the juice bar before settling down in the wine cellar.

[4] A conversation and debate reignited also by the current developments around a New European Bauhaus.

Fig. 2: Conference Sketch November 2020 (Junginger).



2 About the Structure of the Proceedings

For the conference proceedings, we identified yet another set of themes that emerged from the panels and workshops. Though one might argue that there are alternative ways to go about this, we found four themes of particular salience. These include papers that offer 1) reflections on the Common Good, 2) papers that focus on how we get to the common good (Striving for the Common Good), 3) papers for how to advance design education about and for the common good (Educating for the Common Good) and finally, 4) the workshops provide examples of Designing for the Common Good.

2.1 Reflections on the Common Good

There are a wide range of efforts underway to engage with the questions this conference has pointedly asked but few look outside of design, perhaps missing opportunities to understand the role of (human-centered?) design in a pluralistic democratic society. This has already led to a number of publications by scholars in public management (McGann et al, 2018; Lewis et al, 2020) where authors often give short shrift to design literature and design research, conveniently reducing design to either a method (design thinking) or a profession (service design). We rarely find fundamental discussions of what it is that constitutes a specific design approach relevant to their field. This gap is significant as it is difficult to change the way one is going about designing when one is either not prepared or not willing to reflect on practices in play. Little to no systemic impact can be anticipated here.

2.2 Striving for the Common Good

The conference participants represent a self selection of actors who were attracted by the conference theme. This makes any comment on the theme "striving for the common good" a biased undertaking. Nonetheless the papers part of this section of the conference proceedings illustrate the breadth and the depths these efforts are now covering. The challenge for design has always been to retain a critical distance and not simply to be proud of its accomplishments - or to complain about others when things do not turn out the way we like it. What this section shows is that there is plenty of material for design researchers to develop new theoretical constructs that could inform the work going on in other disciplines and other domains.

2.3 Educating for the Common Good

The theme of Educating for the Common Good demonstrates that a reorientation of design education is underway. This includes the revision of the curricula structure towards more systemic thinking, the adoption of participatory methodologies and more holistic approaches to support specific interest groups and communities. At the same time, we are witnessing the introduction of educational models, theories, and practices that place design in the context of social, gender, and race inequalities that still exist in society and institutions with a broader discussion challenging the contribution and the role of the designer according to the topic of the common good.

2.4 Designing for the Common Good

Finally, the conference workshops have provided some inspiring examples but also have shown us the limits of organizing a conference online with a bare minimum of staff. One particularly interesting workshop we would have liked to see required us to be able to provide access to participants weeks in advance. In this case, our ambition met with the reality of how people sign up for a conference (last minute) and that despite our very personal engagement with all contributors throughout the planning, there were some things we just could not deliver on.

References

- Anceschi, Giovanni. and Botta M. (2009), 'Hypermodern? Perspectives for the design education, research and practice', Multiple ways to design research. Research cases that reshape the design discipline, Lugano: Swiss Design Network, et al., Botta M. (ed.), p.18-33.
- Buchanan, Richard. (2001). 'Human Dignity and Human Rights: Thoughts on the Principles of Human-Centered Design', Design Issues, Summer 2001, Vol. 17 (3): 35-39.
- Carayannis, Elias G., and David F.J. Campbell. (2009). "'Mode 3' and 'Quadruple Helix': Toward a 21st Century Fractal Innovation Ecosystem." International Journal of Technology Management 46, no. 3/4 (2009): 201. <https://doi.org/10.1504/IJTM.2009.023374>.
- Csikszentmihalyi, Mikael (2004). Good Business: Leadership, Flow, and the Making of Meaning, Penguin Books.
- Dewey, John, 1927 [2012], The Public and its Problems, University Park: Penn State Press.
- Hussain, Waheed (2018). "The Common Good", The Stanford Encyclopedia of Philosophy (Spring 2018 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/spr2018/entries/common-good>.
- Escobar, Arturo. (2018). Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds. New Ecologies for the Twenty-First Century. Durham: Duke University Press.
- Manzini, Ezio (2015). Design, When Everybody Designs: An Introduction to Design for Social Innovation (Design Thinking, Design Theory), MIT.
- Mau, Bruce. and Leonard J. (eds.) (2004). Massive Change. Phaidon Press, 2004. Krippendorff, Klaus (2006). 'The semantic turn—a new foundation for design', Policy Sciences 4: 155-169.
- Margolin, Victor and Sylvia Margolin (2002). 'A "Social Model" of Design: Issues of Practice and Research,' Design Issues: Volume 18, Number 4 Autumn 2002: 24-30.
- McGann, M., Blomkamp, E., & Lewis, J. (2018). The rise of public sector innovation labs: Experiments in design thinking for policy. Policy Sciences, 51(3): 249-267.
- MP Ranjan, 'Giving Design Back to Society', unpublished notes on the remarks of the 2006 IDSA conference.
- Mulgan, G. (2009). The art of public strategy: Mobilizing power and knowledge for the common good. New York: Oxford University Press.
- Lewis, J.M., McGann, M., & Blomkamp, E. (2020). When design meets power: Design thinking, public sector innovation and the politics of policymaking. *Policy & Politics*, 48(1): 211-217.
- Papanek, Viktor (1972, 1985). *Design for the Real World; Human Ecology and Social Change*, Academy Chicago, Chicago.
- Tahkokallio, Päivi and Susan Vihma (eds.) (1995). Design – Pleasure or Responsibility? University of Art and Design, Helsinki UIAH.
- Whitely, Nigel (1993). *Design for Society* Reaktion Books, London.
- Winograd, T. and Wood, D. D. (1997). The Challenge of Human-Centered Design, Report from Working Group 3, Version of April 9, 1997. Unpublished Working Paper, www.ifp.illinois.edu/nsfhcs/bog_reports/bog3.html.

Acknowledgements

Any conference is a team effort but often the team is reduced to the conference chairs, the conference organizers and the tech team in the background. In our case, our team included Conference Coordinator for the Swiss Design Network, Mayar el Hawayan and Vanessa De Luca and Silvia Converso, Marco Lurati, Daniele Murgia, Giovanni Profeta, Francesca Somaini and Claudia Tambella from SUPSI. Without either one of them, this conference would not have been unthinkable to lift off the ground. The demands on the team from setting up Slack channels and maintaining ongoing communication with authors and workshop hosts over several months to setting up the website, building the program bottom up and finally, seeing through the concept and realization of these conference proceedings were a load all on their own. Identifying a proper conference platform, tailoring it to our needs and then providing technical onboarding sessions for all panel and workshop hosts, too, added to the hours. A very big thank you indeed to the internal team. There is the Swiss Design Network Board which has trusted us with running this conference in an unconventional way, the great support we have received from SUPSI and HSLU, especially from Vice Dean of Research, Martin Wiedmer.

This conference stands out for the demands it has put on those selected to present their papers and run their workshops. We have asked you to make this your conference, to participate actively in the development of individual panels and the overall conference program. We are so grateful to all of you, across the globe who have supported this exploratory and experimental approach to how an online conference could bring together people, lead to new connections and new insights not only about how we think of a conference but also of designing together. Even now we find the slack channels still being used actively. This indicates that we all have created something of value together. We hope you can cherish this accomplishment with us and extend a big and heartfelt

Thank you!

Reflecting on the Common Good / Opportunities and Limitations of Design for the Common Good: An Exploration of Approaches to Designing with Communities / Designing With, Within, and For Common Good /Speculating, Acting and Deliberating About the Common Good

Opportunities and Limitations of Design for the Common Good: An Exploration of Approaches to Designing with Communities

The Role of Co-Design in National Policy Making for Sustainability - Creating England's Post-Brexit Environmental Land Management Approach

Judith Tsouvalis, Ruth Little, David Rose

Regaining the Right to Our City: Designing Reilly Commons

Kate Catterall, Alyson Beaton, Jorge Zapata

Knowledge as Common Good - Design and the Changing Frameworks for Collaboration Between Institutions and Communities

Lorenz Herfurth, Jérôme Elissalde

The Role of Co-Design in National Policy Making for Sustainability - Creating England's Post-Brexit Environmental Land Management Approach

Keywords: Co-design,
Public Goods, Agriculture, Transitions,
More-than-humans.

Judith Tsouvalis^{a*},
Ruth Little^a,
David Rose^b

^aUniversity of Sheffield

^bUniversity of Reading

*Judith.Tsouvalis@sheffield.ac.uk

This paper considers the role of design for the 'common good' in the context of the co-design of England's new Environmental Land Management approach (ELM), which will remunerate farmers and land managers for the delivery of environmental 'public goods'. The success of ELM is essential to achieving the UK's 25-year environment plan objectives and its commitment to Net Zero 2050. The approach is being co-designed with users by the Government. This paper presents findings from qualitative interviews with stakeholders and civil servants involved in ELM co-design since 2018. It outlines their views of principles of good co-design and discusses their experiences of the process to date, highlighting significant barrier government-led co-design faces. The paper reflects on the meaning of inclusive design, both in regard to 'harder to reach' participants, and in regard to 'more-than-humans' who have to date been neglected in design thinking for complex systems transitions.

1 Introduction

This paper reflects on the question of the role of design in contributing to the common good in the context of the co-design of England's new Environmental Land Management (ELM) approach. Underpinned by a natural capital approach, ELM will pay farmers and land managers in England public money for the production of public goods, which will replace the area-based payments they received under the European Union's (EU) Common Agricultural Policy (CAP). In England, ELM forms the cornerstone of the UK's radically reformed post-Brexit agri-environment policy; the devolved administrations of Wales, Scotland and Northern Ireland will develop their own approaches. Considering the co-design of ELM allows for reflections on the meaning of design for the 'public good'; the role of design in achieving 'sustainability'; the challenges of government-led co-design; and the importance of thinking about the meaning of 'inclusion' in policy design for complex systems transformations. It also invites us to consider how ELM co-design sits within design for sustainability and complex systems transformations more broadly.

2 Design for Sustainability and Complex Systems Transitions

Democratic Governments today routinely invite citizens to participate in the planning and design of policies and technologies that affect them, especially in the areas of public services development (e.g. the health sector), natural resource management (e.g. catchment sensitive farming), science and technology innovation (e.g. nanotechnology, synthetic biology), and rural development. This 'participatory turn' has a complex history, which in part stems from interventions in developing country contexts (Agrawal, 2005; Agrawal and Gupta, 2005; Leach *et al.* 2005) but gains pace from the 1960s onwards in western 'developed' country contexts. Participation takes many different forms and engagement practices vary widely. Similarly, rationales for public engagement differ, affecting both the nature of the engagement and its outcomes (Fiorino, 1990; Funtowicz and Ravetz, 1993; Tsouvalis and Waterton, 2012). Co-design is a participatory method that originated in the design discipline, which became firmly established in the UK and elsewhere during the 1960s/1970s. Since then, the discipline has undergone a "massive transformation" (Cooper, 2019). Initially being closely focused on improving economic and industrial competitiveness and associated with disciplines like management and marketing, towards 2000, when social and environmental activism gained new momentum, designs' valuable contribution to the public sector in terms of tackling health, education, transport and environmental challenges was recognized. By then, the interest in understanding 'consumers' had led to an expertise in behaviour change, inspired by advances in psychology, ethnography and anthropology. Designers in the UK played an important role both in the Cabinet Office's Behavioural Insights Unit established in 2010, and the Government's Policy Lab established in 2014 (initially led by a trained designer). Nowadays, it is common for designers to be involved in inter-disciplinary and trans-disciplinary initiatives that address economically and politically

pertinent issues like those encapsulated by the United Nations 17 sustainable development goals. According to Cooper (*ibid*), there is significant potential for design “to change the world at all levels” and “advance knowledge and develop solutions that contribute to the common good” (Cooper *et al*, 2018, p.307). Furthermore, design for sustainability has become an “important area of concern for designers” (*ibid*, p.314), albeit not a new one. Already in 1971, Papanek in *Design for the Real World* had argued that the work of designers could benefit society and the environment. Keenly aware that what they designed could damage the planet, he criticized the design profession for its links with business and industry. He desired its transformation, highlighting the role it played in encouraging consumption, thus contributing to ecological and social degradation. In 1973, Schumacher in *Small is Beautiful* equally urged designers to think carefully about unsustainable natural resource use and the human impact of technology, asking them to be attentive to sustainable development.

Tracing the evolution of design for sustainability focusing on product innovation levels, Ceschin and Gaziulusoy (2016, p.120) note how design’s focus has expanded from the product innovation level (the improvement of existing- or development of new products) to the product-service system innovation level (towards integrated combinations of products and services) to the spatio-social innovation level (innovations for human settlements tailored to the spatio-social conditions of their communities) to, more recently, the socio-technical system innovation level (promoting radical change regarding how societal needs like nutrition and transport/mobility are met and supporting transitions to new socio-technical systems). To achieve the latter, they suggest, requires a process-based, multi-scale, systemic approach to planning (*ibid*, p.119) which requires not only technological interventions but also social, cultural/behavioural, institutional and organisational change (Ryan, 2013a, 2013b). Transitional change lies at the heart of Britain’s post-Brexit agri-environmental policy reforms aimed at 'environmental enhancement' and sustainability, and the UK government is committed to co-design the most important instrument of it – ELM - with stakeholders.

3 Envisaging Transitional Change – the UK Government’s Post-Brexit Environmental Land Management Approach

Starting in 2021 and over a transition period of seven years, a new Environmental Land Management (ELM) approach will be introduced which will replace the area-based payments farmers and land managers received under the EU’s CAP with payments for the provision of 'public goods'. The multi-functionalist position of agricultural policy in favour of farm price support has been progressively abandoned in recent years in light of the devastating environmental effects it has had. Soil health deterioration, air and water pollution, flooding, and biodiversity loss (exemplified in the UK and elsewhere by a dramatic decline in farmland birds and

bees) have all been linked to misconceived policies, schemes, and practices (Bateman and Balmford 2018; Hayhow et al. 2017; Pe'er et al. 2014; Stewart et al. 2019; Williams *et al.* 2015). Reversing their effects is essential to realize the Government's preeminent "public good": environmental enhancement (Defra, 2018).

The two key characteristics of 'public goods' as defined by Samuelson (1954) are first, non-excludability (their benefits cannot be confined to those who have paid for them) and second, non-rivalry (their consumption by one person does not preclude others from consuming them). It is noteworthy here that there are significant differences in meaning between 'public goods' and the 'common good'. In classical political discourse, the 'common good'

"refers to those facilities - whether material, cultural or institutional - that the members of a community provide to all members in order to fulfil a relational obligation they all have to care for certain interests that they have in common [...] examples [...] in a modern liberal democracy include: the road system; public parks; police protection and public safety [...]. The term itself may refer either to the interests that members have in common or to the facilities that serve common interests." (Hussain, 2018)

In that sense, a 'common good' benefits *fewer* people than a 'public good'. The notion of *environmental* public goods is widely used to describe agricultural outputs for which there is no market but which are valued by society, like clean water and air, farmland biodiversity, and traditional landscapes. Cooper *et al* (2009) observe that policy actions are needed that go beyond legislative and regulatory baselines for farmers to deliver them: they need to be financially rewarded for their production. In 2018, the UK Government identified six primary 'goods' that they want farmers to produce: clean air, clean and plentiful water, thriving plants and wildlife, reducing the risks of harm from environmental hazards, using resources from nature more sustainably and efficiently and enhancing beauty, heritage and engagement with the environment (HM Government 2018, p.27-28). Endorsing the concept of sustainability (Brundtland Report, 1987), it stated that "actions of farmers and land managers now can help to preserve our natural landscapes and capital for future generations" (Defra, 2018, p.32-33). ELM co-design is, essentially, design for sustainability. The ELM approach provides "the new way for government to pay farmers and land managers to deliver public goods" (Defra, 2020:10), and it considers its success as essential for achieving its 25-year environment plan objectives (HM Government 2018) and its commitment to Net Zero emissions by 2050. This requires large-scale systems transitions and the wide uptake of ELM. To realize the latter, the Government has decided to co-design ELM with users.

4 Co-Designing England's New ELM Approach

4.1 Activities to Date

The co-design of ELM begun in 2018, led by civil servants from Department for Environment, Food and Rural Affairs (Defra). The "ELM team" as it is known initially numbered just a handful of civil servants. By 2020, it had grown to a team of over 40. Co-design activities undertaken since 2018 include:

- Three rounds of workshops held in different parts of England with farmers involved in initiatives supported by Natural England's Countryside Stewardship Facilitation Fund, who provided feedback on aspects of ELM as envisaged by Defra;
- Regular meetings (initially held every few months in person; since the outbreak of Covid19, monthly online) with "stakeholder engagement group" members. Members were initially selected by Defra and others were later invited to join following recommendations by existing members. The group now has over forty members and six thematic groups;
- Eight webinars with farmers run by Defra in 2020 on specific aspects of ELM;
- Two online public consultations (2018, 2020);
- 70 ongoing Tests and Trials (T&Ts) involving over 3,000 farmers who work with industry- and NGO collaborators trialling elements of ELM such as payments by results and reverse auctions. T&Ts are seen as a key element of co-design. They will be followed by three-year national ELM pilots in 2021.

ELM will be rolled-out nationally between 2024 and 2028. According to Defra, "Working with farmers and land managers will help us design and deliver a scheme that works for its users, and achieves our goals for the sector, the environment, biodiversity and climate change" (Defra, 2020, p.10). Below, we consider how some stakeholders and civil servants have, to date, experienced Defra's co-design process.

4.2 Method of Inquiry

The findings presented here are based on qualitative research carried out between July and December 2020. The data presented stems from semi-structured interviews conducted with 18 institutional stakeholders (14 of them members of Defra's stakeholder engagement group) and 5 civil servants from Defra's ELM team. Respondents' views and experiences of ELM co-design were, among other issues, explored in-depth. Data was coded and analysed by the authors both "manually" and using NVivo computer software. Qualitative data does not claim to be representative of a population, but is used for the identification of consistent themes and patterns across groups. Findings presented represent prevalent views articulated by more than one respondent. Where quotations are given, the anonymity of the respondent is maintained, referencing the

quote with an “S” for stakeholder and a “CS” for civil servant and the identifying number assigned to the respondent.

4.3 Principles of Co-Design

All interviewees were asked what they thought the principles of good co-design were. Most respondents described how people involved in co-design should be treated (e.g. that their knowledge should be valued, that they should be treated with respect, and that Defra should be open and honest with them). Others explained what good co-design involved (e.g. explaining why views are *not* taken on board, reporting outcomes and providing incentives for participation). Respondents stressed the importance of putting the “right people with the right skills” in charge of the process, which reflects the fact that most ELM team members in charge of co-design are not trained in its methods and approaches, which has not bypassed participants. Statements made included:

- It's only co-design if findings are put back into co-design;
- Not working in a vacuum and being inclusive;
- Value everybody's knowledge and value it equally;
- Treat people with respect;
- Share power;
- Explain why a certain route highlighted by participants is *not* taken;
- Be open, honest, transparent and manage expectations;
- Report outcomes and provide feedback to participants;
- Resource the process well and give it time;
- Provide incentives for participating;
- Don't start from a blank sheet; use the “experts”;
- Put the right people with the right skills in charge of the process.

4.4 Barriers to Effective Government-Led Co-Design

According to Del Gaudio *et al* (2018, p.2), policy co-design should foster democratisation and entail “the designer's reduced power exercise” while increasing participants' “influence and transformative ability as to the process”. However, institutionally-led co-design processes are embedded in governance and regulatory arrangements that embody “institutionalized systems of rules, organizations, and practices, and exist within environments often characterized by strong pressures from organized private interests or professional and scientific elites” (Rothstein, 2007, p.585). These dimensions – including entrenched institutional cultures - and the political contexts in which co-design unfolds, will inevitably affect it. Kimbell and Bailey (2017, p.219) found that design's “traditional focus [...] neglects deep understanding of government systems, and may be at odds with prevailing organisational cultures and practices”. Blokamp (2018, p.737) even questions “whether co-design can feasibly leap from designing programmes and services to developing and implementing public policies”. Our research considered the kind of challenges faced by Defra to undertake co-design and we identified some it could more easily overcome than others. Among those easier to overcome were:

- Effective Listening: “not sure we are heard” (S3);
- Providing detail: “[...] how can we have discussions if there is no content?” (S5);
- Expertise and training “[...] not sure they have the expertise to genuinely undertake co-design” (S2); “Defra staff are not trained in participation. They want to do it, but they are not skilled” (S3);
- Avoiding a top-down approach: “Defra are introverted; not co-designing with users; it’s very top-down” (S3);
- Providing feedback: “Defra needs to let stakeholder know how they incorporate their inputs and iterate back to them how they have taken on board what was said” (S4) “There isn’t a feedback loop that ever tells us that what we’ve done is influenced them” (S11);
- Improving communication: “A real problem for Defra is communication” (S8); “Info is thrown at us, and they expect an immediate response – there is not enough time to critique” (S4) “E-mailing documents around the group would make things easier” (S6);
- Being open and transparent: “We don’t know what Defra are thinking” (S5); “Defra needs to [...] let stakeholders know what they can expect from co-design” (S4);
- Avoid “silo” thinking: “[...] often you find those silos develop things that contradict and conflict with each other [...]. We need to see more integration [...] to accommodate holistic thinking, Defra would need to change” (S7); “There is silo-thinking in Defra and no interaction between departments” (S10); “Different policy teams develop different elements of the scheme, but elements need to link up [...]”. (S11);
- Encourage knowledge exchange: “Defra never left us to cross-pollinate ideas. They didn’t advocate shared learning across the T&Ts” (S11).

Other challenges to co-design are harder for Defra to address. These are linked to its institutional culture; high staff turnover; putting people in post with little experience or knowledge of agriculture; confidentiality issues; and lack of decision-making power. Our findings corroborate what Escobar, co-director of “What Works Scotland”, has found:

“Challenges of state-initiated public engagement are not always to do with a lack of know-how or guidelines, but with the resistances shown by certain departments and officials. [...] the fate of government initiated participatory processes often depends on logics and dynamics that seem incomprehensible from the outside for instance, the multidirectional pull of specific bureaucratic traditions, managerial needs, departmental cultures, and political agendas.” (Escobar; 2013, p.36-37).

In the context of ELM co-design, these challenges included:

- Institutional culture: “The attitude to the approach is mixed. Some are sceptical. [...] It’s a massive culture change and colleagues need to buy into the process. [...] [Many colleagues] don’t think what we do is really co-design; without buy-in from the policy areas, it’s hard to achieve” (CS1); “For many in government it’s a new approach and it’s frustrating if others see it as a one off event. It’s a long-term process. [...] We need senior buy-in to put it before the wider team. Many pay lip service but we need more” (CS2); There is “No shared history of engagement in Defra. Decision-making is very diffuse. Capacity to actually commit to something is very low. If you were running an academic project, you would be more empowered to exert influence in that process than in the Civil Service” (CS3);
- Structural constraints: “[...] structural problems and the governance structure of the ELM team has really affected the ability of the team to make genuine progress.” (S2); ‘Budgets and timeframe’s make co-design difficult for Defra” (CS2);
- Changes in policy: “They keep shifting the goalposts without telling us” (S8); “There is no strategic direction and a lack of a clear systems approach” (S9); “We’ve got a commitment to co-design, but are doing it in a very political context” [...]. Policy is changing so rapidly [...] it’s hard to give them an indication of what comes next” (CS2);
- Confidentiality “Defra find co-design a pain in the bum because they can’t share as much with us as they want.” (S4); “I can’t do my normal job of obtaining feedback from farmers and land managers because everything is confidential. If more info was shared, the process would be more useful” (S5); “They are very worried about confidentiality and leaks” (S8); “Co-design is a real issue for Defra because it’s freedom is curtailed; they need Ministerial sign off for everything so they can’t tell you much.” (S8); “Confidentiality is a real limitation to do co-design in this policy space. Every meeting [...] this interview we are having now [...] the stakeholder engagement team is aware of it” (CS2); “Having to get the approval of the stakeholder engagement team for everything we do creates an extra hurdle in the co-design process.” (CS6);
- Insufficient capacity / high staff-turnover / inexperienced staff; “The co-design ambition is fantastic, but the biggest problem is how the Government structures it’s recruitment across the different government departments. No one is in an area of specialism.” (S11);
- Lack of decision-making power: “You can involve people in the ideas formation process, but you can’t really make any decisions. You cannot really design something together. What you are effectively doing is creating ideas together which will feed into design” (CS3).

4.5 Achieving Inclusivity

Good co-design is inclusive and all participants were asked if they thought anyone had been left out of the co-design process to date. Among those mentioned were:

- “Farmers haven’t been engaged. The webinars offered recently where instantly oversubscribed – why limit who can take part?” (S3); “Farmers are bypassed by the co-design process” (S5); “Because of Covid, unless invited to a webinar, it’s difficult for farmers to engage.” (S10).
- “The Poultry Board has no Government support and they don’t see how they fit into the scheme. It is very difficult to engage them.” (S5); “The Poultry and Pig Sectors are completely left out.” (S12).
- “The dairy industry has not played a great part in the engagement processes.” (S5).
- “Horticulture was outside CAP support and don’t want the Government to tell them what to do.” (S5).
- “Ethnic minority groups - the farming sector is so male/white dominated. As farming affects the food we eat and the environment, it does affect all UK citizens. The process needs to be more diverse.” (S7).
- “Co-design needs to include other sectors – particularly air, soil and water.” (S10).

The widely held view among respondents that farmers have been bypassed by the co-design process is a serious issue that Defra needs to address. Decades of social science research has shown that the UK government finds it challenging to engage beyond the “usual suspects” when trying to work with land manager communities (Hall, 2008; Hall and Pretty, 2008; Hurley *et al*, 2020a; Hurley *et al*, 2020b). Many farmers find it difficult to access engagement opportunities, and in England, historical failures of productive engagement have eroded trust between government and farmers (HSE, 2005; NAO, 2006; Rust *et al*, 2020). Recently, this has been made worse by payment issues associated with the Rural Payment Agency’s administration of the Countryside Stewardship scheme. Research into harder to reach agricultural stakeholders has found that there is a potentially large, heterogeneous group of farmers that Defra needs to make particular efforts to engage. This necessitates tailoring co-design in ways that pay attention the many practical, attitudinal, and personal barriers to engagement identified that face these farmers (Hurley *et al*, 2020a; Hurley *et al* 2020b; Lyon *et al*, 2020). Common methods of engagement used like online consultations or village hall meetings have been criticised for prioritising the voices of the few (middle-class, more formally educated, retired with more time), ignoring the ones of those who are busier, less able to access online surveys, less willing to express their views in front of others, and less able to travel

to meetings (Chilvers and Kearnes, 2015). Without their contribution and inclusion in ELM co-design as well as their uptake of the schemes it will offer, ELM is likely to fail.

5 Conclusion

In the policy design field, new approaches have been developed in recent years in response to the increasingly complex problems faced by society. These include participatory design, co-design, and co-creation. Design for sustainability and large-scale systems transitions has made design thinking highly attractive to policy makers, exemplified in the UK by the establishment of the Government's Policy Lab. However, as our research has shown, there are government departments that have yet to make the most of the knowledge and expertise on offer. Few of the civil servants interviewed knew about the Policy Lab, and none were trained in co-design. Yet, these people are meant to engage farmers in the co-design of one of the most important new approaches to land management developed in England for over 70 years.

Our research has highlighted the many challenges faced by government-led co-design, and it was disconcerting to find that many respondents thought farmers had to date been bypassed by the co-design process. Leaving them and those harder to reach out of ELM co-design could have disastrous consequences for ELM. Also an important aspect of "inclusivity" that needs considering in the context of ELM co-design (and design thinking generally) is the role of "more-than-humans" (Whatmore, 2002) in design. Design thinking for sustainability has been criticized for not paying enough attention to the interdependencies between social and ecological systems; it is characterized by "two separate theoretical and operational streams [...] one focussing on technological innovations and the other focussing on social innovations" (Ceschin and Gaziulusoy, 2016, p.133-35). Focusing on the former alone is likely to generate techno-fixes, while isolated social innovations are insufficient to bring about large-scale systems transitions. Farming - perhaps more than any other field of human activity - takes place in an environment where humans and more-than-humans co-mingle in complex ways, their relations being mediated by economic, cultural, social, political and other factors. Yet design thinking for sustainability has yet to take on board the highly productive and creative work of scholars who have, for many years now, highlighted the need to go beyond anthropocentric policy goals and approaches to ones where more-than-humans figure more prominently (Latour, 2004; Whatmore, 2002). This calls for the development of new forms of participation such as those developed in relation to catchment management (Tsouvalis and Waterton, 2012; Waterton and Tsouvalis, 2015) and flood risk management (Whatmore and Landström, 2011; Whatmore, 2013) in the UK. Participation with more-than-humans goes beyond what Escobar (2017, p.2) has called the "most radical shift in design thinking", the "need to take seriously the notion that everybody designs". It acknowledges that "every-

body” needs to encompass “*every-thing*”! Indeed, Escobar (*ibid*) supports this, arguing that realizing design’s potential for sustainable transitions necessitates its reorientation “from the functionalist, rationalistic, and industrial traditions from which it emerged [...] toward a type of rationality and set of practices attuned to the relational dimension of life”. Defra’s Tests and Trials, undertaken by farmers on farms and in relation with a host of more-than-humans constitute ontological experiments in co-design that will impact on how the ELM approach develops in significant ways. They provide fertile ground for design thinkers regarding the role of more-than-humans in design for sustainability and the common good (including their common good).

References

- Agrawal, A. (2005). *Environmentality: technologies of government and the making of subjects*. Durham: Duke University Press.
- Agrawal, A., Gupta, K. (2005). Decentralization and participation: the governance of common pool resources in Nepal's Terai. *World Development*, Vol 33 (7): 1101-14.
- Bateman, I. J. and Balmford, B. (2018). Public funding for public goods: A post Brexit perspective on principles for agricultural policy. *Land Use Policy*, Vol 79: 293– 300. <https://doi.org/10.1016/j.landusepol.2018.08.022>
- Blokamp, E. (2018). The promise of co-design for public policy. *Australian Journal of Public Administration*, Vol 77 (4): 729-743.
- Brundtland, G. (1987). Report of the World Commission on Environment and Development: Our Common Future. United Nations General Assembly document A/42/427.
- Ceschin, F. and Gaziulusoy, I. (2016). Evolution of design for sustainability: From product design to design for system innovations and transitions. *Design Studies*, Vol 47: 118-163.
- Chilvers, J and Kearnes, M. (eds.) (2015). *Remaking Participation: Science, Environment and Emergent Publics*. London: Routledge.
- Cooper, R. (2019). Design research – Its 50-year transformation. *Design Studies*, Vol 65: 6-17.
- Cooper, R., Dunn, N., Coulton, P., Walker, S., Rodgers, P. *et al.* (2018). *Imagination Lancaster: Open-ended, anti-disciplinary, diverse. She-ji-The Journal of Design, Economics and Innovation*. Winter 2018: 307-341.
- Cooper, T., Hart, K. and Baldock, D. (2009). The provision of public goods through agriculture in the European Union. *Report for DG Agriculture and Rural Development*, Contract No 30-CE-0233091/00-28, Institute for European Environmental Policy: London.
- Del Gaudio, C., Franzato, C. and de Oliveira, A.J. (2018). Co-design for democratizing and its risks for democracy. *CoDesign*, 1-18. DOI: 10.1080/15710882.2018.1557693.
- Department for Environment, Food and Rural Affairs (Defra). (2020). *Farming is Changing. Future Farming and Countryside Programme communications team*.
- Department for Environment, Food and Rural Affairs (Defra). (2018). *Health and Harmony: the future for food, farming and the environment in a Green Brexit*. February 2018. CM9577. Crown Copyright. ISBN 978-1-5286-0138-2.
- Escobar, A. (2017). *Designs for the pluriverse. Radical interdependence, autonomy, and the making of worlds*. Durham: Duke University Press.
- Escobar, O. (2013). Public Engagers and the Political Craft of Participatory Policy Making. *Public Administration Review*, Vol 73 (1): 36–37.
- Farmers Weekly. (2019). Defra's environment scheme criticised by National Audit Office. [online] Available at: <https://www.fwi.co.uk/news/farm-policy/defras-environment-scheme-criticised-by-national-audit-office>.
- Fiorino, D.J. (1990). Citizen participation and environmental risk: a survey of institutional mechanisms. *Science Technology Human Values*, 15 (2): 226-243.
- Funtowicz S., Ravetz J.R. (1993). Science for the post-normal age. *Futures*, Vol 25: 735-755.
- Hall, E. J. B. (2008). *The Role of Social Capital in Farmers' Transitions Towards More Sustainable Land Management*. Ph.D. Thesis. University of Essex. Thesis available on request from Hall.
- Hall, J. and Pretty, J. (2008). Then and Now: Norfolk Farmers' Changing Relationships and Linkages with Government Agencies During Transformations in Land Management. *Journal of Farm Management*, Vol 13 (6): 393-418.
- Hayhow, D.B., Bond, A.L., Douse, A., Eaton, M.A., Frost, T., Grice, P.V., Hall, C., Harris, S.J., Havery, S., Hearn, R.D., Noble, D.G., Opper, S., Williams, J., Win, I. and Wotton, S. (2017). *The state of the UK's birds 2016*. The RSPB, BTO, WWT, DAERA, JNCC, NE, NRW and SNH, Sandy, Bedfordshire.
- HM Government. (2018). *A green future: our 25 year plan to improve the environment*. H M Government Report. Crown Copyright.
- HSE. (2005). *Farmers, farm workers and work-related stress*. Research Report 362. Prepared by Policy Studies Institute for the Health and Safety Executive.
- Hurley, P; Lyon, J; Hall, J; Little, R; Tsouvalis, J; Rose, D C. (2020a). Co-designing the Environmental Land Management Scheme in England: the why, who, and how of engaging 'harder to reach' stakeholders. Journal article pre-print. <https://doi.org/10.31235/osf.io/k2ahd>.
- Hurley, P., Hall, J.; Lyon, J., Tsouvalis, J, Rose, D. C. and Little, R. (2020b): Inclusive design of post-Brexit Agri-Environmental Policy: Identifying and engaging the 'Harder to Reach' Stakeholders. An Empirical Study. The Universities of Sheffield and Reading. Report. <https://doi.org/10.15131/shef.data.12506123.v2>.
- Hussain, W. (2018). "The Common Good", The Stanford Encyclopedia of Philosophy. Spring 2018. Edward N. Zalta (ed.). <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- Kimball, L. and Bailey, J. (2017). Prototyping and the new spirit of policy-making. Vol 13 (3): 214-226., DOI: 10.1080/15710882.2017.1355003.
- Latour, B. (2004). *The Politics of Nature: How to Bring the Sciences Into Democracy*. Cambridge, MA: Harvard University Press.
- Leach, M., Scoones, I., Wynne, B. (2005). *Science and Citizens: Globalization and the Challenge of Engagement*. London: Zed Books.
- Lyon, J., Hurley, P., Hall, J., Tsouvalis, J., Rose, D. C. and Little, R. (2020). Inclusive design of post-Brexit Agri-Environmental Policy: Identifying and engaging the 'Harder to Reach' stakeholders. A Quick Scoping Review. The Universities of Sheffield and Reading. Report. <https://doi.org/10.15131/shef.data.12506582.v3>.
- NAO (National Audit Office). (2006). Department for Environment, Food and Rural Affairs and Rural Payments Agency: The Delays in Administering the 2005 Single Payment Scheme in England. HC 1631. Session 2005-2006. 18th October 2006.
- Papanek, Victor (1971). *Design for the Real World: Human Ecology and Social Change*, New York: Pantheon Books.
- Pe'er, G., Dicks, L. V., Visconti, P., Arlettaz, R., Baldi, A., Benton, T. G. and Scott, A. V. (2014). EU agricultural reform fails on biodiversity. *Science*, 344:1090–1092.
- Rothstein, H. (2007). Talking shops or talking Turkey? Institutional constraints to proceduralising consumer representation in risk regulation. *Science, Technology and Human Values*, Vol 32 (5): 582–607.
- Rust, N., Ptak, E. N., Graversgaard, M., Iversen, S., Reed, M. S. *et al.* (2020). Social capital factors affecting uptake of sustainable soil management practices: a literature review. *Emerald Open Research*, 2:8.
- Ryan, C. (2013a). Critical agendas: Designing for sustainability from products and systems. In S. Walker, & J. Giard (Eds.), *The Handbook of Design for Sustainability*. London, New York: Bloomsbury.
- Ryan, C. (2013b). Eco-acupuncture: Designing and facilitating pathways for urban transformation, for a resilient low-carbon future. *Journal of Cleaner Production*, 50: 189-199 <https://doi.org/10.1126/science.1253425>.
- Samuelson, Paul A. (1954). The Theory of Public Expenditure, in: *Review of Economics and Statistics*, Vol 36: 386–389.

- Schumacher, E.F. (1973). *Small is beautiful: a study of economics as if people mattered*. London: Blond and Briggs.
- Stewart, B.D., Burns, C., Hejnowicz, A.P. et al. (2019). Making Brexit work for the environment and livelihoods: Delivering a stakeholder informed vision for agriculture and fisheries. *People and Nature*, Vol 1: 442– 456. <https://doi.org/10.1002/pan3.10054>.
- Tsouvalis, J. and Waterton, C. (2012). Building participation upon critique: The Loweswater Care Project, Cumbria, UK. *Environmental Modelling and Software*, Vol 36: 111-121.
- Waterton, C. and Tsouvalis, J. (2015). 'On the Political Nature of Cyanobacteria: Intra-Active Collective Politics in Loweswater, the English Lake District.' *Environment and Planning D: Society and Space*, Vol 33 (3): 477-493, DOI 10.1068/d14117p.
- Whatmore, S.J. (2013). Earthly powers and affective environments: an ontological politics of flood risk. *Theory, Culture and Society*, Vol 30(7-8): 33-50.
- Whatmore, S.J. (2002). *Hybrid Geographies: Natures Cultures Spaces*. London: Sage.
- Whatmore, S.J. and Landström, C. (2011). Flood apprentices: an exercise in making things public. *Economy and Society*, Vol 40 (4): 582-610.
- Williams, G.R., Troxler, A., Retschnig, G., Roth, K., Yanez, O., Shutler, D., Neumann, P., Gauthier, L. 2015. Neonicotinoid pesticides severely affect honey bee queens. *Scientific Reports* 5:14621. DOI 10.1038/srep14621.

Acknowledgements

The research cited in this paper was funded under the ESRC project 'Agri-Environmental Governance Post-Brexit: Co-Production of Policy Frameworks' (ES/S007830/1), a collaboration between the Universities of Sheffield and Reading. The research on harder to reach communities cited was a sub-project of this funded by The University of Sheffield QR Allocation for Evidence-Based Policy Making from Research England, awarded to Dr Ruth Little. The authors are grateful to all of the research participants for their generosity of time and for their insights, which were rich, stimulating and sometimes surprising.

Regaining the Right to Our City: Designing Reilly Commons

Keywords: Participatory Design,
Design Intervention, Critical Urbanism,
Right-to-the City.

Kate Catterall^{a*},
Alyson Beaton^b,
Jorge Zapata^c

^aUniversity of Texas at Austin

^bHighland Neighborhood Association

^cUniversity of Texas at Austin

*katecat@utexas.edu

Reilly Park is the site for a public design intervention lead by a neighborhood sustainability committee in North Central Austin and a teacher at a local school, alongside faculty and student researchers from University of Texas at Austin.

The project is an example of denizens seizing a 'right to the city' through participatory public design and a negotiated process of decision-making between government entities, an NGO, residents, and researchers. It is a Lefebvrian appropriation of space, reclaiming use value for all inhabitants of an economically and racially diverse area undergoing rapid gentrification. The 7.4-acre (28733.7 square meters) Park is delimited by a 5-foot high (1.5 meter) wire fence, erected by Austin Independent School District (AISD) citing school security. The fence gives the appearance of 'private property' and deters access to those unaffiliated with the school, despite a portion of the land being owned by the City of Austin Parks and Recreation Department (PARD) and designated for public use. There is a dearth of publicly accessible green space North Central Austin and Reilly Park is positioned to serve two park-deficient neighbourhoods, Highland and Skyview, fulfilling a new City of Austin mandate for accessible greenspace within a 10-minute walk of most urban dwellings.

Reilly Park is under the shared jurisdiction of AISD and PARD. It is situated with proximity to a light rail station and two major vehicular arteries; unprecedented access to mass-transit for Austin, Texas. The park is bounded by Waller Creek, a sensitive watershed being closely monitored by The Nature Conservancy Texas, according to whose data the park has fewer visitors than any other in Austin. Situated within a floodplain, half the park serves as a water catchment area for the Highland and Skyview neighbourhoods. Flood mitigation being a priority for the city in recent years, as Austin has experienced an increase in dangerous storm events; the severity of related floods being exacerbated by intermittent and prolonged periods of drought in the region.

This paper presents a participatory public design process undertaken to make Reilly Park the centre of a more environmentally and socially resilient neighbourhood: Including plans for a new community garden and documentation of the design process, alongside the circuitous route of negotiated decision-making between government entities, residents and designers throughout the project. The Reilly Park project takes the form of a discrete design intervention in Austin Texas that revealed disenfranchisement and informed a strategy for strengthening and unifying the voice of a previously dispersed community: A future publication will present a roadmap for similar projects.

1 Introduction

1.1 Cultural Context

At this moment in American history evidence of inequities across society have come into clearer focus; and so, it is with equitable access to open public spaces in our towns and cities. Standard solutions to address and redress disparate access to green spaces for recreation, and lack of support for natural ecosystems have not yielded the desired results to date. It has become evident that existing, and typically top-down strategies, will not suffice moving forward. Social and environmental justice is the wicked problem (Buchanan, Richard. 2008. P.16) at the heart of this project, that utilizes participatory methods and design approaches to ‘tame’ this poorly defined problem through expert design guidance and the engagement of diverse stakeholders throughout.

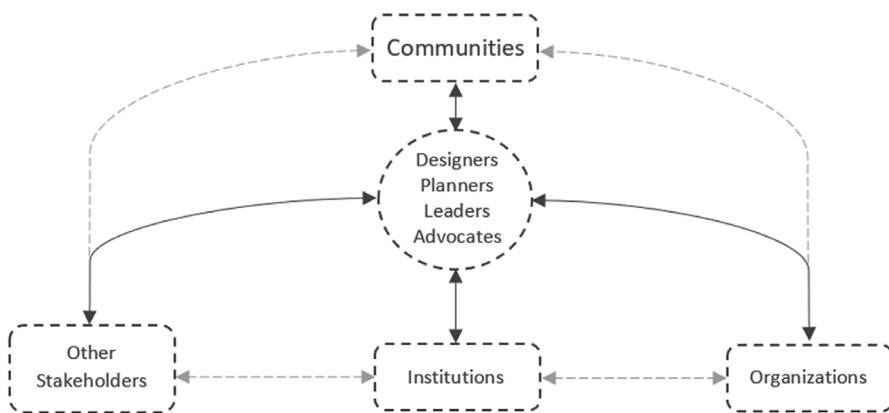


Fig. 1: A community-driven practice works towards legitimizing the voice of communities by using it as a transformative agent. Design and allied professions act as key players to catalyze diverse interests and institutional burdens to help communities achieve their goals. Diagram: Jorge Zapata.

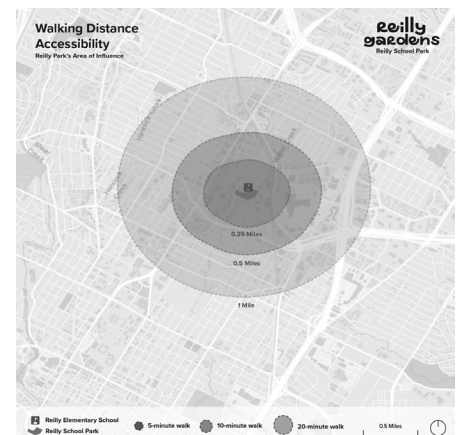


Fig. 2: Reilly Park is situated in a park deficit area. It is the only park within a 10-minute walk of both Highland (North portion) and Skyview (South portion) along Waller Creek. Map: Jorge Zapata.

Design interventions have proven effective in engaging disparate groups, identifying community goals, and unpacking problems to be addressed. And the reclamation and redesign of Reilly Park has indeed revealed the loss of access to public land, systemic problems in funding and a community with no collective voice. Designing Reilly Gardens has started to galvanize the neighborhood around a shared garden, and is reshaping expectations about the role of its denizens in public life and their rights to public space.

Viewing the site through the lens of a European Design conference has caused us to see this shabby park afresh. Access to shared civic spaces is an expectation and a right in most western countries, and absence of such amenities reason to complain. In Austin expectations for neighborhood public green spaces have historically been comparatively low and demands for more opportunities, muted. This is about to change at Reilly Park.

1.2 The Site

Reilly Park, is situated at the south-eastern quadrant of the Highland neighborhood of N. Central Austin in a previously industrial area interspersed with working class residential housing stock and lower-income apartments. Miles from any other public green space the community lost free access to their local park, without notification or recourse, in 2015 when it was fenced and seemingly incorporated into elementary school property.

Highland, an historically black area once on the periphery of the city, is now in transition due to a lack of residential housing stock in central Austin and an influx of highly paid workers in the burgeoning 'knowledge economy': Dell, Google, Apple, Tesla, University of Texas, etc. It is a rapidly gentrifying area, with proximity to a recently repurposed mall; now home to Austin Community College. The Reilly Park project team is cognizant of this and is invested in balancing the impact of park improvements upon property values and maintaining an equitable economic and social balance in the area as outlined in the Austin Strategic Housing Blueprint, 2018; concerns we are starting to negotiate in partnership with colleagues in the School of Social Work, the American Association of Retirement Persons (AARP) and Basta!; Members of the National Right to the City Alliance.

1.3 The Team

Alyson Beaton grew up in 'the valley' in south Texas, then El Paso, both economically deprived areas situated along the Mexican border, and with few public resources. She later moved to study design in Chicago and was struck by the availability of high-quality public spaces and a system of community meeting and events structures. Jorge was born in Florida and grew up in Medellin, Colombia. He later moved to Buenos Aires, Argentina to study architecture, both vibrant Latin American cities with a complex history of social and urban challenges that inspired him to pursue graduate studies in community planning and urban design with a focus on

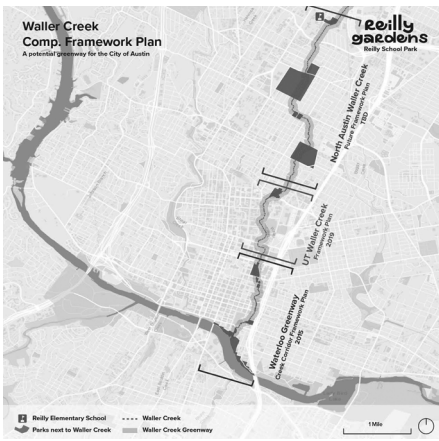


Fig. 3: Team proposes Reilly Park, at the Waller Creek headwaters, as a node in a greenway/hike and bike trail connecting commuters in N. Central Austin to downtown amenities. Map: Jorge Zapata.

public spaces. Kate was raised in Belfast, Northern Ireland, a city known for highly controlled and surveilled public spaces. She studied design in Glasgow, which like Belfast, was a post-industrial Victorian city with a faded, but plentiful legacy of grand public parks and botanical gardens.

Public space in Austin has been defined by the legacy of Lady Bird Johnson (Wife of President Lyndon B. Johnson), who advocated for resurrection of Texas wildflowers along State highways and was instrumental in the creation of Austin’s hike and bike trail alongside the river in downtown Austin. A secondary trail connects NW Austin with the downtown hike and bike trail, following Shoal Creek for 13-miles through some of the wealthiest areas in the city. Several smaller trails serve areas to the east of Austin, including a new initiative centered on Waller Creek at Waterloo Park. Our work at Reilly Park endeavors to draw interest and money North to the headwaters of Waller Creek at Reilly Park, making an argument for an equal level of connectivity along this creek that passes through less affluent communities.

Working together in Austin, our team has built of personal and formative experiences of the public space, embraced Olmstead’s notion that parks are ‘bastions of the democratic ideals of community and equality, and developed Reilly Community Garden with the concept of park-as-commons in mind: The conceptual device of the commons, ‘defined as a dynamic and collective resource that stands in tension with commodified and privatized space’. (Gilmore, 2017. p.2).

1.4 The Design Approach

The team conceived Reilly Gardens as a potential for challenging the statu quo of park spaces in Austin. This project aims to generate awareness about the importance of community engagement as a change agent in urban environments, as well as suggesting potential linkage with city-wide strategies such as Imagine Austin in the hopes of inspiring neighboring communities and spread positive change.

Peter Marcuse’s notion of radical urban practice is central to our approach; the application of theory as an intervention designed to provoke change. This 21st Century iteration of Le Febvre’s ideals is aimed at a renewed right to urban life (Marcuse, 2009. p.193-4) in Austin 2020 and the steps delineated by Marcuse were succinct: Expose, Propose, Politicize. For Reilly Park the sequence was more accurately Propose, Expose, Politicize – repeat.

Our focus on social and environmental justice involves negotiations with City and school district aimed at elevating neighborhood needs – regaining fair access to Reilly park and regaining a voice in planning decisions – to achieve parity with private and City interests in and around the park. We engaged a myriad of actors with interests in the site; those contented with the status quo, and those arguing for change.

At Reilly, creating a more convivial, community-oriented, and sustainable environment meant designing with the entire local [social and environmental] ecosystem in mind; the embodiment of Transition Design (Irwin, Fry, Tonkinwise, Willis, Escobar, et al). A “design process that requires a vision, the integration of knowledge, and the need to think and act at different levels of scale, and that is also highly contextual (relationships, connections, and place)” (Irwin, 2015, p.238).

- Enable stakeholders to arrive at a shared definition of the problem and an understanding of its complexities and interdependencies.
- Identify stakeholder concerns, relations, expectations, and beliefs and factor them into both problem frames and designed interventions in order to leverage collective stakeholder intelligence (Forrester, Swarling & Lonsdeale; GPPAC, 2015, p.4).
- Frame wicked problems within a radically large spatio-temporal context.
- Provide Stakeholders and interdisciplinary teams with a palette of tools and methodologies useful to resolving wicked problems and seeding/catalysing systems level change.

Provide a rationale for “intervening” in complex systems and “solutioning” over long periods of time (dozens of years, decades) Vs creating short-term, one-off solutions (Resnick, 2018. p.432).

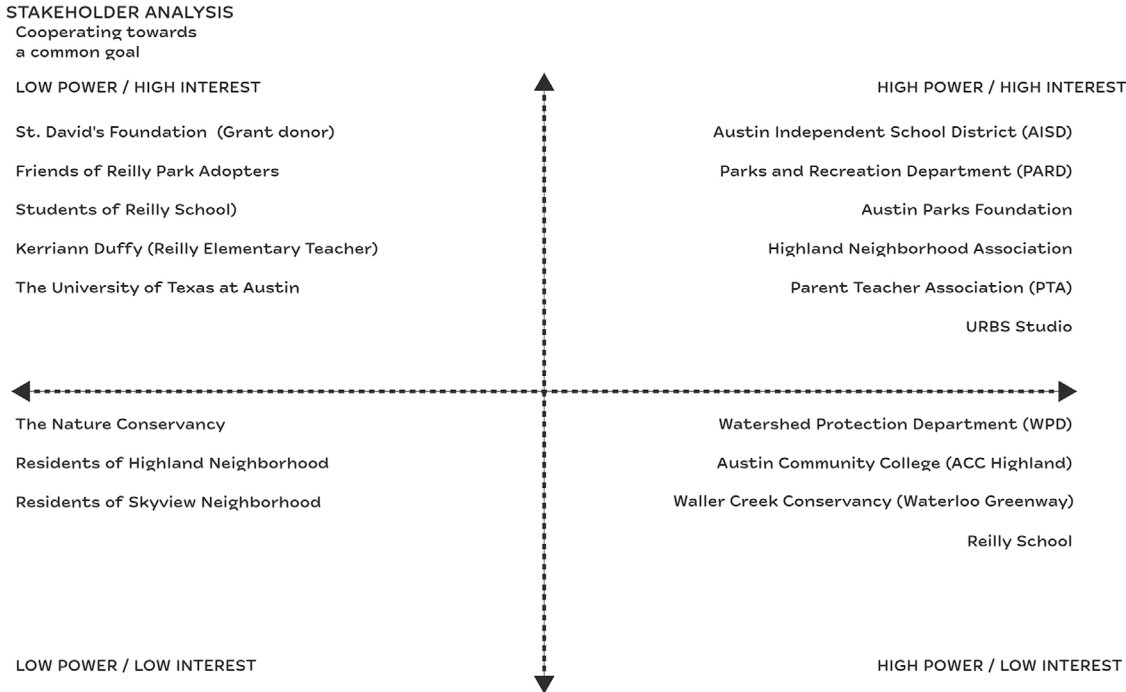


Fig. 4: Stakeholder Analysis, Spring 2020.
Byline: Alyson Beaton and Jorge Zapata.

2 Propose; Expose; Politicize

2.1 Propose: Designing Reilly Commons

“Propose, in the sense of working with those affected to come up with actual proposals, programs, targets, strategies, to achieve the desired results.” (Marcuse, 2009, p.194).

The Reilly design challenge: How to create a community of interest and action around a 7.4-acre dust bowl of a park, that experiences period and extreme flood events and registers the lowest use numbers on a recent Nature Conservancy survey.

Until the park was adopted residents were unaware that Reilly Park was a public amenity. The chain link fence and gates effectively prohibit public use. And conform to an ontological shift in American society begun early in the 21st Century as gun violence and fear of terrorist threats, post 9/11, crafted a culture of fear and division. Hedges and walls began interrupting the flow of velvety green lawns in residential areas long before more recent calls to ‘build the wall’. Likewise, schools like Reilly Elementary, that once opened up to their neighborhoods, became more enclosed, with a chain-link fence exhibiting stark warning signs – ‘no tobacco’, ‘no drugs’, ‘no guns’.

In 2018 an invitation to ‘Adopt-a-park’ appeared on the fence of Reilly Park in North Central Austin. The program, run by Austin Parks Foundation (APF), the non-profit wing of Austin Parks and Recreation Department (PARC), was searching for park stewards who would champion their local park and commit to organizing park bi-annual clean-up days. Park adopters were also ‘eligible for certain resources provided by APF, such as [gardening] tools, educational opportunities and grant opportunities. Designers Alyson and Matthew Beaton, residents of the area, became the park adopters for Reilly Park and started advocating for the neighborhood park. As the point person, Beaton immediately partnered with her design colleague Kate Catterall, and together they created a coalition (Colleagues and students from University of Texas, and a teacher from Reilly Elementary school) to improve the park and access to it. Beaton and Catterall began, as most designers do, by dreaming up possibilities for the site.

Catterall, with over a decade of experience developing partnerships with city government, community arts organizations and granting agencies, led an initiative to start the project by building such local connections. The pair organized meetings with the principal of the Reilly Elementary who led them to schedule a site visit with a lead stakeholder of the site, Staryn Wagner from the City of Austin Watershed department. Wagner’s in-depth tour of the site gave the team critical information they needed to start their research. From there they hosted a series of meetings with to engage a broad cross-section of people with personal or professional

connections to the site. Schemes and visualizations were developed to illustrate what the neglected park might become, initiate conversations and prompt more ideas, criticisms, and comments from the community to shape next steps.



Fig. 5: Spring 2019: Park Activation. Alyson Beaton talking with neighbors (left). Detail of feedback board (right). Byline: Matt Beaton.

The community feedback event yielded initial suggestions such as, 'we need money for our parks', 'a splash pad and running trail' and discrete dog area to contain poop' and was a necessary step in potentially gaining access to APF grant funding to develop and implement improvements. After meeting with APF to start the application we discovered that the process allowed for little, or no, neighborhood input after that initial activation; no co-design workshops or more engaged activations to uncover potential. The one-size-fits-all process moved from the 'It's your park day' event to establishing an APF 'bank' account to receive the APF and the result of community fund-raising efforts. Then a Community Activated Park Project (CAPP) form could be submitted to the City of Austin and a development masterplan completed by a city-appointed landscape firm.

The plan developed by the city-appointed landscape designer typically consumes much of the initial grant, but a masterplan is a crucial next step towards entering the bidding process and moving towards construction; construction costs for a park like Reilly are typically in the \$350,000.00 range. We discovered that similar park plans in Austin have languish for years as neighborhoods wrestle without securing the necessary funding.

After 6-months in discussion with APF we decided to pursue independent funding and utilizing our own expertise to reduce costs; developing a concept plan community garden that could be phased in funded by a series of smaller grants and activations as a mechanism to build community.

Summer 2019, the St. David's Foundation invited interested groups to apply for their 'Parks with a Purpose' Grant opportunity.

We discussed the opportunity with our own university, PARD and AISD's non-profit wing, Ed Fund, who had an obvious stake in the park through the joint (or shared) use agreement. We chose to work with Ed Fund and developed a working relationship with Kerriann Duffy, a Reilly Elementary teacher and incorporated 'chicken tenders' her a school chicken coop project in the proposal, in hopes of extending the scope of her initial work. We looked to the school further, integrating Kerri Ann's native plant/pollinator interests and a Social Emotional Learning (SEL) curriculum into the garden concept. And so, the project became Reilly Gardens: Social Emotional Learning for All a transgenerational community space that extend the notion of lifelong learning and emotional intelligence to the entire community.

The coalition led by Beaton and Catterall won the \$130,000 award and the influx of money started to leverage a strong neighborhood voice in design process, despite constraints being placed on how we could access and distribute the funds, which were tempered by a group meeting between our team, AISD, PARD and St. David's Foundation in which it was agreed that in order to accommodate equitable school/community access AISD and PARD would grant use of a space within the site that straddled both AISD/PARD land. An AISD-approved landscape architect was engaged to work in alongside our team to retain the integrity of the project and we would collaboratively develop an AISD approved and insured plan.

Securing a strong coalition between Reilly Elementary staff, PARD, APF, Ed Fund and the Highland Neighborhood Association (HNA), and having St. David's Foundation available to assist in negotiations, ensured our team's participation through the design and development process, but not without continual, pressure, negotiation and prompting.

The grant and our role as both designers and primary grantees, seemed to destabilized a pre-existing power dynamic between AISD and PARD revealing fault lines in their relationship as they worked to development of new rules and make space for HNA to contribute to the future of Reilly Park once again.

Winning the grant to design and implement a simple park improvement project, became a provocation that unearthed a series of systemic problems; unwieldy bureaucracies, unnecessary red tape, competing economic and political interests and turf-wars that had historically disenfranchised the neighborhood. The irregular route we chose to pursue our goal presented seemingly insurmountable problems at moments, but in navigating the system we began to understand how securing additional grants, and using those funds to leverage community goals from a position of relative economic strength, and with backing from entities outside the existent system, might work for in future.

2.2 Development of a Social Emotional Learning (SEL) Garden for All

AISSD implemented a district-wide SEL framework in K-12 education a decade ago. The framework is based on the *Collaborative for Academic, Social, and Emotional Learning (CASEL)*, a Chicago-based initiative, and reinforces “the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (Casel, 2020).

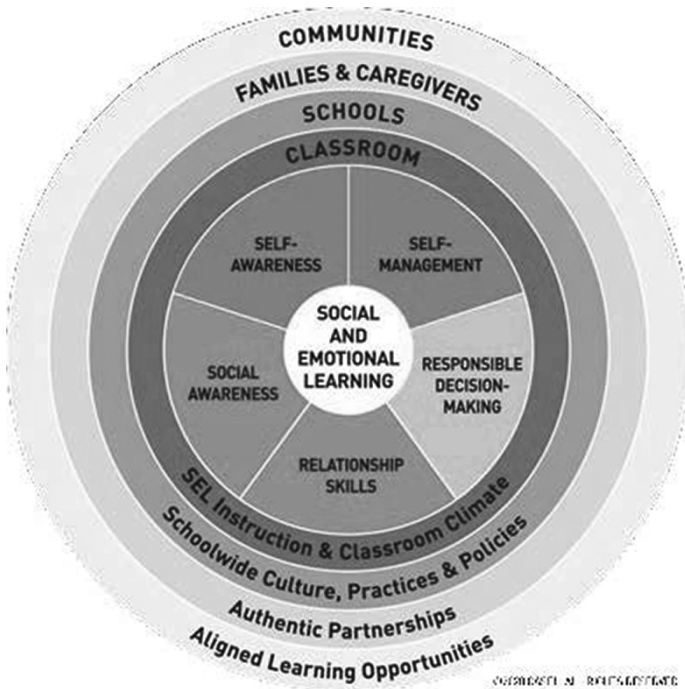


Fig. 6: Social and Emotional Learning Wheel. CASEL (2020).

The gardens integrate the CASEL program through a series of spaces that engage the five senses and foster independent and collective ownership (gardening, raising chickens and donating/selling eggs and veggies), reflection, healthy relationships and communication that allow the school-age students to engage with the broader community, and environment, in meaningful ways. The gardens also afford opportunities for outdoor education through community science initiatives and that move beyond the K-5 curriculum; from monitoring rainfall and water quality and propagating native species, to performances and art plein air.

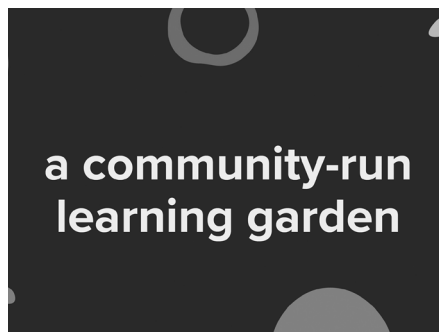


Fig. 7: SEL for All: Graphics for the garden developed by Emma Overholt, BFA Design Student UT Austin, under the guidance of Alyson Beaton.

The team was joined by Jorge Zapata, a University of Texas graduate Urban Design and Community & Regional Planning student. Jorge has experience working with communities in different Latin American countries. His work has primarily focused on public projects such as community centers, kindergartens, health centers and public spaces in economically deprived areas. In 2019, he was part of a group of graduate students led by Dr. Patricia Wilson, in the award-winning Participatory Action Research project: Engaging Informality in Metropolitan Monterrey. The team believes in community involvement and participation as key tools for positive change in the built environment, during months they focused on developing self-awareness tools, among other mindful strategies to engage with the community in Cerro La Campana, one of the most prominent informal settlements in Monterrey.

Awareness-based systems when embedded in the design process can empower communities to take ownership over public space in cities. This approach allows designers, institutions, and key stakeholders not to impose but to co-create and shape their environment. This method was illustrated in La Campana by the materialization of 'El Parque de los Niños – The Children's Park,' a space recovered, built, and named by the community, emerged from a process of transforming an abandoned trash-filled lot into a treasured pocket park and now active public space used daily.

Reilly's team also engaged a group of undergraduate design students from University of Texas and a landscape design student from Texas A&M to develop curriculum, signage, furniture and an indigenous planting plan for the site; an opportunity for community-engaged design within the university curriculum. Beaton, Zapata and Catterall worked closely with the AISD-appointed landscape designer to retain the intent of the concept within budget.

The first draft of the Masterplan was triple the budget of \$120,000. How could the landscape designer have missed the mark by so much, when the concept design and native planting scheme had been provided pro bono? Bids from city-approved construction firms came in much higher than expected, so the design was stripped to the bare bones plan leaving a framework of plant beds

for the community to fill in, surrounded by pathways of mulch and decomposed granite.

It is frustrating to know that if undertaken in a residential context, this project would have cost a fraction of the price. However, using a City bidding processes the budget ultimately did not cover necessary soil or plantings, and while the construction company was reimbursed handsomely, they were unable to even grade the landscape prior to positioning stones that would one day become planters.

REILLY SEL GARDENS MATERIALS OVERVIEW

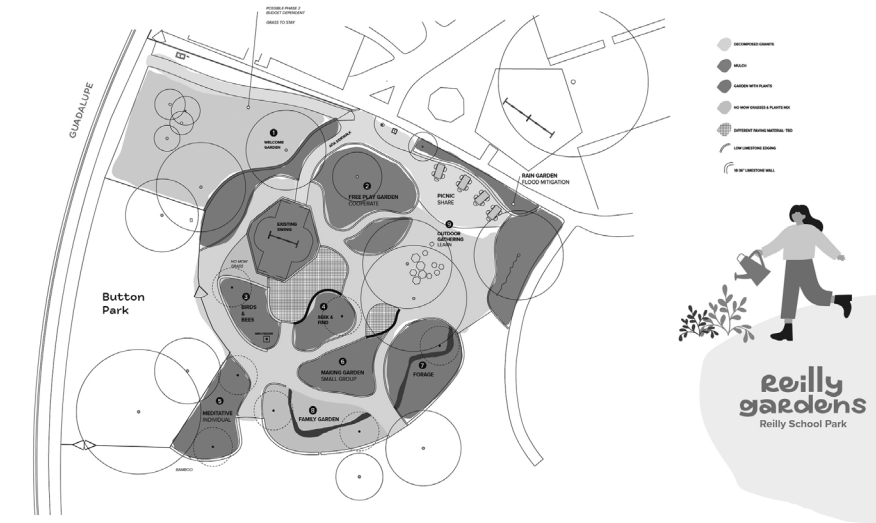


Fig. 8: Reilly SEL Gardens: Illustrations Alyson Beaton.

SEL Garden Features

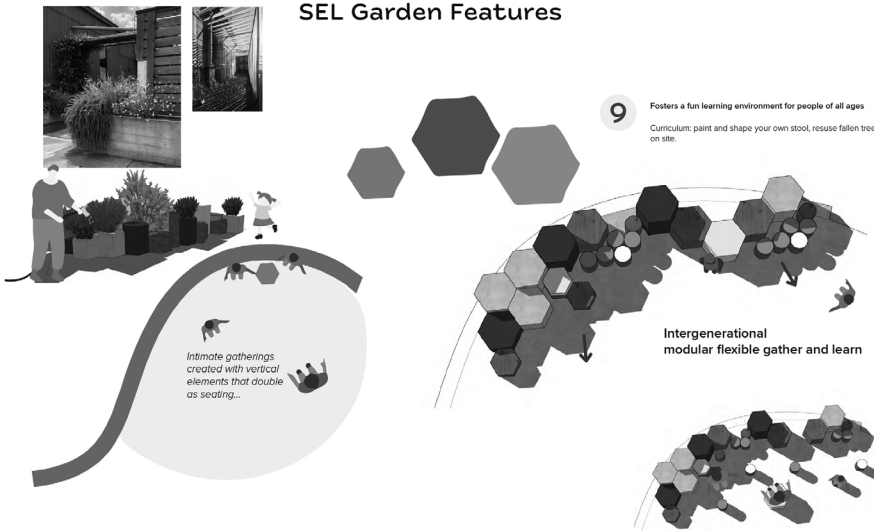


Fig. 9: Reilly SEL Gardens: Illustrations Alyson Beaton.

Initial frustrations diminished, we now see this circumstance as an opportunity to utilize the \$35,000 of the grant monies that remain to engage for the school students and community more

fully in the process of place-making. Prototypes of signage, fences and furniture being developed, all of which are more inventive, contextual and environmentally sound than those proffered by City vendors at greater cost. For example: BFA Design student Brandon Burek is developing a simple hempcrete casting system for biodegradable stools that are designed decay into the ground over a period of years; new items being manufactured as needed over time in community workshop sessions.

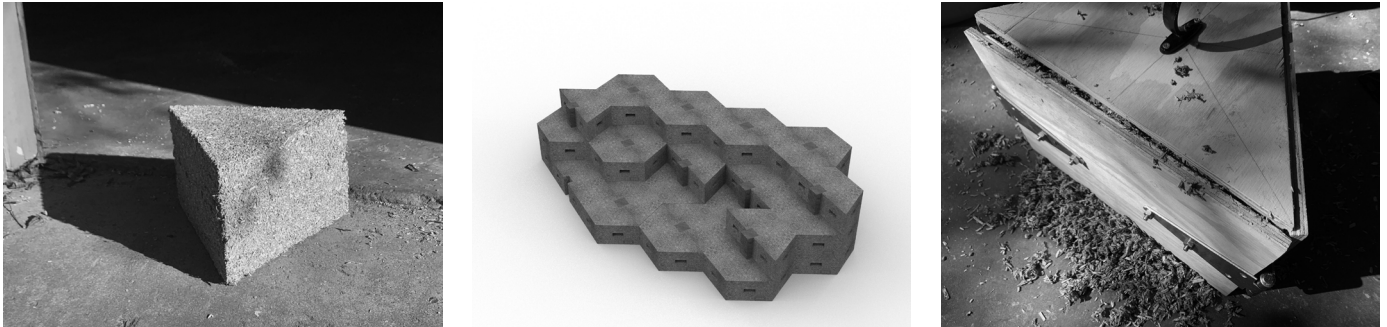


Fig. 10: (left) Hempcrete prototype. (center) Plan for constructing seating in outdoor classroom/amphitheatre. (right) Hempcrete casting process, central to an upcoming build-a-thon community activation. Prototypes: Brandon Buerk, BFA Design student, guided by Kate Catterall and Alyson Beaton.

This seedling garden, designed as a shared, transgenerational, recreational and social space will become a neighborhood common that welcomes renters and owners, natives, immigrants, migrant workers and refugees (the site is a refugee safe-space) in an area where such space existed preciously. It will be introduced with a year-long program of events 2021-22, furniture building, open-air movies, community picnics, tree plantings, facilitated history and nature walks, education/ discussions about home owner opportunities for flood mitigation (the creek and ½ of Reilly Park is in a flash floodplain), lessons on native plantings (with plant give-aways), community gardening and tree planting days (supported by non-profit an urban forestry initiative) and fostering communities who will to water new saplings and feed chickens over the summer (when school is out).

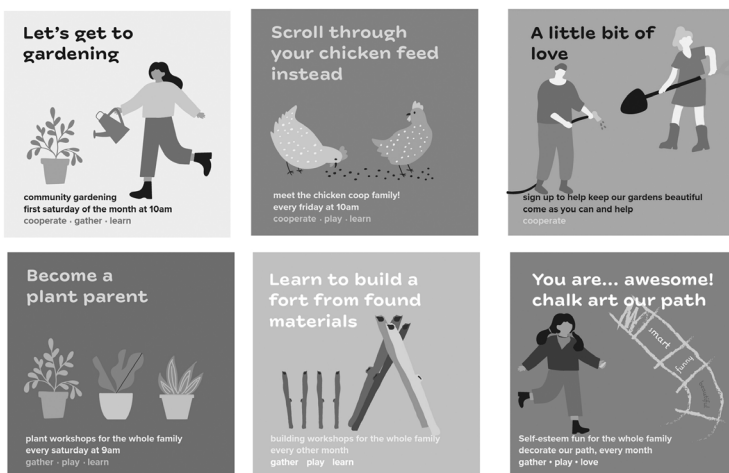


Fig. 11: SEL for All: Graphics for the garden developed by Emma Overholt, BFA Design Student UT Austin, under the guidance of Alyson Beaton.

SEL Garden Community + Workshops

4 Expose

“Expose in the sense of analysing the roots of the problem and making clear and communicating that analysis to those that need it and can use it” (Marcuse, 2009, p.194).

In securing the St. David’s Foundation grant, this design team and community created a proposal that inadvertently exposed conditions in Austin that otherwise might have remained invisible: decades long reductions in stable funding for PARD in Austin and elsewhere (and National Parks), leading to a shared use agreement at Reilly that disenfranchised a neighborhood and gave birth to systems vulnerable to ‘creaming off’ monies from special projects, perhaps in an attempt to sustain basic operations.

Reilly Park is designated as a ‘shared use’ site by the City of Austin. Whilst a number of schools in Austin have proximity to neighborhood parks, only a handful have been awarded ‘shared use’ status. Shared, or joint use, agreements became more common in the 20-teens and appear to have been precipitated by a CDC initiative, that led to a round of “Community Transformation Grant” awards in 2011. Some as some sixty-one grantees explored the potential of joint/shared use agreements as a route for communities gaining access to school parks and fitness facilities, including gyms in some instances, to encourage healthier and more active lifestyles; an idea later propagated by the Green Schoolyards Movement (2016) and proposals for multi-generational schoolyard (2013) access.

In Austin, as opposed to rural or suburban contexts, it is debatable whether a shared use agreement provides communities with any additional access to facilities and in the case of Reilly Park it appears to have had quite the opposite effect, substantially limiting community access to the park over time.



Fig. 12: Reilly Park became gated even as the Center for Disease Control (CDC) encouraged schoolyard shared/joint use agreements to address burgeoning health problems and a lack of equitable access to green space in America. (left) Reilly Park December 2020. (right) Reilly Park May 2015.

Community access, a motivation behind our design intervention, now took on a distinctly political characteristic. When comparing Reilly to comparable school parks (with/without agreements) within a 10-mile radius we discovered that, all present signage that clearly state hours when the general public can access and use the

park, playground or track, and none of the other parks have lockable gates like Reilly's.



Fig. 13: The other nearby shared use parks (left) TA Brown Elementary and park and (right) Pillow Elementary School and park have permeable and ungated fences that snugly surrounding school buildings, and provide community access to those area after school hours, while offering a large swath of land on the periphery that remains open and accessible all day. Photo credits: Google Street-view, digital images 2019.

The Reilly Park shared use agreement has yielded benefits for both Reilly Elementary/AISD, the latter gaining sole use and control of the space from PARD in exchange for undertaking maintenance (mowing the grass) in 2011. Our design team began to ask: why did this community lose out? Why was the community not consulted as the shared use agreement was negotiated, and how come the elementary school replaced the community at planning meetings in 2015? We also began to ask questions regarding why PARD needs so much support, even with basic maintenance?

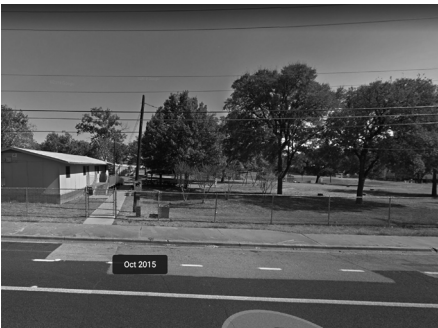


Fig. 14: Reilly Elementary School Park (left) fenced condition and a comparable shared use park at Pillow Elementary in North Austin (right), that remains unfenced today. Photo credits: Google Maps, Satellite images 2015.

The Highland community surrounding Reilly Park is working class and dispersed; there is no record of the HNA being engaged in planning conversations in 2011 and by 2015 the school was permitted to step in in leu, and as sole representative for community interests.

Austin PARD is not alone in facing budget shortfalls, this appears to be a national crisis that began in the 1970's. The vast proportion of PARD budgets across the country rely on 'general funds', reinforcing 'the perception that sometimes exists that parks and recreation services are less essential than some other local government services [this] often means that parks get hit hard in times of recession and budgetary shortfalls' and leads to reductions in the

number of employees, projects undertaken and the use of 'deferred maintenance' mechanisms limiting progress well beyond the duration of an economic downturn.

Since 2008, and increasingly, PARD's across the country have been encouraged to compete for scarce federal level grants, secure private donations and develop public/private partnerships. As PARD's have negotiated the inherent inequities of fee vs free access to facilities, they have developed NGO divisions, such as the Austin Parks Foundation (APF) to manage pro bono community stewardship, private donations and corporate donations.

Park stewardship efforts have grown exponentially and have become both increasingly formalized and autonomous in more affluent areas in Austin; even leading to the establishment of discreet and increasingly well-funded non-profit conservancies focused on parks with creeks and aimed at creating a network of routes to the Colorado River/Lady Bird Lake in downtown Austin.

Neighborhoods solely reliant on the APF park adoption program, apply for APF grants that cover the cost of developing a master plan and little more, but rarely have the matching funds necessary to break ground and complete the project. The Pease Park and The Shoal Creek Conservancies in Central West Austin, can however utilize APF monies, but by becoming independent non-profit organizations have developed considerable power and income that allow them to complete increasingly ambitious neighborhood projects. In working class areas with a greater proportion of renters, and residents in lower income brackets, PARD/APF's over-reliance on community initiative means parks often remain derelict even after neighborhoods organize and a masterplan is complete, exacerbating pre-existing inequalities in access to high quality public parks. Projects that land in funding purgatory and fail to yield tangible results are a lesson in futility for economically strapped areas and such experiences can prevent future community-based organizing around local parks.

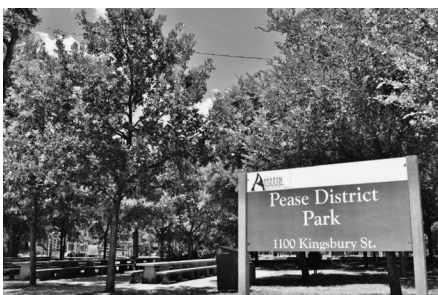


Fig. 15: Pease Park and Shoal Creek, supported by the City, APF and two well-funded conservancies in wealthy West Austin. Photo credits: Kate Catterall.

Ensuring public safety and meeting code is essential, and PARD/AISD need to ensure standards are met. However, even as our team interfaced with this bureaucratic system and used our professional experience, alongside an amount of white privilege, we found it difficult to negotiate more equitable access to the process and began to understand pressure points that prevented co-design and knowledge sharing/building. PARD is primarily concerned with maintenance and upkeep of parks existing parks and their access to dependable budget is impaired by its source in general vs dedicated funds. In order to better support smaller scale community-initiated projects, a stated goal, PARD most obviously needs a dedicated and adequate budget. Failing that, budgets for community-initiated project need to be developed with great transparency and creativity and a palate of inexpensive, sustainable and elegant options developed so that all plans lead to a worthwhile socio-spatial experience.

This means permitting less expensive, more idiosyncratic, and localized solutions, simplifying design concepts vs gutting them, and moving away from the prescriptive aesthetics used for more formal city parks and towards creative reuse of materials already on site (felled trees, concrete, fencing); as became the first step at Reilly. We also found that our team working on site with prototypes generated interest in the project and created ad hoc opportunities to discuss and evolve forms and ideas with the community. Working to develop compostable furniture solutions on site, initiated conversations about sustainability and self-reliance; furniture making then became a new activation workshop; teaching neighbors and students how to cast hempcrete seating as needed. Flexibility to utilize the last dollars in our grant have yielded cheaper, less formal gardens and paths at Reilly and opened up numerous opportunities for activations to co-create the space and get more bang for the buck.

‘Critical urban theory should help deepen the expose; help formulate responses that address the root causes thus exposed and demonstrate the need for a politicized response.’ (Marcuse, 2009. p.194)

Going through this process lead us to understand more fully the opportunities and challenges inherent in developing community-driven park projects. Reilly Community Gardens are under construction and we are in the process of writing other grants to extend the reach of the project and establish Reilly Commons as the heart of this automobile-centric working-class neighborhood, initiating park activations and demographic research, leading to denizen awareness projects and work to initiate activism / enhance engagement in the local political process.

Next steps incorporate undertaking a design process in partnership with PARD and AISD, to find more playful ways to engage

and work with the broadest swathe of the Highland community, digging deeper into the history of the site and neighborhood, researching how the Park's shared use agreement has impacted community access, and identifying ways to effectively reclaim the communities right to this public space.

5 Politicize

"Politicize, in the sense of clarifying the political action implications of what was exposed and proposed and supporting organizing around the proposals by informing action. Politicizing includes attention to issues of organization strategy and day-today politics". (Marcuse, 2009. p.194).

A community member became a park adopter in order to explore ways to build community through placemaking in a fragmented neighborhood. She built a research and design team to engage area residents in the process with hopes of implementing collective ideas and strengthening bonds. The team developed a network of relationships within the Highland neighborhood and beyond with groups interested in water and other environmental issues in the area. AISD and PARD, who had long represented the community in planning meetings became working partners on the same footing with the community for a moment, because the grant secured by the team shifted the power dynamic and ensured local constituents and their interests were represented.

In the process of designing a community garden to reconnect the school and neighborhood, residents recognized just how little representation the denizens of Highland had in previous planning initiatives for the area; they were not even consulted about potential impacts of the PARD/AISD shared use agreement. In reviewing the most recent planning documents from 2015, the community saw they been replaced by two dominant institutions AISD and PARD, and had over a period of years lost access to their local public space.

A seemingly simple proposal for a community garden led our research team to dig into the history of the site, understand how the U.S. Parks Service (and later local parks) came to rely so heavily upon volunteerism, and investigate how a 2011 Center for Disease Control grant initiative aimed at diminishing obesity in the U.S. seeded the concept of shared schoolyards that went viral in the subsequent decade, and while working in Chicago and San Francisco, failed under looser regulation in Austin.

We were initially hesitant to apply for the grant, then ask for forgiveness, but understood that if the award came through the AISD Ed Fund would find it difficult to turn down \$130'000 and an opportunity to enhance a park deficient neighborhood.

We now recognize the potential of leveraging independent grant funding and funder oversight to give working-class communities a stronger voice in local decision-making and placemaking. The design process undertaken also served as useful provocation to galvanize a fragmented community into action and illustrate increasing inequities in community access to public land in such areas. Ally-ship also played a positive role, as the team of professionals and educators secured financing for improvements, offered pro bono services and advocacy. In the case of our own team, we continued to apply pressure in the face of push-backs from AISD/PARD for two years in order to achieve a seemingly simple goal; the right to install a fully-funded community garden.

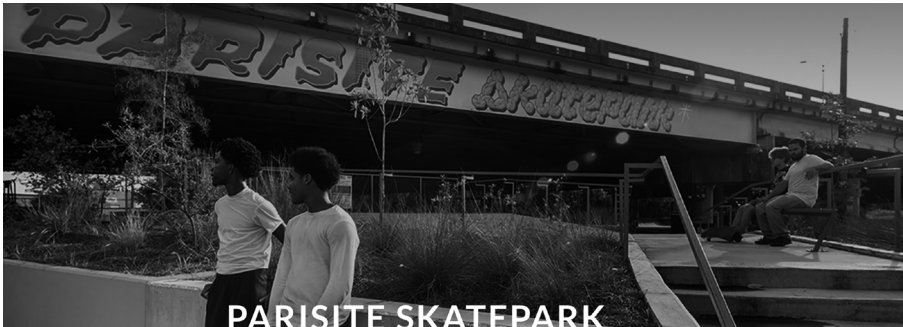


Fig. 16: *Initially, a DIY skatepark begun in 2010, Parasite became a collaboration between its skaters, Tulane School of Architecture's Albert and Tina Small Center for Collaborative Design, and the non-profit Transitional Spaces. Working together, the team grew the park and earned it official city recognition' (Rudy Bruner Award Silver medallist, 2019).*

Recognizing the visibility and power that large grants can give projects and neighborhood groups, and understanding how that leverage can facilitate change on a local scale, has informed our strategy for next steps in the project. Like the Tulane 'Parasite Skatepark' project we are relying on the idea that community action can force the hand of a city, and school district, leading to great outcomes for all.

Progress has been slower than anticipated and during the pandemic the neighborhood had no park access because the shared use agreement allowed AISD jurisdiction to limit public access to this park more aggressively. The garden is under construction as of December 1st, 2020 and lack of access to Reilly Park SEL Garden has already begun to effect a change. Renewed community interest in the park, and access to it, has initiated a new relationship between City, school and neighborhood where claims to space, resources, and equitable access to information are actively being renegotiated.

Armed with the experience of designing Reilly Community Gardens the team is designing a year-long park activation and completion plan and preparing to write a series of larger grants. We are deepening partnerships with Basta around arts, activism and housing equity, AARP to develop stronger transgenerational aspects to the development of Reilly Commons, engaging University of Texas

students in community-engaged design and continuing to develop our relationship with AISD and PARD.

The next grants will augment the SEL gardens, with a gateway and plaza with a small structure to provide space for community events and a place for a mobile library to visit weekly. The building would house a Freedger to combat and initiate neighborhood conversations around food insecurity, and serve as home base for community science initiatives focused on the water quality and the creek.

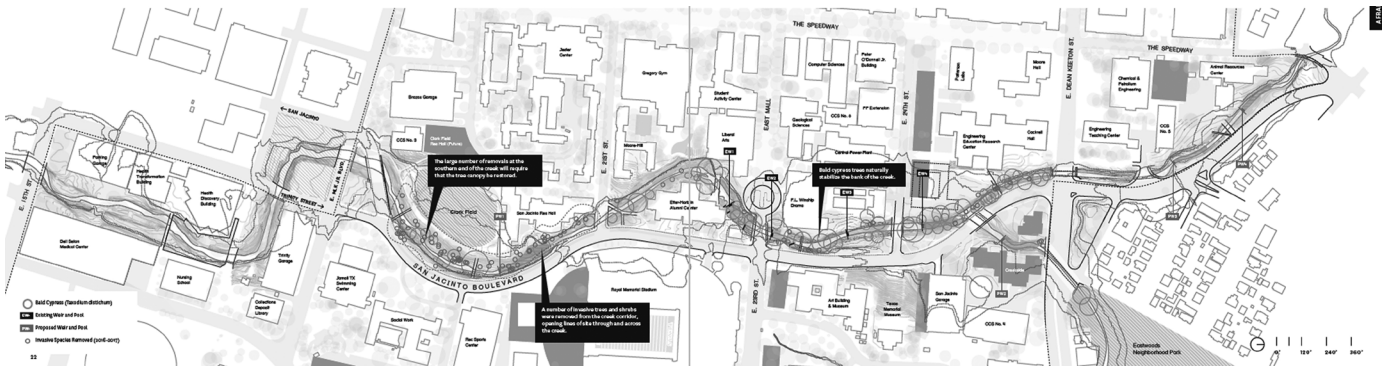


Fig. 17: A Framework for Waller Creek. The University of Texas at Austin. 2019.

Beyond Reilly, grants will provide capacity to develop plans integrating our work in N. Central Austin into greater connectivity plans in the City of Austin. At present Reilly and Highland are well-served by mass-transit routes but there are no plans for a network of greenways along which residents might commute, or exercise, in ways equitable to Austinites living in wealthier neighborhoods to the West.

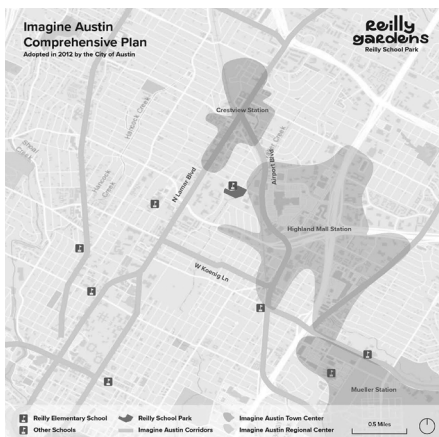


Fig. 18: Reilly park's location in relation to the city's future-focused connectivity plan: Imagine Austin. Maps: Jorge Zapata.

We will also take aim at the downside of institutionalized volunteerism that, over the past 50-decades, has become both a symptom of a "culture of organizational poverty" (Galvin and Pitcaithley 2008) and essential to the functioning of the National Parks and regional Parks and Recreation Departments: A system that has reduced paying jobs in the sector and exacerbated inequities between the quality of parks in lower and higher income areas in Austin.

References

- Abigail Gilmore (2017) The park and the commons: vernacular spaces for everyday participation and cultural value, *Cultural Trends*, 26:1, 34-46, DOI: 10.1080/09548963.2017.1274358 <https://www.tandfonline.com/doi/full/10.1080/09548963.2017.1274358>
- Abigail Gilmore (2017) The park and the commons: vernacular spaces for everyday participation and cultural value, *Cultural Trends*, 26:1, 34-46, DOI: 10.1080/09548963.2017.1274358
- Audubon Center at Debs Park. *Why We're Changing From "Citizen Science" to "Community Science."* May 2018. Accessed, Dec. 15 2020. <https://debspark.audubon.org/news/why-were-changing-citizen-science-community-science>
- Austin Independent School District's non-profit wing, Austin Ed Fund <https://austinedfund.org/>
- Austin Parks Foundation. Adopt-a-Park Program. BASTA <http://www.bastaaustin.org/index.html>
- Buchanan, Richard. *Design Issues*, Vol. 8, No. 2, (Spring, 1992), pp. 5-21 Published by: The MIT Press Stable URL: <http://www.jstor.org/stable/1511637> Accessed: 11/04/2008 09:41
- Building a National Movement for Green Schoolyards in Every Community. Green Schoolyard Report; 2016. <https://www.nrpa.org/contentassets/741159fc4c1741019ae96273c1a0a0f0/cnn-green-schoolyard-report-2016.pdf>
- City of Austin Neighborhood Housing and Community Development Department: Erica Leak, Manager, Planning, Policy, and Outreach Jonathan Tomko, Principal Planner. AUSTIN STRATEGIC HOUSING BLUEPRINT IMPLEMENTATION DRAFT November 19, 2018 http://www.austintexas.gov/sites/default/files/files/Housing/ASHBI_Implementation_Plan_20181119_-_EMAIL.pdf
- City of Austin. Community Activated Park Project. <http://www.austintexas.gov/department/community-activated-park-projects>
- City of Austin: Brentwood/Highland Neighborhood Plan. Reilly Elementary is the sole representative from the Highland area (HNA was not listed). The document underscores the import of "Parks, Open Space, and Environment Goals 1. Preserve and enhance existing parks, green spaces, and recreation facilities and add new parks and green spaces to ensure that all areas of the neighborhood have a park or green space nearby. 2. Improve drainage along neighborhood creeks and streets and prevent erosion by using natural materials." <https://austintexas.gov/page/adopted-neighborhood-planning-areas-0>
- City of Austin: Deficient Park Area map 2016 [Accessed: 11/16/2020] https://austintexas.gov/sites/default/files/files/Parks/Parkland_Development/Deficient_Park_Map_May2016.pdf
- Constanza-Chock, Sasha. *Design justice: community-led practices to build the worlds we need*, 1976. Publisher Cambridge : The MIT Press, 2020.
- Cross, N. (2001). *Designly Ways of Knowing: Design Discipline versus Design Science*. *Design Issues*, 17(3), P 52. Retrieved January 9, 2021. <http://www.jstor.org/stable/1511801>
- Fulton, William. *Financing the Future: The Critical Role of Parks in Urban and Metropolitan Infrastructure*. <https://www.urban.org/sites/default/files/publication/25111/412506-Financing-the-Future-The-Critical-Role-of-Parks-in-Urban-and-Metropolitan-Infrastructure.PDF>
- Highland Neighborhood Association. Austin, Texas <https://www.highlandneighborhood.org/reilly-park>
<https://austinparks.org/current-park-adopters/>
<https://salud-america.org/active-spaces-latino-kids-research-shared-use-agreements/>
<https://stdavidsfoundation.org/2019/11/15/parks-with-purpose-equity-19-groups-receive-grants-to-level-the-playing-field/>
<https://www.wildflower.org/plants-main>
- Irwin, Terry. (2018). *The Emerging Transition Design Approach*. 10.21606/dma.2017.210.
- Lewis, Dylan. "Unpaid Protectors: Volunteerism and the Diminishing Role of Federal Responsibility in the National Park Service".
- Lefebvre, H. (1968). *Le Droit à la ville [The right to the city]* (2nd ed.). Paris, France: Anthropos.
- Lefebvre, H. (1991). *The production of space* (Donaldson-Smith, N. , Trans.). Oxford, England: Basil Blackwell. (Original work published 1974).
- Lefebvre, H. (1995). *Henri Lefebvre writings on cities*. New York, NY: Blackwell.
- Lefebvre, H., Nicholson-Smith, D., & Harvey, D. (1991). *The production of space*.
- Lefebvre, H. (2003). *Urban revolution* (Bonono, R. , Trans.). Minneapolis: Minnesota University Press. (Original work published 1970)
- Off-the-shelf items were used to create a small park. The 'button park' is primarily used by the Kindergardeners at Reilly Elementary. At the ribbon cutting, there was reference to a nature play area; mulch and several logs. Most of the elements in the garden are plastic and no new plantings were provided. <https://www.webuildfun.com/mustang-button-park>
- Our Parks, Our Future: Austin Parks and Recreation Long Range Plan 2020-2030 <https://austintexas.gov/page/our-parks-our-future-long-range-plan>
- Parasite Skate Park: New Orleans <http://www.rudybruneraward.org/winners/parasite-skatepark/> (accessed 12/07/2020)
- Parks with Purpose and Equity: St. David's Foundation Awardees. The Reilly Park project, #2 on the list, was received on our behalf by partner, AISD's non-Profit arm Austin ED Fund.
- Peter Marcuse (2009) *From critical urban theory to the right to the city*, 13:2-3, 185-197, DOI: 10.1080/13604810902982177. Retrieved November 10, 2020, <https://doi.org/10.1080/13604810902982177>
- Phase two grant-writing will include an important Citizen Science component. <https://www.epa.gov/citizen-science/funding-opportunities-citizen-science-projects>
- Plumer, Brad and Popovich, Nadja. Photographs by Brian Palmer "How Decades of Racist Housing Policy Left Neighborhoods Sweltering". *New York Times*. Pub. Aug 24, 2020. Web Accessed Nov. 13, 2020. <https://www.nytimes.com/interactive/2020/08/24/climate/racism-redlining-cities-global-warming.html>
- Protected Areas in a Changing World: • 95 Proceedings of the 2013 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites <http://www.georgewright.org/1314lewis.pdf>
- Purcell, M. (2002). *Excavating Lefebvre: The right to the city and its urban politics of the inhabitant*. *Geojournal*, 58(2/3), 99-108.
- Ramirez, Amelie. *Active Spaces & Latino Kids Research: Shared Use Agreements*
- Reilly Elementary is also designated as a Refugee Support Site; extending the reach of our interventions to include newly arrived refugee groups. <https://na1.icarol.info/ResourceView2.aspx?org=72605&agencynum=29802763>
- Reilly/Denson Improvements Map. The Neighborhood Association notes that no community consultations were undertaken as part of the process. https://austintexas.gov/sites/default/files/files/Reilly_Denson_Improvements_maps_v2.pdf
- Resnick, Elisabeth (2019) *The Social Design Reader*. Bloomsbury.
- Resnick, Elisabeth (2019) *The Social Design Reader*. Bloomsbury.
- SEL for All Garden listed as Reilly Elementary receives National Blue-Ribbon award. SEL for All gardens
- Shoal Creek Conservancy <https://shoalcreekconservancy.org/>
- Social Emotional Learning model utilized by AISD <https://casel.org/>

- Stein A, Baldyga W, Hilgendorf A, Walker JG, Hewson D, Rhew L, et al. Challenges in Promoting Joint Use Agreements: Experiences From Community Transformation Grant Awardees in North Carolina, Illinois, and Wisconsin, 2011–2014. *Prev Chronic Dis* 2015;12:140457. DOI: <http://dx.doi.org/10.5888/pcd12.140457>
- The Environmental Science curriculum at University of Texas will support a scientist-in-residence at Reilly Elementary in 2021-22. The graduate teaching assistant will work with the 5th grade science teacher to develop site-specific curriculum and engage the students with environmental research, such as water quality monitoring, at the site. <https://www.esi.utexas.edu/outreach/scires/>
- The Lady Bird Wildflower Center houses a native plant and landscape research group affiliated with the University of Texas. They have agreed to consult on site plantings and contribute a community workshop, and plant give-away. <https://www.wildflower.org/plants-main>
- UNESCO <http://www.unesco.org/new/en/social-and-human-sciences/themes/urban-development/migrants-inclusion-in-cities/good-practices/inclusion-through-access-to-public-space/>
- Urban Forestry Initiative. Tree Folks Austin will lead a Riley Park tree-planting activation and seedling give-away. <https://www.treefolks.org/>
- Wagner, Staryn and Grossman, Amy. Reilly Elementary School Stormwater Retrofit: Water as Resource and Education Tool. 2018. https://tpwd.texas.gov/education/water-education/texas-watersprogram/reilly-elementary_water-as-resource-and-educational-tool.pdf
- Walls, Margaret. Parks and Recreation in the United States: Local Park Systems Resources for the Future. June 2009. Accessed, Nov. 16 2020. https://media.rff.org/archive/files/sharepoint/WorkImages/Download/RFF-BCK-ORRG_Local%20Parks.pdf
- Wilson, Stycos, Staines. Pivotal moments in Community Engagement Studios: Mística, Ensemble Awareness and Group Processes in Informal Monterrey. Association of Collegiate Schools of Planning Conference 2019 Greenville, NC.

Knowledge as Common Good - Design and the Changing Frameworks for Collaboration Between Institutions and Communities

Keywords: Knowledge Sharing,
Knowledge Management,
Public Healthcare, Design Innovation,
COVID19-Crisis.

Lorenz Herfurth^{a*},
Jérôme Elissalde^b

^a*Research Center on Social
Innovation and Transformation
(Saint Paul University)*

^b*Perspectiv.dev*

*lorenznewemail@gmail.com

This paper addresses the notion of knowledge as common good in relation to public health and local social care services and discusses the role for design in a post-COVID19 social innovation context. We are a social innovation practitioner and design scholar who got together to reflect on and discuss a specific area of social innovation – the creation, dissemination, integration and utilization of knowledge and data in a public health and social care context. Of significant interest to us with regard to a post-COVID19 world is the interaction and integration of knowledge as common good meaning the sharing and interpretation of data as well as citizens' experiences between institutions on a municipal, regional and federal level and local groups.

1 Introduction

During the pandemic, inequalities within societies, countries, cities, districts and neighbourhoods have been exposed. The WHO calls for the reduction in inequalities (#Envision2030 Goal 10: Reduce Inequalities) across countries and within societies. The paper we are presenting aims at shedding light on some specific aspects that can influence the interventions on inequalities: access to knowledge and information and ways to generate meaning to inform actions. We will provide insights based on observations in the city of Montreal (Canada) and conversations with experts and community members, highlighting issues and opportunities in the way that knowledge ownership and sharing is managed.

The current health and social crisis allows us to identify and articulate exposed weaknesses caused by a sudden shift in coordinates that used to define the framework for collaboration between public organizations and local programs. While the current crisis has revealed limitations in practiced ways of engagement and knowledge sharing and uses, we also believe that the complexity of the situation offers opportunities that should be considered as well, such as emerging solutions and novel behaviours.

Within this specific subject area, a number of questions emerged from our discussions that we feel will receive increased relevance in relation to the common good, shaped by the COVID crisis: How can we overcome the gap between the data-driven planning and procurement of public interventions and the experience-driven realities and experience-based knowledge of those who engage with communities? How can we ensure a bi-directional flow of knowledge across the social innovation spectrum that takes into consideration citizens' experiences as communities and individuals? How can design contribute to the knowledge mobilization across a large spectrum of stakeholders for social innovation that has the ability to re-define institution-community relationships?

2 Background

The UN has articulated a number of Sustainable Development Goals (SDGs) (UN, 2020), that this conference encourages contributors to address. For our contribution we chose to focus on four of these goals: Goal 3 (Good Health and Wellbeing), Goal 4 (Quality Education), Goal 10 (Reduced Inequalities), and Goal 11 (Sustainable Cities and Communities). One premature criticism of the SDGs, which we suggest at this early point in our research, is based on the impression that the goals appear to be metrics-driven, meaning that they lack a more qualitative and constructivist consideration of dynamics within communities that might lead to inequalities. Therefore, this paper addresses issues that are not clearly positioned in one of the SDGs but combine them to a more holistic set of characteristics. From an epistemological perspective, this then positions this paper further towards a social-constructivist end of a continuum, aiming to enrich the SDGs with a more designerly and human-centred perspective on the phenomena that contribute to

our knowledge of the effects of the COVID19-crisis on equalities, communities and the role of education.

Goal 3 seems to be specifically relevant, as we are inquiring into the public health system in a developed country (Canada) where we can still witness shortcomings in the efficient delivery of services during the COVID19 crisis, exemplified, for example, by the difficulties of the authorities to communicate with a diverse group of ethnicities during the first wave.

Goal 4 refers to equality in education. Far from wanting to dismiss the extremely important focus on the official schooling system, we want to extend the meaning of education towards a more experiential understanding of knowledge generation and distribution in an accessible manner with regard to communities, not necessarily related to the school system (see, for example: (Kolb, 1984). In relationship to Goal 3, we specifically focus on the necessity to educate communities about public health issues, like COVID19, its impact and sanitary measures required by individuals. As the UN states, in relation to remote schooling, a 'lack of access to computers and the Internet at home, as well as a low level of computer-related skills [...] (UN, 2020) can inhibit learning. This, for example, also seems to be a barrier for access to public health information in some parts of the municipality that this paper focuses on (Montreal, Canada).

Goal 11 is concerned with the role of infrastructure in cities and beyond. While the goal makes mention of public transport and built infrastructure, we believe the information infrastructure is as important in order to reach Goal 10, increased equality. Specifically in a public health crisis, access to information is crucial and this seems to depend on available organisational, user-oriented pathways (Buchanan, 2004) and the flexibility of organisational structures and boundaries to facilitate learning at its fringes (Tempest & Starkey, 2004). We refer to theories around 'infrastructuring' (Hillgren et al., 2011) in co-design and participatory design, to contribute to the understanding of this goal by extending, once again, the notion of infrastructure beyond the built environment towards the social fabric of a city.

These considerations contribute to an understanding of knowledge and information as pertaining to the informal processes in which communities and individuals absorb new information and the experiential conditions that determine its transformation into knowledge. Further, we see the institutions and official processes for information distribution, dissemination and generation as designed infrastructures that represent a common good but are not always designed for maximum accessibility. Compared to the built infrastructure, these are living systems (Senge, 1994), made of and by people and acted upon through the institutions they create (Cohen, 2006).

3 Methodology

Research methodology represents a combination of background research, and qualitative, semi-structured interviews (Barriball & While, 1994) that allowed for cross-examination of information (Yin, 2003). Initially we had planned to conduct a case study (Stake, 1995; Yin, 2003) on a community in Montréal, but our intentional strategy received a reality check when we started to engage with experts. Interviews revealed a complex dynamic within the community and between the community and public institutions as well as non-profit organizations. This triggered a re-consideration of our initial intentions and re-directed our research efforts.

Heightened sensibility towards the necessity to consider our roles as another potential group of researchers who descend on an already heavily engaged community provoked sensitivity regarding our own assumptions as researchers (Corbin & Strauss, 2008; Glaser, 1978; O'Reilly, Paper and Marx, 2012) and the awareness that we might be contributing to the community's potential self-perception as 'petri-dish' and living laboratory for social innovation strategies. We decided to focus our research activities instead on expert conversations and on accessing the field remotely through online platforms such as twitter and audio-visual materials as well as digitally published documents and reports.

Document analysis helped us to build an understanding of the organisational structure surrounding the delivery of healthcare and the actors involved in information distribution and generation.

Our interactions with experts were partially opportunistic, as we relied on the informal professional network of one of the authors to identify participants. Further, the complexity of organisational structures and the politicised context of COVID19 led to one interviewee wanting to remain anonymous. This made a more informal, conversational and non-scrutinising character of engagement with experts more adequate than a more structured approach in which we would have, i.e., recorded conversations. This was not possible, given the sensitivity of the community in question and the political debates surrounding a health care emergency.

Heightened sensibility towards the necessity to consider our roles as another group of researchers who descend on an already heavily engaged community provoked more questions around bias of researchers and aware of the community's potential self-perception as 'petri-dish' and living laboratory of /for social innovation.

For analysis we used coding and mapping to identify overarching themes, reveal underlying conflicts between respondents' answers and create a visual representation of the healthcare system from a local to the provincial level. Mapping the actor network helped to enrich data, as the healthcare system is shaped by provincial policies and differs from one province to another. This than

can be understood as a form of triangulation that helped us to achieve a thick description (Geertz, 1973) by specifying '[...] the actors, roles, relationships, and setting characteristics (physical, social, and cultural)' (Rousseau & Fried, 2001, p.9) to allow '[...] the reader and those researchers who would build upon a study understand the factors that gave rise to the research's observations' (ibid, p.6).

Coding followed a iterative process articulated by Miles, Huberman and Saldaña (2013) who suggest that there are two cycles of coding, the first dedicated to the development of codes and a second cycle where codes are being arranged into patterns that help to identify clusters and themes (ibid). So far, we have completed a first iteration of first cycle coding and started to enter the second cycle of coding, where we identified preliminary patterns across all interviews and some documents. This phase still has to be completed by pursuing interpretation of patterns for identification of clusters and themes.

4 Research Context

4.1 A (Very) Brief Overview of the Public Health System in Quebec (Canada)

In Canada, public health is a provincial responsibility (Pineault et al., 2016). The public health system in Québec consists of several actors, public, regional, community-based and privately funded organisations. With respect to the focus of this paper on the dissemination of information sharing between public sector organisations and local communities, the interface between the public health system and the local community came into closer focus. It is not our intention here, to criticise the system, but to provide a brief overview in order to allow readers to better understand the research context.

We will concentrate here on the healthcare system in the province of Quebec and the city of Montreal, as this represents the relevant context for this paper.

The healthcare system in Quebec has undergone major changes between 2003 and 2005 as a result of the so-called 'Réforme Barette' (Bill 25 and Bill 83) (Levine, 2007). Very much abbreviated (a more extensive description would exceed the realm of this working paper), this reform created new organizational forms by merging public institutions and regional agencies into, for example, 'integrated health and social services centres or integrated university health and social services centres' (Gouvernement du Québec, 2015). With regard to the integrated university health and social services centres (CIUSS), this type of institution plays a crucial role in interactions between the public health system and the local community. In our specific case, the CIUSS in one region of Montreal offers services through Local Community Service Centres (CLSCs) (ibid), such as (but not limited to): psychosocial advice (on issues

like domestic abuse, depression etc.), advice targeted at young people and families and health services, such as blood donations, help with skin problems and vaccinations (amongst others). During the COVID19 crisis the CLSCs were intended to serve as points of first contact for the community.

4.2 Community Structure in a District of Montreal

When we zoom further down to a local level, the specific district or neighbourhood of Montreal, we can see the actors that are involved in direct interactions with the community and the activities that have been organised within the community to address shortcomings of the official system.

There is, for example, Centraide of Greater Montreal (www.centraide-mtl.org), an organisation that funds community groups and activities across the different districts of Montreal. Another organisation brings together local actors, such as police, schools, local administration, local community groups and the CLSCs in each district of Montreal. It is called Coalition Montréalaise de Tables de Quartier (*Montreal coalition of district round tables* – www.tablesdequartiermontreal.org/les-tables-de-quartier/). These round tables aim to bring the community together to collaboratively establish priorities for the community and make decisions on procedures to address them. Including the training of ‘ambassadors’ in facilitation of community workshops (Convercité & TQMN, 2020), resembling the formation of design champions in organisations, such as the Australian Tax Office (Body, 2008) and the organisation of workshops for participatory decision making and ideation through creative facilitation (Convercité & TQMN, 2020). Before the Covid19-crisis, activities had already taken place to address multiple concerns about community cohesion, youth violence and social health in the community. For example, a social innovation project promoting collaboration between different actors for social health, called Community and Social Health Cluster in Montreal-Nord by a local social innovation agency (Maison de l’innovation sociale, 2020a). The necessity for community support and organisation has manifested in several groups and organisations who dedicate themselves to the support of the local community. One of them is ‘Hoodstock’ another one is ‘Parole des exclus’. Overall, this specific district has structural challenges, represented by a hidden population of immigrants who are not officially recorded, 5 different spoken languages, a population, citizens who neither speak French nor English and families who share small flats and who are dependent on essential work jobs, which cannot be relocated to their home spaces during the pandemic. Youth criminality is elevated, and shootings have become a sad but frequent occurrence over the last years. Still, accounts of activists and citizens also suggest a strong cohesion and pride within the community (Maison de l’innovation sociale, 2020b).

5 Observations

5.1 Activists Organise Support for the Community

With regard to the distribution and generation of knowledge barriers of accessibility to information that have been articulated as part of the SDG 3 (Equality in Education) have been identified by the community. Namely the lack of access to online resources. It is suggested that of, at least, the 40% of pupils in Montreal who live in poverty (Lacerte-Gauthier & Carabin, 2020), a proportion doesn't have the technology nor the infrastructure to access the internet. Announcements by the government of Quebec to distribute a certain number of tablets amongst young people in Quebec have been judged insufficient (ibid). This can be considered to have led to an activist community organisation collecting money and distributing tablets (Radio Canada, 2020) amongst adolescents in Montreal-Nord.

5.2 Informal Leadership Distributes Health Care Messages

During the crisis community organisations have proven vital to the distribution of information (by, for example, hiring a van and using audio equipment to inform the neighbourhood of sanitary regulations in several languages) and activation of community links. In addition to these, more informal community leaders, like religious leaders, have taken on roles to promote public health and sanitary measures, building on established networks and strong community links to distribute official public health messages.

A lack of trust between citizens from immigrant backgrounds and official institutions increases the importance of the reliability of trusted links between the community and community leaders.

5.3 Disaster Management Approaches Help Relay Information

Between the first and the second wave, the Red Cross together with other organisations applied an approach to community mapping that was informed by projects in disaster zones (Faucher, 2020; Numa Goudou, 2020).

5.4 Pandemic Highlights Weaknesses in Official Decision-Making and Information Sharing

According to our research participants, the pandemic has highlighted weaknesses in the decision-making processes of public health institutions and the circulation of information from public health to the community, but also from the community to public health. Responses, like the integration of 'agents relais' (ibid; ibid) have changed this dynamic and allowed for the communication channels to become more bi-directional and the integration of grown community structures, which have been less relevant in pre-crisis interactions.

5.5 Different Modes of Funding, Distributed Versus Centralised

During the crisis, organisations that distribute funding, in this case we refer to specifically one organisation who has been central to funding initiatives for decades, has led to a re-consideration in the way that previously funding was distributed rather centrally to one organisation, for example, where now funding would be distributed more widely between a number of institutions.

5.6 Trustworthiness of Relationships a Novel Requirement for Collaborations

Not only this, but also requirements for choosing organisations to fund changed. Trustworthy relationships that an organisation might have built with the community became an important consideration for the allocation of funding.

6 Findings

6.1 Barriers to Knowledge Sharing

Several barriers to knowledge sharing can be identified when considering the pre-crisis and post-crisis situations within a specific community in Montreal. Barriers include a centralised health care system that acts as a knowledge owner and that has difficulties to interact with the community. This is partially due to a lack of information about the population and their linguistic setup.

On an individual level, we have seen that emotional and cultural bonds are playing an important role in the formation of trust. Trust is important in sharing information successfully. If we trust someone, we are more likely to accept information and learn from others (Henrich, 2020). Communication barriers and uncertainty regarding someone's immigration status can lead to suspicion against official institutions. The more informal pathways to information and for knowledge sharing have received heightened attention during the pandemic.

6.2 Acknowledging and Growing What Already Exists

In this specific community we can identify a high density of support programs. Many have been active before the pandemic, trying to resolve problems that became even more pronounced during the pandemic. During our research we realised that the community is already working successfully on issues such as social cohesion and the integration of creative, design approaches to community engagement (Convercité and TQMN, 2020). During our research the feeling that some organisations who try to solve problems actually pay little attention to the approaches and structures that already exist and engage with an attitude that is not participatory. Raising questions on how we can learn from the field before planning interventions that are meaningful and beneficial making community engagement a learning effort in itself.

Although information and knowledge are not necessarily material, sharing knowledge and information often requires material infrastructures. Specifically, in situations where learning from others through personal contact and communication is limited due to sanitary precautions. Required technology is not accessible for everyone equally, contributing to knowledge inequality (Bolter, 2016), which can have fatal consequences during a deadly pandemic.

6.3 Informal Networks and Community Self-Organization are Potential Enablers of Equality

We have seen some powerful examples of community support and self-organization during the crisis in a neighbourhood considered deprived. Creating knowledge commons, building ad-hoc infrastructure for information sharing and lessening the access to

information-gap are some of the examples how bottom-up initiatives can target communities successfully and find creative ways to share knowledge and information.

6.4 Contribution of Design

Design can help a community to organize itself. On multiple levels, from system to communications, design is involved in shaping the conditions that determine degrees of inequality. It is also a method and process of empowerment, helping communities to organize themselves and take control of decision-making processes and procedures, as demonstrated by the training of community facilitators (Convercité and TQMN, 2020).

Designing is applied as a process of social innovation. One project in specific uses design thinking for social innovation. Participant accounts show that design can help to better understand the ecology of a community.

6.5 From Knowledge Ownership to Knowledge as Common Good

In the research data we identified developments and movements that shifted the allocation of knowledge and the dynamics that determine where knowledge resides and who controls it.

7 Discussion and Projection

We can draw preliminary conclusions from the findings and our analysis. These we discuss here rather briefly in relation to the points raised in the background research section. Namely we will highlight the shifts in information sharing, knowledge infrastructure and organisational interactions for information sharing that we observed, with an emphasis on the role of or relationship to design. We are planning to articulate a projection for design in this context but feel that for this conference we want to focus on the discussion of phenomena observed and see this as a first step towards further research endeavours. We are aiming at further exploring these collaboratively during the conference.

7.1 Learning from the Pandemic and Shifting Frameworks for Collaboration

The shift in dynamic of interactions, from a dominance of official pathways of interactions, dominated by the formalised structures of health services and a rather centralised or focused framework of community funding to a distributed form of funding and a stronger acknowledgement of the importance of strong ties within existing networks (Granovetter, 1983) is significant. Here we see a dynamic at play that moves the perception of organisation involved in information sharing from 'instruments of domination' (Morgan, 2006) towards 'operational adhocracy' (Mintzberg, 1981), thereby distributing control and reducing the relevance of rules and procedures. Instead, as Sebastian (2005) explains, creating an organisational structure that works in a designerly way, moving through solution and problem spaces simultaneously to iteratively explore requirements collaboratively.

7.2 Infrastructuring Expands Access to Information and Education

Activities that can be considered being part of infrastructuring that have been observed or identified include the distribution of iPads to pupils by a community activist organisation (Radio Canada, 2020). On a less technical level, infrastructuring involves the creation of relationships between varied actors through long-term commitment, flexible allocation of resources and a grounded attitude towards the occurrence of design possibilities (Hillgren et al., 2011). This we see as a relevant extension of the SDGs and evident in some of the accounts of research participants, as a more participatory attitude towards collaboration has been taken and relationship building has gained significance. Adding a human-centred element to crisis-management that acknowledges the existence of actors not as separate entities but as essential members of stakeholder networks (Krippendorff, 1997).

7.3 Projection

We can draw preliminary conclusions from the findings and our analysis. These we discuss here rather briefly in relation to the points raised in the background research section. Namely we will highlight the shifts in information sharing, knowledge infrastructure and organisational interactions for information sharing that we observed, with an emphasis on the role of or relationship to design. We are planning to articulate a projection for design in this context but feel that for this conference we want to focus on the discussion of phenomena observed and see this as a first step towards further research endeavours. We are aiming at further exploring these collaboratively during the conference.

References

- Barriball, K. L., & While, A. (1994). Collecting data using a semi-structured interview: A discussion paper. *Journal of Advanced Nursing*, 19(2), 328–335.
- Body, J. (2008). Design in the Australian tax office. *Design Issues*, 24, 55–67.
- Bolter, J. (2016, May 18). *Knowledge inequality*. Medium. <https://medium.com/@jaybolter/knowledge-inequality-6447f9ea4364>
- Buchanan, R. (2004). Management and design: Interaction pathways in organizational life. In *Managing as Designing* (pp.54–64). Stanford University Press.
- Cohen, I. (2006). Structuration. In B. S. Turner (Ed.), *The Cambridge Dictionary of Sociology* (1st edition, p.613). Cambridge University Press.
- Convercité, & TQMN. (2020). *Forum éclaté de Montréal-Nord—Rapport des séances d'échanges*. https://tqmn.org/wp-content/uploads/2020/03/TQMN_Rapport_Forum.pdf
- Corbin, J. M., & Strauss, A. C. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd Edition). SAGE.
- Faucher, O. (2020, September 1). Montréal-Nord: La communauté se prépare pour la deuxième vague. *Journal Métro*. <https://journalmetro.com/local/montreal-nord/2508010/vague-montreal-nord/>
- Geertz, C. (1973). Thick description: Toward an interpretive theory of culture. In *The Interpretation of Cultures: Selected Essays* (p.3–30). Basic Books.
- Glaser, B. G. (1978). *Theoretical Sensitivity: Advances in the methodology of Grounded Theory*. Sociology Press.
- Gouvernement du Québec. (2015). *Main Roles and Responsibilities—Health and Social Services System in Brief—Santé et Services sociaux*. <https://www.msss.gouv.qc.ca/en/reseau/systeme-de-sante-et-de-services-sociaux-en-bref/principaux-roles-et-responsabilites/>
- Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201–233.
- Henrich, J. (2020). *The WEIRD People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous* (Illustrated edition). Farrar, Straus and Giroux.
- Hillgren, P.-A., Seravalli, A., & Emilson, A. (2011). Prototyping and infrastructuring in design for social innovation. *CoDesign*, 7(3–4), 169–183.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.
- Krippendorff, K. (1997). *A trajectory of artificiality and new principles of design for the information age*. http://repository.upenn.edu/asc_papers/95/
- Lacerte-Gauthier, F., & Carabin, F. (2020, May 15). École en ligne: Des inégalités à prévoir, selon l'ex-présidente de la CSDM. *Journal Métro*. <https://journalmetro.com/actualites/montreal/2446488/ecole-en-ligne-des-inegalites-a-prevoir-selon-lex-presidente-de-la-csdm/>
- Levine, D. (2007). The Reform of Health and Social Services in Quebec. *HealthcarePapers*, 8(sp), 46–54. <https://doi.org/10.12927/hcpap.2007.19219>
- Maison de l'innovation sociale. (2020a, April 30). Community and Social Health Cluster. *Maison de l'innovation Sociale*. <https://www.mis.quebec/en/completed-projects/2020/04/29/community-social-health-cluster/>
- Maison de l'innovation sociale. (2020b, May 29). *Montréal-Nord nous raconte sa résilience face à la Covid-19 | Raccords #05*. www.youtube.com/watch?v=vSlk4i6XhyE&feature=youtu.be
- Miles, M. B., Huberman, A. M., & Saldaña, J. M. (2013). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE.
- Mintzberg, H. (1981). Organization design: Fashion or fit? *Harvard Business Review*, January-February, 103–116.
- Numa Goudou, J. (2020). Cartographier la COVID à Montréal-Nord. *Intexto, journal nou*. <https://www.intexto.ca/cartographier-la-covid-a-montreal-nord/>
- O'Reilly, K., Paper, D., & Marx, S. (2012). Demystifying grounded theory for business research. *Organizational Research Methods*, 15(2), 247–262. <https://doi.org/10.1177/1094428111434559>
- Pineault, R., Prud'homme, A., Fiset-Laniel, J., & Strumpf, E. (2016). *Montreal's Health Care System (Quebec, Canada)*. 5.
- Rousseau, D. M., & Fried, Y. (2001). Location, location, location: Contextualizing organizational research. *Journal of Organizational Behavior*, 22(1), 1–13.
- Sebastian, R. (2005). The Interface between Design and Management. *Design*, 21(1), 81–93.
- Senge, P. M. (1994). *The fifth discipline: The art & practice of the learning organization*. Currency Doubleday.
- Stake, R. E. (1995). *The Art of Case Study Research*. SAGE.
- Tempest, S., & Starkey, K. (2004). The Effects of Liminality on Individual and Organizational Learning. *Organization Studies*, 25(4), 507–527. <https://doi.org/10.1177/0170840604040674>
- UN. (2020). *THE 17 GOALS | Sustainable Development*. <https://sdgs.un.org/goals>
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). SAGE.

Acknowledgements

We want to thank the practitioners who took part in our research for their time and their invaluable contribution to our understanding of the complexities of the health care system in Quebec and the importance of knowledge sharing in times of crisis.

Designing With, Within, and For Common Good

Design & Permaculture. Shifting Paradigms to Build Food Sovereignty in Tunisia

Safouan Azouzi

Urbanism for the Common Good: Assessing the Transformation of 18 de Marzo Oil Refinery in Mexico City

Maitreyi Phansalkara,
Beatriz Vergara Allerb, Jorge Zapatac

Using Probes and Prototypes in Digital Environments for Participatory Deliberation

Juan de la Rosa, Juan Sebastian Bedoya Rodríguez, Valentina Barrera García, Paul Bryan Gamboa Mateus, Carlos Andrés Garzón Pachón, Dora Consuelo Villalobos, Stan Ruecker

Design & Permaculture. Shifting Paradigms to Build Food Sovereignty in Tunisia

Keywords: Design, Permaculture,
Common Good, Resilience,
Anthropocene.

Safouan Azouzi^{a*}

^a*Università degli Studi di Roma
"La Sapienza", Facoltà
di Architettura, Dipartimento
di Pianificazione, Design,
Tecnologia dell'Architettura*
^{*}safouan.azouzi@uniroma1.it

The catastrophic effects of the Anthropocene ie of human action on the planet are becoming more and more evident. However, different movements in both the Global North/West and the Global South/East are challenging the status quo, as new forms of governance and collective action are concretely implemented by communities to protect and maintain the shared resources entrusted to them. The permaculture movements offer in this sense alternative means of organization in response to the Anthropocene. In Tunisia, where several voices are calling for a real change in the trajectory of the economic model and the agri-food system to build food sovereignty, we have also seen the emergence of a network of permaculture practitioners. In parallel, the oasis of Jemna has become the symbol of peasant resistance and the practice of commoning; recalling the concept of autonomous design.

1 Introduction

The catastrophic effects of human action on the planet are becoming increasingly evident and the term Anthropocene indicates the current geological epoch where our species have become a primary driver for global environmental change and the main geological force on Earth. However, Williston (2015) refers to the Anthropocene as a project, going beyond its specification as a geological epoch; in that way it would be a call to place our industrialized present in a time frame that is both evolutionary and geological. In fact, many are not satisfied with the term Anthropocene, considering it as reductive, hiding the real question that is what politics anticipate the catastrophe sufficiently so that futures stay open. Some prefer the term “Capitalocene” (Moore, 2016) pointing directly to the political economic system, when others choose the one of Eurocene or Technocene (Sloterdijk, 2015) conjuring the technological revolutions of the modern age and their side effects, which, should be billed to the account of the European civilization and its technocratic elite.

In Tunisia, the collapse is very concrete and its effects have increased dramatically in recent decades especially since the Arab Spring. Recent literature clearly links migration to the challenge of food security and climatic changes (David, 2018; FAO, 2018). Bettini (2019) speaks about (Climate) Migration as a symptom in the Anthropocene, joining the criticism of others regarding the lack of political will in tackling the Mediterranean's core problems with policies that addressed symptoms rather than causes (Engelke et. al, 2017). Numerous voices call for a drastic change in the trajectory of the economic model, to reflect of new pathways for the development of the agri-food system in order to build food sovereignty and remedy the effects of dependent (colonized) and exporter agriculture (Schwoob and Elloumi, 2018; Labidi and Riahi, 2019). This is in line with the discourse advocated by Permaculture movements, which, because of their combination of local, situated design practices and underlying social and political philosophies, provide alternative ways of organizing in response to the Anthropocene (Roux-Rosier et. Al, 2018). In this context we noticed the emergence of several citizen/academic initiatives promoting permaculture in Tunisia. The permaculture movements offer in this sense alternative means of organization in response to the Anthropocene.

In this same context of the Anthropocene, design is called upon to reinvent itself; Its responsibility is questioned because it is at the heart of unsustainable systems of production/consumption. On the other hand, in many of its contemporary forms, it carries the problematic ambition of improving the habitability of the world as a projector or corrector (Bonnet et al., 2019).

In parallel, the oasis of Jemna has become the symbol of peasant resistance and the practice of commoning. It was the theater of the emergence of a local and pluralistic civil society, the learning of

participatory democracy and a pioneering experience in Tunisia, obliging the state to create a new legal framework for social and solidarity economy recently. This is recalling the concept of Autonomous Design (Escobar, 2018) or what Manzini (2015) defines as diffuse design talking about the widespread capacity of people and social groups to solve urgent and most felt problems in their social environment. Our research would question the support role that designers can play in relation to these diffuse capacities on the territories and how to couple design and Permaculture approaches to overcome these issues for the common good. Thinking about the work of Ostrom (1990) on Commons, the idea would be to understand the role of design in helping to shift paradigms from an extractivist economy of growth to an economy of resources; a design attached to situations instead of objects.

2 Anthropocene: An Era of Mutual Aid

With the concept of Chthulucene, Haraway (2016) instead sought to develop “a kind of timeplace for learning to stay with the trouble of living and dying in response-ability on a damaged earth” (p.2) as opposed to the Anthropocene. Indeed, some Scranton (2015), speaks about the need to learn to die - as a civilization - in order to adapt to this strange new world, have new ideas, new myths and new stories, a new way of thinking our collective existence over and against capitalism. Servigne & Stevens (2015) make the link between Anthropocene and the notion of collapse in order to make it even more tangible; seen as certain, the collapse thus loses its tragic dimension. Paradoxically, they consider that we are soon entering the era of mutual aid. The disappearance of the social order in which we live would not lead to disaster, chaos or panic, as, most humans exhibit extraordinarily altruistic, calm and composed behavior after a catastrophe.

2.1 Emergence of New Forms of Collective Action: Permaculture Between Commons and New Materialism

Many scholars denounced the unsustainability of capitalism and the neoliberal model, in addition to its inability to give solutions to the various crises it creates (Kempf, 2013; Klein, 2014), suggesting the “commons” as an alternative model and mode of organization for a transition towards a post-capitalist economy (Ostrom, 1990; Dardot & Laval, 2014; Hardt & Negri, 2014; Rifkin, 2014). Commons movements propose forms of governance other than privatization or statization, as they are concretely implemented by the communities to protect and maintain the shared resources entrusted to them. Capitalism would be at the very origin of its own fall because of the spontaneous rise of collaborative production using network technology (Rifkin, 2014). Mason speaks about “the educated and connected human being” as “a new agent of change in history” (2016, p.xvii).

One could also evoke different environmental activist movements both in the Global North/West and Global South/East of the world. These movements merge and aim to anticipate the end of fossil fuels, climatic disturbances, or disruptions in the food supply.

The idea is to build small, resilient systems at the local level that will better endure future economic, social and ecological shocks. These systems and movements are defined by Schlosberg and Coles (2015) as "new materialist movements".

In the North, the Degrowth movements, inspired by Meadows (1972) and the Transition Town Network originally launched by permaculture designer Rob Hopkins (2008), are considered as political alternatives that fit into this imaginary of collapse. Speaking about Permaculture, Centemeri (2018) considers the latter "both as a new materialist movement and as a commons movement. Its distinctive trait is that it conceives the response to basic needs by creating multispecies commons". Permaculture movements, which, because of their combination of local, situated design practices and underlying social and political philosophies, provide alternative ways of organizing in response to the Anthropocene (Roux-Rosier et. al, 2018).

From the Global South, alternative societal concepts are also to be considered in the debate, including Buen Vivir (Merino, 2016), Ecological Swaraj (Kothari et al., 2014) or the one of Via Campesina, a transnational social movement defending peasant agriculture for food sovereignty (Martinez-Torres & Rosset, 2010). Some also call for reconsidering the question of North-South relations from a new angle, especially when considering the differences in consumption between them. However, the consequences of global warming will be much worse in the countries of the South, precisely those which have contributed the least to greenhouse gas emissions.

2.2 Food Sovereignty and Permaculture: The Tunisian Context

The southern and eastern rim of the Mediterranean are the most vulnerable, as the MENA region is the most arid in the world. In Tunisia, climate change is expected to have major impacts on the country's agriculture, economy and households (World Bank, 2013) intensifying the already significant poverty and unemployment. Further efforts to develop Tunisian agriculture, downstream value chains and associated infrastructure in marginalized rural areas could be levers to contain migration. More and more analyzes show the importance of the role played by the agricultural sector for the economy and employment, in particular in the southern Mediterranean countries (CIHEAM and Plan Bleu, 2009).

In Tunisia, several voices call for a real change in the trajectory of the economic model, to think of new avenues for the development of the agri-food system to build food sovereignty. Local/territorial development is here considered as an inclusive alternative where it is a question of rethinking cultural practices by adapting the technical aspects to the physical and climatic structural difficulties of Tunisia, thus moving away from the methods advocated by the Green Revolution (seeds, pesticides, fertilizers). Recently, an exercise aimed at developing a detailed repertoire of the conditions

for achieving a transition to a real transformation of systems was carried out (Schwoob and Elloumi, 2018) with local players in 2017 and made it possible to identify three priority challenges and objectives for a transition of the Tunisian agricultural system: (1) the preservation of natural resources (water and soil); (2) improving food security (with its different dimensions); (3) the development of socio-economic services provided by the agri-food sector.

Issues and objectives that closely resemble what Mollison (1979) puts down as an ethical basis for permaculture speaking about three main principles: (1) care of the earth: provision for all life systems to continue and multiply; (2) care of the people: provision for people to access those resources necessary to their existence; (3) setting limits to population and consumption. From the perspective of a given individual, permaculture can be seen as a design system for ecologically responsible home economics. From a scholarly perspective, permaculture is a notoriously multi-faceted approach, evolving aggressively from its agricultural origins to culture-wide applicability by allowing shifting definitions to suit particular needs.

In this context we noticed the emergence of several citizen/academic initiatives promoting permaculture in Tunisia; they are working with different realities in rural areas with the aim of developing a tangible Community-Centered Agriculture network, the creation of a resilient production and consumption system, as well as the training of farmers to permaculture as a sustainable alternative. For example, the project “Re-Green Tunisia” launched in 2013, in the south of Tunisia heavily impacted by global warming, especially in the southern region of Gabes. The initiative aims to promote a model of agriculture adapted to climate change, notably by creating “oasis-forests” and using traditional techniques of irrigation by jars based on ancestral knowledge and permaculture to enrich the soil naturally in nitrates and phosphorus (Chesnot & Ballanger, 2019).

Already in the early 70's, Papanek (1971) was sounding the alarm about the need for responsible and sustainable design. Fiddelli and Bousbaci (2004) suggested social design as a discipline aimed at improving the habitability of the world, also quite close to the analysis of Tomás Maldonado (1976), design as a “total social phenomenon”. On a larger perspective, design could support the aspirations of highly vulnerable communities proposing solutions to problems that, according to Manzini (2014), neither the market nor the state have solved. In a highly self-organized context, design becomes a useful tool for understanding and developing social innovation by mediating public and private needs.

3 Design and Permaculture: Increasing Communities' Resilience

3.1 Design as / for Common Good

Cellamare (2019) deals with the different forms of appropriation and re-appropriation of the city and collective and organized urban practices, as forms of latent design, in search of new conditions of mutualism. Public space and common goods - in a context that thrives on the delicate relationship between lawful and illegal - become informal places of change and innovation. One could extrapolate his analysis to any other kind of space/territory.

In this context, Villari (2013) explains that: "the disciplinary perimeter of design is today much more complex and reflects the social and economic changes of our society." Design is no longer a design area associated only with "productive, technological and market dimensions." (2013, p.3). The author proposes a definition of Design for the Territory, as an extension of the disciplinary areas of strategic design and service design, focusing on the enhancement of territorial capital. It is a collaborative, community-centered design approach to designing relationships, strategies, products and services.

This somehow reminds the concept of Cosmopolitan Localism (Manzini, 2014; Ramos, 2017) which is the theory and practice of inter-regional and planet-wide networking between place-based communities who share knowledge, technology, and resources. Speaking of the SLOC scenario (a Small, Local, Open, Connected sociotechnical system), Manzini (2015), reimagines the role of design in addressing social issues and in building a resilient culture, distinguishing between Expert (design professionals) and Diffuse design (people, social groups). Design is strategic in triggering, supporting and enhancing social innovation, where designers become infrastructurers to support initiatives for autonomous communities (Morelli e Sbordone, 2018).

The same concept of Cosmopolitan Localism is followed by Transition Design (Kossov, 2019), a new area of design research, practice and study, aimed at seeding and catalyzing societal transitions and systems-level change, that argues design and designers have a key role to play in these transitions. Transition Design was inspired by the Transition Town movement, which refers to grass-root community projects that aim to increase self-sufficiency to reduce the potential effects of peak oil, climate destruction, and economic instability. Speaking about Service Design and Design for Social Innovation, Irwin proposes Transition Design as a third new approach. It is based upon longer-term visioning in order "to address twenty-first-century wicked problems such as climate change, loss of biodiversity, depletion of natural resources, and the widening gap between rich and poor" (2015, p.229).

Some (Busch & Palmås, 2016; Nussbaum, 2010) mention the risk of falling from the dark side of the social. They state that leveraging the social level may well produce unforeseen negative societal

outcomes. They criticize a certain idealism of the designer and oppose a more realistic vision of design for social innovation, as a means to prevent social practice-informed design from generating negative outcomes; designers ought to acknowledge the limits of idealist “what if” starting points. In order to balance such idealism, designers ought to place more focus on the realist question of “who whom?” - who benefits from the social innovation, and who pays the price for the change. (Busch & Palmås, 2016, p.287). A vision that corresponds to that of Myerson (2016), who calls for a new way of thinking in scaling down and reverse thinking rather than seeking to systematize solutions.

In this context some call for decolonizing design from the tyranny of cold, “Western” abstractions (Tunstall, 2013; Ansari, 2016; Schultz, 2017; Fry, 2017) to initiate a real dialogue between designers from the Global North and Global South in order to develop a paradigmatic shift from a Eurocentric vision of design to a pluriversal one (Escobar, 2018). Escobar (2018) speaks about “a design imagination centered on autonomy and the realization of the communal” (p.186). In the same way Fry (2010) declares that designers should answer this challenge by transforming themselves into politicized change agents who can overturn many long established and deeply entrenched political, economic ideological and technological foundations.

3.2 Design and Permaculture Convergence

In his book Fuad-Luke (2009) considered Permaculture as particular form of ecological design/ design activism. Permaculture design, particularly in terms of vocabulary, is undergoing a transition from being very specific about landscape configuration to a much more general usage. “It must be stated at the outset that I regard permanent agriculture as a valid, safe, and sustainable, complete energy system. Permaculture, is defined here, claims to be designed agriculture, so that the species, composition, array and organization of plants and animals are the central factor. In that sense this is not a gardening book.” (Mollison, 1988). It is here defined as set of design principles centered on whole systems thinking. It uses these principles in a growing number of fields from regenerative agriculture, rewilding, and community resilience.

This joins the claims of Barbero (2018) when speaking about the Systemic Design approach; in the most recent evolution, is particularly attentive to the territorial implications and valorizations. In that sense, we can call it systemic design for sustainable rural development, where the management of local resources and wastes can generate new territorial businesses to guarantee distribution of wealth to local communities (Barbero, 2018).

Cassel & Cousineau (2018) make the link between Design and Permaculture. They state that the formulation of permaculture as a design discipline can be partially credited to Mollison’s reading of

Papanek and discussions with that work's author. They also consider that the latter has made many contributions to systemic design, including simple-to-remember lists of guiding ethics and principles; a vocabulary of categories that allow the discussion of interactions; a toolbox of design methods for selecting and assembling systems of elements; overall design processes; and some agroecological and social system design insights. However, this exchange of ideas could go both ways, and design could assist in the current challenges of permaculture "including forming stable objectives, assessing appropriate technology, stakeholder engagement, and launching viable projects.

4 The Oasis of Jemna: Which Design?

The oasis of Jemna in the south-west of Tunisia, in Nefzaoua more precisely, the main region producing date of the country, is thus to quote; as the oasis has become the symbol of peasant resistance. A few days before the fall of the regime, the inhabitants of the oasis took over part of the land and introduced a new model of social and solidarity economy. At a time when citizenship in Tunisia is going through a deep crisis linked to the weakening of the State and the de-structuring of social bonds, the initiative has been perceived as a political and civic lesson to the center of power. Part of the income was invested and served to improve the situation of the oasis through various local investments.

For Kerrou (2017), Jemna's experience is exemplary in terms of the emergence of a local and pluralistic civil society, the learning of participatory democracy and the pioneering experience in Tunisia of the social and solidarity economy. The community, however, faces several difficulties that could hinder the perennity of the model that it proposes. We noted the will to return to traditional modes of organization and ancestral irrigation techniques but also the recognition in permaculture of a sustainable alternative towards transition in facing climate change.

There, a collaborative design experiment following an approach rooted in the present, emancipated from the notion of project and the ambition to improve the livability of the world, would help to re-configure the forms of collective action and relations between the active entities, within the situations in order to repair the land of life and to re-emerge the socio-cultural bonds of the community of Jemna.

5 Conclusion

Given the aforementioned premises, the research project aims more specifically, through the analysis and direct application to the cases of the oasis of Jemna and Re-Green Tunisia project, to confront the approaches of Design and of Permaculture in the first place, then highlight/question their role in supporting/implementing practices generated locally, and in autonomous manner.

Following an inductive reasoning our purpose is to develop and propose a specific approach, helping permaculture practitioners (starting from the example of the oases) to be able to create a strong link between design knowledge, technological potential and cultural and social values. Solutions related to agriculture and food security in a context of water scarcity, such as the Tunisian one, allowing to increase the resilience of rural populations. The idea is not to stop in designing only solutions to respond to an emergency but to develop a constant network of effective actions, working on a new and lasting approach to a constantly evolving problem.

Sustainability is the only narrative for a possible civilization; but the question would be: How can we design and spread the idea of urgency to activate and conduct conversations about the future? Designing together to think in a more pragmatic way would be one of the ways, speaking of community centered design capable of uniting different stakeholders. The designer could orchestrate these kinds of conversations and increase our collective sensitivity about how we live and contribute to civilization.

References

- Ansari, A. (2016). *Towards a Design Of, From & With the Global South*. Carnegie Mellon University.
- Barbero, S. (2018). *Local Ruralism: Systemic Design for Economic Development*, Systemic Design, Translational Systems Sciences 8, Springer Japan
- Bettini, G. (2019). *And yet it moves! (Climate) migration as a symptom in the Anthropocene*, Lancaster Environment Centre, Lancaster University, Lancaster, UK.
- Bonnet, E., Landivar, D., Monnin, A., Allard, L. (2019). Le design, une cosmologie sans monde face à l'Anthropocène. *Sciences du Design*, 10(2), 97-104.
- Busch, O. V., Palmås, K. (2016). *Social Means Do Not Justify Corruptible Ends: A Realist Perspective of Social Innovation and Design*. She Ji: The Journal of Design, Economics, and Innovation Volume 2, Issue 4, Winter 2016, Pages 275-287.
- Cassel, J., Cousineau, S. (2018). *Permaculture as a Systemic Design Practice*, Systemic Design, Translational Systems Sciences 8, Springer Japan.
- Cellamare, C., (2019). *Città Fai-Da-Te*, Donzelli editore, Roma.
- Centemeri, L. (2018). *Commons and the new environmentalism of everyday life. Alternative value practices and multispecies commoning in the permaculture movement*. Rassegna italiana di Sociologia, In press. fahal-01773575.
- Chesnot, C., Ballanger, F. (2019). La Tunisie en première ligne du changement climatique. France Culture. <https://www.franceculture.fr/environnement/la-tunisie-en-premiere-ligne-du-changement-climatique>
- Dardot P., Laval C., (2014), *Commun*. Essai sur la révolution au XXIe siècle. Paris : La Découverte.
- David, A. (2018), *CHAPITRE 1 - Migrations en Provenance et à Destination des Pays Méditerranéens*, CIHEAM, MediTERRA 2018. Presses de Sciences Po, p.27-38
- Engelke, P., L. Aronsson, M. Nordenman, 2017, *Mediterranean Futures 2030 Toward A Transatlantic Security Strategy*, Atlantic Council
- Escobar, A. (2018), *Designs for the pluriverse. Radical Interdependence, Autonomy, and the Making of Worlds* Duke University Press.
- FAO IFAD IOM WFP. (2018), *The Linkages between Migration, Agriculture, Food Security and Rural Development*. Rome.
- Findeli, A., Bousbaci, R. (2004). *L'éclipse de l'objet dans les théories du projet en design*. Université de Montréal.
- Fry, T. (2010), *Design as Politics*, Berg Pub Ltd.
- Fry, T. (2017). *Design for/by "The Global South"*. *Design Philosophy Papers*, 15(1): 3-37. <https://doi.org/10.1080/14487136.2017.1303242>
- Fuad-Luke, A. (2009). *Design Activism. Beautiful Strangeness for a Sustainable World*. London: Earthscan.
- Haraway, D. (2016), *Staying with the trouble – making kin in the Chthulucene*. Durham and London: Duke University Press.
- Hardt, M., Negri A., (2010), *Comune, Oltre il privato e il pubblico*, Rizzoli, Milano.
- Kempf H., (2013). *Fin de l'Occident, naissance du Monde*. Paris: Editions du Seuil.
- Kerrou, M. (2017). « L'Oasis de Jemna entre les modes de fonctionnement bureaucratique et les logiques de l'émancipation civile ». In *Révolutions et Émancipations. De la rébellion zapatiste à la révolution tunisienne: les nouveaux chemins de la contestation*. Mohamed Nachi, Ed. Tunis: Nirvana: 146-164.
- Kossof, G. (2019). *Cosmopolitan Localism: The Planetary Networking of Everyday Life* in Place.
- Kothari, A., Demaria, F., & Acosta, A. (2014). *Buen Vivir, Degrowth and Ecological Swaraj: Alternatives to sustainable development and the Green Economy*. Society for International Development.
- Irwin, T. (2015). *Transition Design: A Proposal for a New Area of Design Practice, Study, and Research, Design and Culture*. Pittsburgh: Carnegie Mellon University.
- Maldonado, T. (1976). *Disegno industriale. Un riesame*. Feltrinelli Economica.
- Manzini, E. (2014, 25 luglio). *Design for social innovation vs. social design*. DESIS Network. <http://www.desisnetwork.org/2014/07/25/design-for-social-innovation-vs-social-design>
- Manzini, E. (2015). *Design When Everybody Designs. An introduction to design for social innovation*. Cambridge MA: MIT Press.
- Mason, P. (2016). *Postcapitalism, A Guide to Our Future*, UK: Penguin Books.
- Mollison, B. (1979). *Permaculture two: Practical design for town and country in permanent agriculture*. Stanley, Australia: Tagari.
- Mollison, B. (1988). *Permaculture: A designer's manual*. (2nd ed.). Sisters Creek, Australia: Tagari.
- Moore, W. J. (2016). *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. PM Press. Oakland: Canada.
- Morelli, N., Sbordone M. A. (2018). Il territorio delle relazioni: Il design infrastrutturando per i contesti locali, *MD Journal*, No. 5.
- Myerson, J. (2016). *Scaling down: Why designers need to reverse their thinking*. She Ji: The Journal of Design, Economics, and Innovation, 2(4), 288-299.
- Nussbaum, B. (2010). *Is Humanitarian Design the New Imperialism? Does our desire to help do more harm than good?* <https://www.fastcompany.com/1661859/is-humanitarian-design-the-new-imperialism>
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Ramos, J. (2017). *Cosmo-localization and leadership for the future*. *Journal of Futures Studies*, 21(4). 65-84. Retrieved October 29, 2017, from <http://jfsdigital.org/>
- Rifkin, J. (2018). *The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism*.
- Roman, E., & Pastore, F. (2018). *Analysing Migration Policy Frames of Tunisian Civil Society Organizations: How Do They Evaluate EU Migration Policies?*
- Rosset, P. M., Martínez-Torres, M. E. (2014). *Food Sovereignty and Agroecology in the Convergence of Rural Social Movements*. In: *Alternative Agrifood Movements: Patterns of Convergence and Divergence*, pp.137-157. DOI: 10.1108/S1057-192220140000021001
- Roux-Rosier, A., R. Azambuja, G. Islam. (2018). *Alternative visions: Permaculture as imaginaries of the Anthropocene*, *Organization* 2018, Vol. 25(4) 550 –572
- Schlosberg, D., R. Coles (2016). The New Environmentalism of Everyday Life: Sustainability, Material Flows, and Movements, in «Contemporary Political Theory», 15, 2, pp.160-181.
- Schwoob, M., Elloumi, M. (2018). *CHAPITRE 8 - Sous-Développement Rural et Migrations Internes: l'Exemple de l'Agriculture Tunisienne*, CIHEAM, MediTERRA 2018. Presses de Sciences Po, p.171-184.
- Scranton, R. (2015). *Learning to Die in the Anthropocene. Reflections on the end of a civilization*. San Francisco: City Light Books.
- Servigne, P., Stevens, R. (2015). *Comment tout peut s'effondrer. Petit manuel de collapsologie à l'usage des générations présentes*. Editions du Seuil.
- Sloterdijk, P. (2015). *The Anthropocene: A process-state at the edge of geohistory?* In: Davis, H, Turpin, E (eds) *Art in the Anthropocene: Encounters among Aesthetics, Politics, Environments and Epistemologies*. London: Open Humanities Press, pp.327–339.
- Tunstall, E. (2013). *Decolonizing Design Innovation: Design Anthropology Critical Anthropology, and Indigenous Knowledge*. In: W. Gunn; T. Otto; R. Smith (eds.), *Design Anthropology. Theory and Practice*. London, Bloomsbury, p.232-250.

- Schultz, T. (2017). *Design's Role in Transitioning to Futures of Cultures of Repair*. In: A. Chakrabati; D. Chakrabati (eds.), *Research into Design for Communities*. New Delhi: Springer, vol. 2, p.225-234. https://doi.org/10.1007/978-981-10-3521-0_19
- Villari, B., 2013, *Design, Comunità, Territori, Un approccio community-centred per progettare relazioni, strategie e servizi*. Milano: LIBRACCIO editore.
- Williston, B. (2015). *The Anthropocene Project*. Oxford University Press. UK.
- World Bank. 2013, *Tunisia in a Changing Climate Assessment and Actions for Increased Resilience and Development*. Washington DC.

Urbanism for the Common Good: Assessing the Transformation of 18 de Marzo Oil Refinery in Mexico City

Keywords: Design Assessment,
Critical Urbanism, Planning Method,
Urban Design, Mexico City.

Maitreyi Phansalkara^{a*},
Beatriz Vergara Allerba^{a**},
Jorge Zapata^{a***}

^a*The University of Texas at Austin -
School of Architecture.*

*phansalkar.maitreyi@utexas.edu

**beavallr@utexas.edu

***jorgezapata@utexas.edu

Contemporary cities are predominantly designed as means to gather and accumulate capital. Real estate (market) shapes cities and neighborhoods to be exclusive, creating islands of privilege and power. And while migration towards the urban centers for opportunities is a set process, a city possesses many challenges that have been the cause for an outflow or a reduced quality of life for the vulnerable communities. As spatial interventions are pivotal to social implications, design and planning professions have an unsaid responsibility in changing the narrative of development towards the common good. The paper proposes an assessment model to be used by these professionals at multiple stages of a project. This model's demonstration is done via master plans of 18 de Marzo Oil Refinery, Mexico City produced by UTSOA's Advanced Design Studio Mexico in spring 2020. It is an individual and collective reflection tool that aims to create a sensitive approach towards environmental, social, political, economic, and spatial justice, reducing tangible and intangible barriers created by factors like land-use patterns, interests, real estate, private markets, segregative practices, and more.

1 Introduction

Cities are physical and social manifestations of culture and governance, by and for the people. They are meant to protect and provide for the public as a whole with dedicated amenities to create a better lifestyle, sans the conditioned integration of segregation and inequality. It is possible to understand how colonizing patterns have changed the narrative of the common good and whom it belongs to as the governance was focused on gathering resources. The reflections of the same conviction can be seen in the North American cities, predominantly designed as nodes of exchange.

Karl Marx (1990, p.33) distinguishes between use and exchange value as the efficacy of a 'good' against its worth in a trade market. The argument presented for the value of the good is inherently a discussion for the embedded value in design and planning. The difference between a designed and undersigned space is often communicated through a certain indescribable 'quality' for these professionals. Most ideologies hinge around this quality, often abstracted from the notions of aesthetic and social values. Henri Lefebvre's argument brings a tangible idea in this context by linking the presumptive value in space to the 'use-value' of the good. While planning and design aim to work towards the provision of such use within the good, we end up making the good 'exchange worthy' in the current market. When the exchange value becomes the primary driver to create, public spaces become a means to attract market opportunities and investments. They attempt to normalize the narrative shift, one from the common good to the good's exchange value. Urban designers and planners, in tandem with other fields, play a role in defining the spatial and social environment in the form of policies and plans. Historically, they may not have considered the common good as the overarching goal but as a collateral effect of a market-driven dynamic.

We, the authors are graduate students in Urban Design and Planning at the School of Architecture, the University of Texas at Austin. This paper is a synthesis of our understanding and learnings from the school and professional experiences in the field. Our courses exposed us to social concepts like 'Right to the City' and 'Migratory Urbanism', theories that spoke about urban design and planning history, futures and cities, public economics, and more. In March 2020, the team visited Mexico City as a part of their Advanced Design Studio (Studio Mexico) and did three extensive team projects with Miguel Hidalgo as the investigation site. The scale and the approach of the project tested our position with the city's challenges, and unknowingly with the common good. With this as the starting point, our paper, with Mexico City in highlight, proposes a reflective tool for planners and designers. 'Urbanism for the common good' aims to re-collate the notion of what the common good is in the current times.

2 Site, Context and Challenges

Currently, 80 percent of the population in Mexico lives in urban areas. The projection for 2050 will grow 8 percent, increasing the city dwellers. However, if we regard it closely, the population flows outside the urban core because of the increasing challenges that diminish city life incentives. Cities and governments are not prepared for environmental and social anomalies, and in the light of COVID-19, the faults in the established urban system have become more prominent. Health care, public systems, distribution and production of resources, supply and demand chain, the role of governance, and more, have come under the radar and need an urgent redesign in the approach.

Since the de-industrialization process, Mexico City experienced a 17.5 percent unemployment by the late 1980s. As a consequence of people migrating to the suburbs, economic issues continued to arise, like an uprising in taxes. As part of economic restructuring, local government, in a partnership with political alliances and private organizations, invested inland near the city core to prevent migration. These partnerships intended to regenerate large districts to densify the unused land and use the revenue to finance transit. The large parcels acquired by the city, once in its outskirts, nowadays constitute big empty fields in the middle of the urban fabric. This poses different problems in terms of connection and adaptability, but most importantly, in remediation.



Fig. 1: Mexico City, Mexico, 2020. The edge of Chapultepec Park from Torre BBVA Bancomer. It is key to identify places of opportunity where different city-making options can be provided to respond to the needs of the city of the future. Photo and drawing credits: Jorge Zapata.



Currently, 80 percent of the population in Mexico lives in urban areas. The projection for 2050 will grow 8 percent, increasing the city dwellers. However, if we regard it closely, the population flows outside the urban core because of the increasing challenges that diminish city life incentives. Cities and governments are not prepared for environmental and social anomalies, and in the light of COVID-19, the faults in the established urban system have become more prominent. Health care, public systems, distribution and production of resources, supply and demand chain, the role of

governance, and more, have come under the radar and need an urgent redesign in the approach.

Since the de-industrialization process, Mexico City experienced a 17.5 percent unemployment by the late 1980s. As a consequence of people migrating to the suburbs, economic issues continued to arise, like an uprise in taxes. As part of economic restructuring, local government, in a partnership with political alliances and private organizations, invested inland near the city core to prevent migration. These partnerships intended to regenerate large districts to densify the unused land and use the revenue to finance transit. The large parcels acquired by the city, once in its outskirts, nowadays constitute big empty fields in the middle of the urban fabric. This poses different problems in terms of connection and adaptability, but most importantly, in remediation.

The U.S. Environmental Protection Agency defines a brownfield as:

"[...] redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant" (United States Environmental Protection Agency, 2019b).

The dynamics created by the migration and land availability allow these places to be of special economic opportunity to repurpose land to benefit communities. These places require a vast economic investment: usually, existing structures have to be demolished, and intensive environmental cleanup is needed to remove contaminants. The primary barrier to the redevelopment of these large parcels is the misconceptions among the stakeholders. When a site is perceived as contaminated and irretrievable, a large investment to remediate this situation seems improbable. Surrounding properties suffer from reduced value, and communities face environmental hazards. There is a need to (a) address environmental problems; (b) remove health and safety hazards; (c) integrate sustainable reuse practices; (d) develop intelligent economies; (e) increase productivity of the land; and so on. These practices have been tested in several areas in Mexico.

Projects like Parque Fundidora (Monterrey), Parque Ecológico Lago de Texcoco (Mexico City), and Parque Bicentenario (Mexico City), are local examples of the revitalization of industrial areas with an ecological and social goal. The latter is a project by GDU^[1], led by the Mexican architect Mario Schjetnan. It is adjacent to our case study area and located in a brownfield portion where 18 de Marzo Oil Refinery facilities were located until 1991. When Parque Bicen-

[1] Grupo de Desarrollo Urbano. Landscape Urbanism firm in Mexico City, founded by Mario Schjetnan.

tenario started to be planned in 2004, the oil refinery had not remediated the site yet since it was used as a testing site for remediation through private contracts with research companies. GDU's strategy consisted of reaching healthy soil; the design is presented as a didactic tool highlighting the places where the most polluted areas were, creating a strategic project for the highest ecological restoration level while educating communities[2].

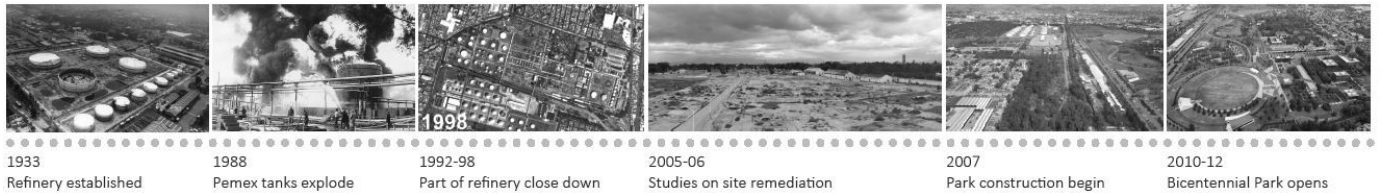


Fig. 2: Evolution of 18 de Marzo Oil Refinery. Since the beginning of the 20th century, PEMEX has operated close to the core of Mexico City. After the 1980s, part of the abandoned site was transformed into Parque Bicentenario, an area where ecological restoration and soil remediation are the project's core. Photo credits: PEMEX; E.L. Universal; Stock Aereo. Timeline credits: Prarthan Shah.



Fig. 3: 18 de Marzo Oil Refinery. Current conditions of the study area. Photo credits: Google Earth, Satellite Images, 2019. Diagram: Jorge Zapata.

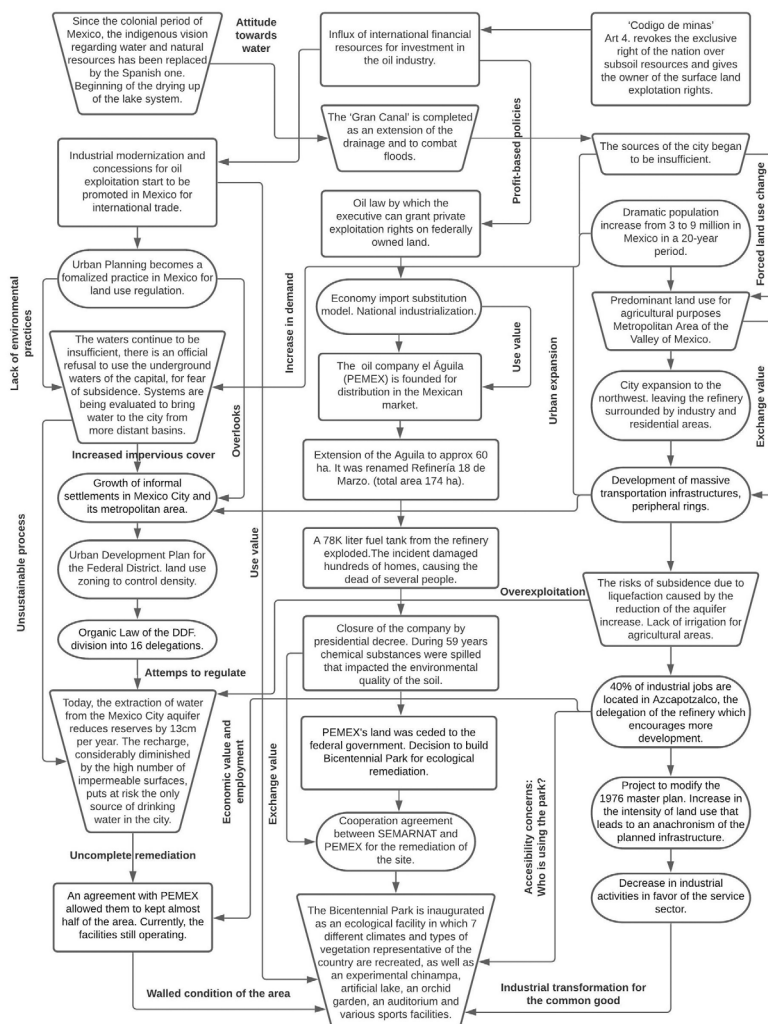


Fig. 4: 18 de Marzo Oil Refinery. Current conditions of the study area (308 acres). There is potential for developing a vision that sets an attitude at an urban scale. Photo credits: Stock Aereo, 2019. Diagram: Jorge Zapata.

[2] Interview with Mario Schjetnan with UTSOA Studio Mexico on Mars 10, 2020 in Mexico City.

The problem proposed by Studio Mexico consists of developing a vision for the remaining area of 18 de Marzo Oil Refinery that yet has to be remediated [3]. Mexico faces challenges such as environmental degradation, inadequate transportation, deficient water reserves, and growing inequality, among others. The site's choice comes from the potential of reflecting on the particular nuances of this industrial site and its surroundings to the general understanding of the urban conditions that have defined them. As expressed by our studio professor Juan Miró, this would allow us to design a project reflecting on Mexico City's 'urban DNA'. A site of this scale (308 acres) near the city center and surrounded by communities with a well-defined character, among other particular conditions, has the agency to set a different attitude towards city-making. In the context of a European conference, this case study makes the authors wonder if the Practice of Urbanism can be oriented towards the *common good* and, if so, what are the necessary tools to do it.

Fig. 5: A conceptual diagram of the events, forces, and decisions simultaneously shaped the 18 de Marzo Oil Refinery. Diagram by the authors.



[3] PEMEX, the company exploiting the resources of the refinery, is still in business. This condition is the cause for a partial remediation of the area.

The perception of the common good has been applied in different times and contexts in the field of Urbanism, taking different approaches and meanings. While some authors explicitly mention "common good", others imply using its notion for best practices.

Daly and Cobb (1989) is a perfect example of how the notion of common good shifts towards a market-driven economy. Taking as an argument the degradation of the environment and the loss of community, their contribution focuses on a drastic reconstruction of the economy. For environmental issues, they drive us to sustainable production methods and consumption of energy with a focus on taxation of land to avoid speculation. To restore community and eliminate dependency on capital, they show a national and regional scenario with restrictions in trade markets. The common good here is a market and tax policy model, with the problem that social control of the economy calls for social control over the capital.

On a different note, Fry (2004, p.151; 2007, p.18) positions practice as the main point of change, advocating for the restructuring of the design field to redirect the structural condition towards sustainment. He proposes that ethics are incorporated into the process, both the designer and the designed. Sustainment is the remaking of bonds in the design field to advance "on-the-ethical-line" (Fry, 2004, p.151) and to build on it.

"Neither can the 'common good' be mobilized in the disengaged activity of thinking ethics, rather it can only result if the project of ethics is ruptured from the philosophical tradition of ethical thought and made integral to design as 'designing ethically' by the designer becoming a remade ethicist" (Fry, 2004, p.151).

His 'shifting of consciousness' in design is achieved by a meta-practice that delivers new modes of conduct and professional behavior (Fry, 2007, p.8). Although the future cannot be predicted to act 'for the good' of society, we can invoke the notion of ethics to set the design's consequences and act accordingly.

These authors provide a theoretical understanding of how the common good can be seen through different lenses: as the first argument implicitly harbors the notion of exchange value, the second one advocates an ethical view that involves taking design beyond a disciplinary model. Daly and Cobb (1989), and Turok and McGranahan (2013) discern that an economic model that operates in the interest of the market and the city's needs is essential to identify the key elements of the common good. In the same line as Fry (2004; 2007), other authors such as Fox (2000) and Ray (2005) take a discourse that is framed according to design ethic, which is embodied in the process. Nevertheless, they are theoretical.

As practitioners, we need to acknowledge that Urbanism needs to (re)design systems and relations towards the common good and go beyond the provision of facilities, which is merely the first step in that direction. The process must not terminate here. Stakeholders and professionals need to ensure that projects do not work towards enhancing the exchange value solely. The vision is complete only when the city is treated as an amalgam of several constituents included in the design. It is needed to go beyond the inherited theory to reflect on the futures and capabilities of a project and take a step forward towards a relevant dialogue reflected in the design process.

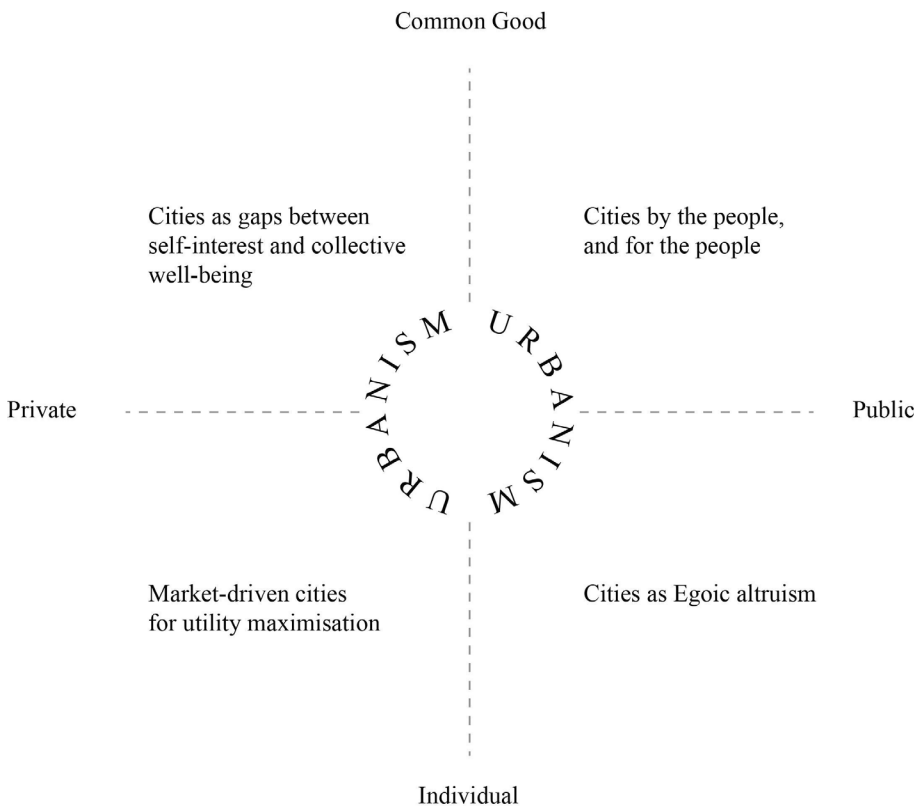


Fig. 6: Interacting forces within the field of Urbanism. The quadrants illustrate a conceptual framework of different relations that operate simultaneously and ultimately shape cities. The common good inherently compete with the notion of individuality. Private and public goods are manifestations of these two concepts; we rely on public interest as the nearest means to achieve the common good without breaking with individual concerns - diagram by the authors.

The shift from theory to Practice has not been extensively explored; planning and urban design have not developed the necessary criteria to assess the quality and process of design. Godschalk and Rouse (2015) developed a "plan scoring matrix" to focus the design efforts into a set of standards for comprehensive planning focusing on sustainability. The goal was to create an assemblage of principles and guidelines that can evaluate existing or new plans to work towards best practices in the field. This and other evaluation methods from authors such as Oliveira and Phino (2008), aim to develop a different vision for practitioners. However, they do not necessarily position the concept of the common good as their primary end.

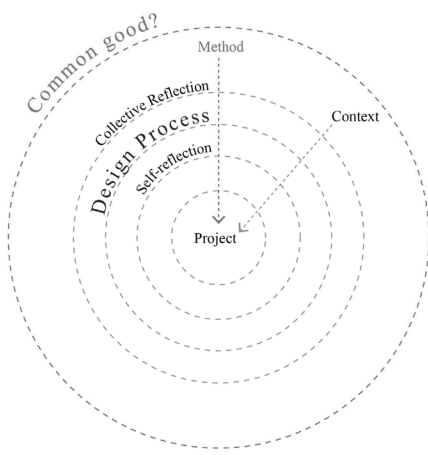


Fig. 7: A design method for Urbanism should question the deficiencies and challenges that a project might have to lead the way to self and collective reflection and discussion. Professionals should be continually assessing themselves and the project at every stage of the process to assure that it is working towards the common good diagram by the authors.

The main challenge when creating a method that can be used to direct plans towards the common good is creating an approach that can be used in multiple contexts. Different situations pose specific challenges and characteristics that would inherently change the evaluation process. The main goal is to develop a flexible tool to assess the specific nature of a situation while facilitating communication between actors throughout the process. Identifying, analyzing, and using the particularly given resources for a project is key to work towards society's well-being and the urbanism field. Professionals should look at these questions as the foundation to start the design thinking process. The way these questions are framed has a definitive impact on the project's contribution to the collective well-being. The goal is to evaluate projects in different stages of the design process to guide decisions and discussions towards the common good. Consequently, setting evaluation questions that identify issues prompts for an investigation of such challenges. These questions can be responded to in terms that are useful for stakeholders to adapt to a particular context using the available resources.

Design project -----> Common good

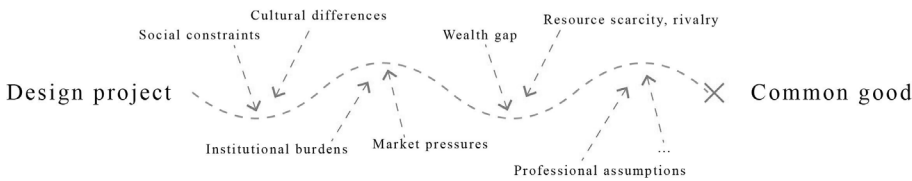


Fig. 8: Can a design project be directed towards the common good? If the latter is the overarching goal, there should be a clear path in direction to it. In Practice, cities are a sum of different conditions where several systems/constraints come into play, hindering achieving the ultimate goal—diagram by the authors.

5 Urbanism for the Common Good: A reflective Tool for Designers and Planners

Urban design and planning practices can be vehicles for mindful actions with a broader impact and positive influence on the common good. Urbanism cannot be considered a single-dimension field. It encompasses multidimensional concepts that involve social, economic, cultural, technical, and ethical perspectives. Professionals are aware of these elements and how they affect the urban environment and communities. Nevertheless, they tend to appear in the design process as unstructured problems (use-value of the project) in which actors have conflicting visions and principles.

This method considers independent parameters simultaneously, which influence the urban landscape and its inhabitants. Each parameter represents a course of action for an intended outcome. Since they have controlled inputs, they do not depend on each other when applying the method, but when we look at the model as a whole, the nuanced correlations between them are evident. For example, in Parque Bicentenario, GDU decided to implement a design strategy that contributes to restoring an ecological

balance while providing recreational facilities. Due to bureaucratic obstacles, the project's implementation presents accessibility constraints for the surrounding residents, ultimately affecting the grade of ownership that communities have over the park. Even though the ecological restoration and ownership are independent of each other, the intervention's optimal result cannot be achieved until these 'independent' parameters in terms of methodology work together to reach the common good.

"It is obviously impossible for designers to be that one class of beings able to see into the future and view the consequences of their actions before they occur, and so be able to modify them for 'the good'. What designers can do though is to set-out to think, model and project the designing consequences of what they design [...] Striving to be ethical does not of course guarantee the realization of ethics, but this is all we can do." (Fry, 2015, p.150).

The common good in Practice is an argumentative method to drive change. It does not intend to reach "the best design" but improves the current conditions and addresses the challenges that the area of study is experimenting with in the present (Rittel 1972; Rittel 2010).

The method is rooted within the local challenges and thrives with the adaptation of the scenario. It is a tool to initiate consciousness towards the common good within the design process. The parameters are primarily self-visualization and have room for customization, which needs to be derived from the project. Teams need to identify the project's components that respond to the model's parameters, considering that as the first step, the method needs to be used further at several stages of the process. The method encourages designers, planners, stakeholders, and communities to come to a shared starting point. Agreements between the different actors should come from a desire/vision to achieve the common good, incorporating them as an integral part of the thinking process. They are not and should not be an aftermath or legal necessity.

4.1 Parameters

The model has nine parameters. Each parameter has a set of three questions to be answered by the team. The questions aim to provoke a thought process while the answers are meant to be a way to self-diagnose the degree of common good achieved by the project at a given stage. Additionally, there needs to be a grade provided in the range from 'not considered to proposed'. This leads to a visualized score as a radar diagram that gauges the achievement or deviation from the overarching goal: the common good. The model considers it a utopian goal and hence is illustrated in the diagram as a dotted ring encompassing the actual scores achieved.

- Responsible Built Environment: A well-designed environment enhances healthy development for present and future generations. It enables a positive change in related systems such as social interactions, services, and resources for communities, and thriving natural environments.
- Purposed Landscapes: Landscapes act as connective systems between the urban and the natural environments. Endowing environmental systems with intended purposes can help natural processes while proposing solutions to urban problems. Common good exceeds human well-being, and it recognizes the relationships between different natural and human-made systems.
- Climate and Energy: Still today, the effects of climate change and energy consumption are underestimated. Minimizing environmental impacts will help create a more resilient society for future generations.
- Intelligent Economic: An understanding of the economic dynamics and resource allocation is critical to plan for resilient communities and guide public and private decision-making. Planners and designers should quickly identify gaps and shortcomings and determine project strategies that help balance them.
- Community Assets and Ownership: Giving communities agency and ownership can increase the project's significance and its integration into the city. These can be included in the form of physical structures or places, services, or any means to empower the communities' ability to thrive.
- Genuine Engagement: Meaningful participation from key stakeholders is crucial to understand the real needs of communities, balance them with localized interests, and development pressures that otherwise might control the project. Stakeholders and communities should be involved with as many steps of the planning process as possible. They should be provided with opportunities to engage, give input, feedback, and to understand their influence in the overall proposal.
- Attainable Implementation: The word attainable is a hint towards the challenges in the conversion process from design to the actualization of the project and the compromises made along the way to justify each initiative's exchange value. This is a considerable deterrent in achieving the project's vision. Hence, the stakeholders must make a conscious effort to convert the project to reality with its maximum potential.
- Social Justice and Integrity: Equity is embedded within the project's multiple components and cannot be achieved without a clear action plan. The parameter pushes the stakeholders to continually evaluate all initiatives' fairness with an agenda to make the vulnerable community better off by providing amenities, space, and value as an integral part of the project.
- Broader Impact: Projects at an urban scale have a lasting impact that exceeds the project's boundaries. The dialogue with

the city is essential to integrate the vision of the project with its context. If the project is in tandem with the regional development model, it can help create holistic spaces in the city for all its citizens.

4.2 Assessment of the Parameters

Urbanism for the Common Good									
Parameter	Does the project:	Why is it important and how does it benefit the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
A	Question 1	Parameter criteria in relation to question 1.			x			---	9 out of 15
	Question 2	Parameter criteria in relation to question 2.					x	---	
	Question 3	Parameter criteria in relation to question 3.				x		---	

Tab. 1: 'Urbanism for the Common Good': example of the method. Each parameter is divided into three main questions that develop its concept. They express a specific idea that a project should address to be directed towards the common good. The scoring scale includes 'not applicable', 'not considered', 'considered but not resolved', 'partially proposed', and 'proposed'. The assessment illustrates the level of engagement of the design with the parameters and serves to generate discussion and reflection within the individual and the design team.

Tab. 2: 'Urbanism for the Common Good': assessment table with the nine parameters, questions, and criteria explained.

Parameter	Does the project:	Why is it important and how does it benefit the common good
Responsible Built Environment	Have materials that are locally sourced?	Local materials account as resources that can be used in the project location and contribute to larger-scale systems, such as economic and social ones. These materials help the environment by reducing transport costs and thus, carbon footprint; strengthen local economies and businesses; allow for more flexibility and control; encourage vernacular languages in the city fabric.
	Account for conservation and repurpose of the existing fabric?	The existing built fabric of the space helps in providing a context to the newer developments. It serves as a cultural marker to the history and memory of the place. Additionally, repurposing can have environmental and economic benefits as it avoids the costs of breaking and reconstruction. Identification and communities to determine what can be conserved and adopted is a crucial step in the thinking and design process.
	Plan for mixed land-use patterns that are walkable and bikeable?	The project accounts for the proximity of residential and non-residential uses and amenities accompanied by accessible and convenient design features of good quality that encourage walking and biking and various means of transportation to take place safely. Land-use patterns and street design strategies are essential to ensure sustainability, develop vibrant neighborhoods, and reduce the length of trips per person by providing live-work opportunities, access to services, and various activities.

Parameter	Does the project:	Why is it important and how does it benefit the common good
Purposed Landscapes	Have multipurpose and multifaceted landscapes?	Multipurpose landscapes are hybrid spaces with varied programs, resources, and usages, often appropriated by the community. Landscapes account for a significant portion of the project and ground cover. A single purpose environment can have a limiting effect on usage and impact on the people. Having landscapes that integrate various features and typologies helps in catering to multiple communities with varied aspirations.
	Account for techniques to adapt to the existing fabric and respond to local concerns?	Adaptation techniques support existing municipal, ecological, and social systems while providing livability of cities and set the well-being of the urban dwellers. Landscape sustains the ecosystem and services within cities while promoting the sustainable design of urban areas to promote bio-diversity; influence decision-making to create livable spaces for vegetation and wildlife systems and it encourages landscape heterogeneity, and species distribution according to local antecedents.
	Propose landscapes that help in restoring existing ecosystems and sensitive ecologies?	Ecological restoration assists the recovery of an ecosystem that has been degraded, damaged, or destroyed. Landscape can be a powerful tool to balance the impact of new development in the built environment. Restorative actions can create awareness on contemporary ecological challenges such as hydrological and climate concerns; reintroduce native species, wildlife, and important ecosystem keepers such as pollinators.
Climate and Energy Resilience	Encourage environmental sensitivity in the present and future?	The environment is an exhaustible good and is faced with constant threats due to the urban systems' current functioning. It is imperative for urban projects to be conscious of the ill effects on the environment and work towards reducing them. Sustainment and improvement of the habitat must be the overarching rule for any project, both for the near and far future. Policies and action plans must be generated for different time spans to help create an immediate and lasting effect.
	Promote energy conservation and sustainable design?	Design features in the project are used to minimize the environmental impacts of the built component of the project over the course of its lifespan. Design recommendations and standards such as LEED rating system or similar are used to direct the project towards resource efficiency, waste reduction, pollution prevention, and occupant health and productivity. Energy conservation refers to reducing energy consumption through energy efficiency or behavioral change, which has to be embedded in the plan's goals and design decisions.
	Take into account future climate hazards?	Climate hazards are agents of disaster that affect urban settlements or the environment. Policy planning and design work with adjacent jurisdictions and federal agencies to create a comprehensive strategy for disaster risk reduction; incorporates risk assessment to their methodologies; takes into account a comprehensive range of mitigation and adaptation actions; engages the community in discussions about sustainability.

Intelligent Economy	Have a revenue generative model for the communities?	Urban projects can help in generating revenue for the communities by providing for spaces, opportunities, and systems that aid in the creation of goods, supply, and demand. The revenue can be used for the maintenance and expansion of the public-owned amenities. This will reduce the co-dependence of the community on outside stakeholders giving them autonomous decision-making power.
	Help in providing common resources and public goods for the communities?	The provision of public goods and common-pool resources enhance the democratic nature and accessibility of the project. Goods that can be consumed simultaneously by everyone and from which no one can be excluded, are drivers for city-making directed towards the common good. Assuming that the market and private initiatives' main goal is to maximize profit, it is crucial to account for public opportunities to engage with space that communities can benefit from.
	Support a sustainable and resilient economy?	Resilient economies are able to adapt to future market changes and they regenerate after specific shock conditions. A sustainable and resilient economy strengthens the capacity of local governments to adapt to changing conditions and creates policies that aim to mitigate polarizations that create unequal access to public services. There is an important factor of adaptation to regional and local patterns of growth or shrinkage while strengthening productivity in urban centers to boost local economies.
Community Assets and Ownership	Propose a model for community ownership?	Community ownership can happen in several dimensions of the plan. Diverse models of cost-sharing, policy and regulatory frameworks, and capacity building within communities can enable participants to own key local assets, contribute to sustainable development and assure that neighborhoods remain vibrant in the long term. Ownership models are reflected in the availability of space proposed by the project for community-led initiatives. The incorporation of new technologies and innovation can be tools to empower communities. Simultaneously, clear steps to avoid displacement and reduce development pressures must be considered.
	Have planning and design measures that aid community involvement and ownership?	Community involvement and ownership is centered on people and the changes that can be done to improve their lifestyle. Community engagement ensures a broad and diverse representation of community needs and resources while encourages a culture of transparency that heartens interests in participatory processes. Publicly owned land avoids that these communities rely completely on real estate, allowing them to build relationships in urban centers with strong markets and limited development opportunities. Involvement and ownership create critical relationships between users and developers to advance together for the common good.
	Promote community development and local businesses?	Local businesses are pivotal in generating revenue and impact for small owners and dealers. Additionally, many services are homegrown and need support, exposure, and audience. Encouraging them can directly help communities grow. These businesses suffer in the capitalistic model as they cannot compete with the market and hence are prone to elimination. Urban projects can help regulate this system by providing for markets, networks, and facilities to help small businesses grow.

Genuine Engagement	Have a diversity of stakeholders engaged throughout the design/planning process?	A diverse group of stakeholders helps to gain insight into specific topics, providing requirements or constraints in particular topics of their knowledge, and reducing and uncovering risks. A wider range of trends and challenges has a better outcome in the planning process and a greater sense of ownership while assuring a more comprehensive plan by communicative processes that facilitate engagement.
	Make an active effort in involving members of the multiple communities?	Urban environments are inhabited by a body of individuals grouped in different communities. Historically, minorities and vulnerable groups have experienced hardship making their voices heard in decision-making processes. Professionals must identify and propose tools for engagement with all communities affected by the project, provide ongoing, reliable, and understandable information for all participants. Strategies should clearly state the process of involvement, create paths for engagement during the different phases of the project and after its completion. Transparency is key in showing how community members' concerns are reflected in the alternative scenarios and chosen in the final proposal.
	Consider or get affected by the inputs of the community?	Plans and visions of the project must be sensitive to inputs by the community and attempt to rationally include them. Since the community in most cases is not involved actively in the planning and design process, these inputs are valuable insights for designers and planners. Professionals should create a healthy dialogue with the local stakeholders in order to benefit from their discussions to strengthen the vision of the project.
Attainable Implementation	Account for its feasibility?	Planning, vision, action, and implementation of the project can be asynchronous in several cases which is a common provocation for designers and planners. When the projects advocate for common good, they are often interrupted by nuanced challenges of the everyday. It is important for them to be feasible to get implemented and create the necessary impact on the city. Feasibility, therefore, needs to be consciously accounted for during all the stages of the design and planning process.
	Have benefits for communities in the short-term during the process of implementation?	An urban design/planning project can take long periods of time to be completed due to its large scale nature. It is key to identify strategies to progressively activate spaces and better off communities as the project is being built. These strategies may work along with specific objectives of the project and may create pathways for community engagement. The project encourages the completion of amenities and public components along with the private ones for their social, cultural value, and potential as revenue generators.
	Aim to be completed in less than 25 years?	Political, economic, social, infrastructure environments are driven by change. The causes of these changes are short-termed, although consequences are likely to be expressed in long-term timelines. Short-term planning can be crucial for success. Addressing community change and local problems do not involve future trends that might completely change in the future, but short-term planning can help perceive them and take action in the next few years to accommodate communities for uncertain futures and present needs.

Social Justice and Integrity	Account for a multi-generational and multi-racial inclusion?	The project takes intentional steps to address and avoid reproducing systemic discrimination of vulnerable groups. A diverse approach uses multi-generational and multi-racial strategies to ensure inclusion. The plan promotes processes of education, discussion, exploration, and relationship-building specific to improve social dynamics. It uses the memory of the place as a crucial component for placemaking and to empower communities.
	Provide a range of housing options, amenities and environmental justice for vulnerable populations?	Providing a wide range of housing options and amenities encourages diversity in the project as it brings together people with different economic backgrounds. This helps is democratizing the project and opening large urban spaces to vulnerable populations. The landscapes and commonly owned spaces must be accessible and designed for communities in and beyond the project and should not harbor exclusivity.
	Advocate for fair mobility and access?	Equitable mobility and access assure the safety, affordability, and sustainability of the transportation systems. These systems are designed thinking about prioritizing the access for people, either walking, biking, or in transit mobility; they follow clean mobility models and it accommodates a diversity of transportation choices. It is important that they comply with race and social justice, designed as a fundamental human need.
Broader impact	Include regional development visions and models in local planning scenarios?	Projects at an urban scale have a lasting impact that exceeds the boundaries of the project. The dialogue with the city is important to integrate the vision of the project with its context. If the project is in tandem with the model of regional development, it can aid in creating holistic spaces in the city and help in achieving the common good for all its citizens. An asynchronous project concerning the regional vision can lead to challenges in large public systems.
	Establish principles, guidelines, and policies to achieve goals and reach decision-making?	Decision-making involves the selection of a course of action for the project in its different stages. The plan states clear steps, principles, and policies to be followed in the decision-making process. The plan's framework clearly states the strategies of community and stakeholder involvement for each step of the process. Steps may include but are not limited to: problem definition, data collection and information gathering, analysis and diagnosis of current conditions, alternative scenarios, developing and weighing the options, feedback loops, implementation phasing, and follow-up strategies.
	Develop alternative scenarios of the future?	Thinking about scenarios can reveal the dynamics of change that can be used to reach new and/or innovative solutions to existing challenges. Scenario analysis helps identify risks, plan for early mitigation, and help policymakers to identify key forces shaping the built and social environment. Early identification helps stakeholders to analyze how alternative development paths might have a better/worse impact in the future of communities, which leads to strategic methods for long-term plans and what factors not present in the current conditions might be taken into account.

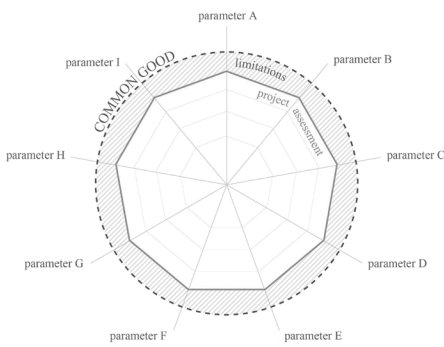


Fig. 9: This model operates under the assumption that the common good is not entirely achievable. Even if a project consciously incorporates all the parameters and reaches a balance among them, some externalities and limitations jeopardize the common good's realization. However, the model aims to challenge the professionals' attitude towards the latter and serve as a valuable tool to set direction—diagram by the authors.

Parameter	Project assessment	Common Good
A	12	15
B	12	15
C	12	15
D	12	15
E	12	15
F	12	15
G	12	15
H	12	15
I	12	15

Tab.3: The assessment is translated into points in order to produce an illustrative diagram. For each parameter, the common good is considered a total of 15 points and not achievable. Considering a margin for the externalities and limitations, the maximum achievable score per parameter is 12 points.

After reviewing and assessing the project's parameters, the evaluation produces a diagram to illustrate the project's stage concerning the common good framework. This, paired with the self-reflecting answers, provide a starting point for discussion, comparison, and iteration. As opposed to being presented as a closed and final methodology, 'Urbanism for the common good' constitutes a continuous 'still in the making' body of knowledge, subjected to upcoming challenges and societal transformations, as well as other future contextual or cultural considerations.

The method has been tested on the three proposals developed in Studio Mexico 2020 at UTSOA. The study area faces diverse local challenges that, joined with Mexico City at the urban level, made a perfect case study to assess and test the proposed nine parameters.

5 Case Studies on 18 de Marzo Oil Refinery

5.1 Project: Productive Landscapes and Circular Economies

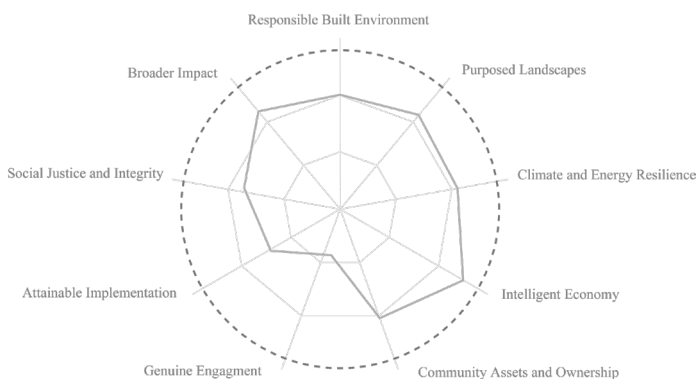
Analysis of the parameters:

- Responsible Built Environment: The balance between compact built and unbuilt density is geared towards walkable neighborhoods with the inclusion of key amenities and community-driven spaces for the communities.
- Purposed Landscapes: The farm-scape heals the current solid

condition through bioremediation and creates a woven productive landscape. The bio-intensive strategies of seasonal and constant crop rotation with the inclusion of ancient and traditional farming techniques of the region ties the project to the local history.

- Climate and Energy: Topography, pedestrian, and rainwater management infrastructure is designed towards reuse for the farm-scape and adapts to possible future hazards by transforming the landscape and making it part of mitigation strategies.
- Intelligent Economy: The different community-driven spaces gives the community the possibility to engage with new self-sustaining economies that are tied to their culture. The specific density choices in the form of tall structures help subsidize the affordable living conditions that surround the area to create a diversified socio-economic environment.
- Community Assets and Ownership: Amenities related to the farm-scape (greenhouses, vertical farming) enables the community to own key assets for the community that are, at the same time, amenities for all. Small businesses take advantage of the proposed economic model through ownership.
- Genuine Engagement: The team interacted with some stakeholders and professionals on a site visit. However, due to the limitation of an academic project, the engagement is not well represented.
- Attainable implementation: the project is designed to be implemented through phases that adapt to the condition of the land and the future social, political, and economical environments, being able to re-adapt if necessary.
- Social Justice and Integrity: The project provides a multi-generational living scheme, adapts, and extends current public transport and tall structures subsidize the affordable living density.
- Broader Impact: The project aims to be adaptable to future ecological, social, and man-made disasters that might alter the way the master plan develops over time.

Fig. 10: Productive landscapes and circular economies proposal (left) for 18 de Marzo Oil Refinery developed by one of UTSOA's Studio Mexico teams, spring 2020. 'Urbanism for the Common Good' assessment (right) illustrating the project's performance in relation to the method's proposed parameters.



5.2 Project: Altepétl

Analysis of the parameters:

- Responsible Built Environment: The progressive restoration of the brownfield transforms the built environment into a walkable and bikeable area but the amount of land moved compromises the conservation of existing industrial fabric.
- Purposed Landscapes: The project's name comes from the Nahuatl voice Alt= Water and Tepetl=Hill, forming the word Altepétl=City. The priority is the use of landscapes as a didactic tool that exposes the process of water catchment to show the importance of this resource. Urban Agriculture in the form of ancestral and local techniques is present and encouraged.
- Climate and Energy: Flooding is a persistent problem in the city, our landscape and built layout incorporates it as a natural feature and proposes an ecosystem that catches, filters, and recharges the aquifer while educating about the importance of this resource.
- Intelligent Economy: Altepétl works with a concept in which the restoration of the landscape creates use-value and encourages the generation of different economies around the site planned in conjunction with mix-uses and spaces for multiple types of businesses.
- Community Assets and Ownership: The proposal seeks to legitimize the landscape as a collective resource, opening it up as a democratic space, owned by the communities that inhabit, visit, and experience it.
- Genuine Engagement: Coming from an academic exercise and from a group of students located at a considerable distance from the site, our project lacks genuine participation from the communities.
- Attainable Implementation: Altepétl is divided into three main phases that transform the site simultaneously in various scales while incorporating public and alternative transportation. The project uses a model in which the developers contribute to the ecological restoration process.
- Social Justice and Integrity: The project understands social justice not only as providing affordable options for a living but as giving back the site to the community as an open multi-generational asset for the future.
- Broader Impact: Altepétl is used as a didactic tool to generate awareness of different social-ecological challenges. The project aims to set an attitude, generate discussion, and evolve in the form of specific policies to address sites of opportunity like Refinería 18 de Marzo.

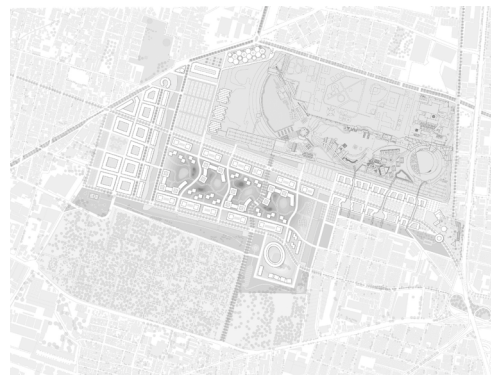
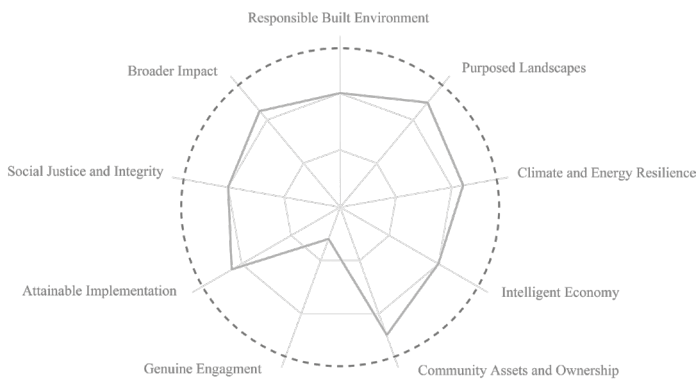


Fig. 11: *Altepetl proposal (left) for 18 de Marzo Oil Refinery developed by one of UTSOA's Studio Mexico teams, spring 2020. 'Urbanism for the Common Good' assessment (right) illustrating the project's performance in relation to the method's proposed parameters.*

5.3 Project: Social Permaculture

Analysis of the parameters:

- Responsible Responsible Built Environment: The site's dominant industrial past and present is looked at as an opportunity to propose ways to readapt industrial buildings and lands for community-driven programs, mainly agriculture and public spaces.
- Purposed Landscapes: Canals are constructed along the grid lines to store, direct, and provide water for irrigation for the Chinampas, Horticulture, and Farms.
- Climate and Energy: Industrial silos are readapted as water kunds to create a sustainable model for rainwater runoff and storage. However, the project fails to speak about future hazards explicitly in the plan.
- Intelligent Economy: Community-owned rental schemes help to generate revenue for the maintenance of all the public spaces. Work and education opportunities are generated in relation to the industry.
- Community Assets and Ownership: Transects and transitional spaces along the streets are owned by the community with social programs. Examples include the farmers market, labor union center, and quarantine zones.
- Genuine Engagement: The team interacted with some stakeholders on site. However, due to the limitation of an academic project, the engagement is very limited.
- Attainable Implementation: The project is phased with co-relation to the related policies and plans of Mexico City and the time needed for the initiatives on site. Phase one includes the public systems.
- Social Justice and Integrity: The project looks at housing for the farmers and other users on the side, provides for 40 percent of

affordable housing, education opportunities with related industries among others.

- Broader Impact: Social Permaculture is not a master plan but a manifesto that helps develop a socially conscious language at various scales of design and planning to intervene in an industrial site. The project results in a tool kit that helps create programs with overlapping objectives.

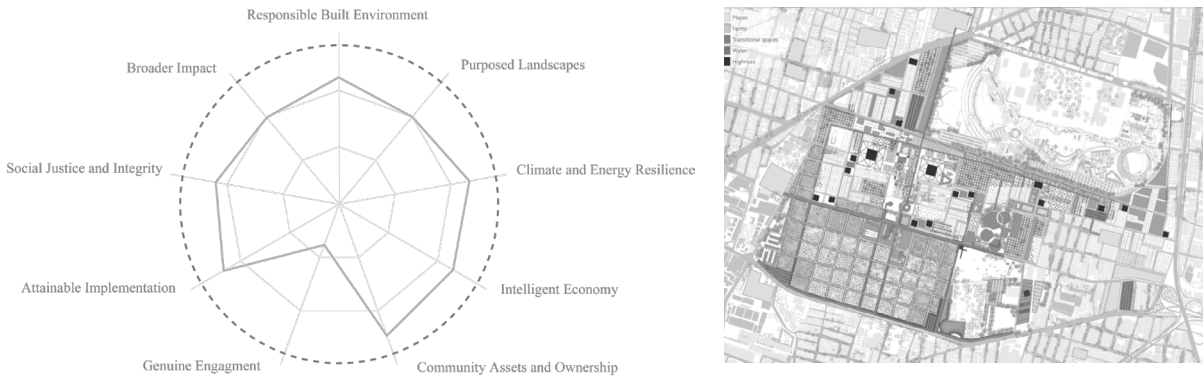


Fig. 12: Social Permaculture proposal (left) for 18 de Marzo Oil Refinery developed by one of UTSOA's Studio Mexico teams, spring 2020. 'Urbanism for the Common Good' assessment (right) illustrating the project's performance in relation to the method's proposed parameters.

6 Conclusions

It is interesting to look at the three master plans together as they had similar concerns and objectives but very different approaches. It helps understand a vital aspect: that projects can work towards the common good in several ways. The model aims to benefit projects by comparing its development and ideation stages, from inception to execution as the project evolves. It analyzes urban-scale proposals to determine crucial challenges, mistakes, pivotal moments, and more. Professionals should lay the model along with documentation of the site, actors, and other processes to create a holistic, informative, and analytical time-lapse of the project.

Looking at our master plans in hindsight, we realize that unless there is a conscious narrative to work towards the use-value of each component, it is possible to deviate towards the exchange-value unknowingly due to the role real estate plays in projects of similar importance and scale. In both professional and academic realms, the model provides a way of channelizing [intentionally] the decisions towards the common good. Since the method was developed and tested after Studio Mexico's completion, the authors recognize that several aspects of the three proposals would have changed if the assessment was conducted at crucial moments of the ideation process. However, a set of design reviews and external critiques led

by our professor, invited practitioners, and academics contributed significantly to each master plan's development.

In order to improve this method over time, further testing on several projects is needed, perhaps with a completely different set of conditions and context that can enrich the set of parameters and challenge the concepts provided by the authors. Ultimately, this may complement the criteria and bring other perspectives to the table. There is a need for practical tools that allow designers, planners, and communities to establish a meaningful dialog, find common ground, and provide the necessary input to enhance the quality of proposals and outcomes. It is imperative to emphasize that projects need to be assessed in several stages of the process; a constant set of feedback loops, flexibility and iterations will confront the design teams against their own assumptions and may result in innovative solutions.

Cities epitomize humans as collective beings; they are physical constructs of our social interactions, culture-based systems, exchange dynamics, and ultimately our understanding of the world. The common good presents itself as a cross-cutting concept that transcends individual needs and puts collective well-being as a legitimate and indisputable intention, an axiom for truly altruist human behavior. For the authors of this paper, its realization remains locked in an ideal world. However, a common good framework can be used as a vehicle to elevate the intentionality of a project and the design process towards more responsible social and environmental outcomes. According to Fry (2004, p.145), there is a call for designers to think about the future and establish the rules for a new practice that recognizes the design's importance in overcoming a world made unsustainable.

It is evident that the formation of this new Practice is not only about high-performance or technical aspects of projects; while those are important, there has to be a shift in how we, designers, see ourselves as professionals and change agents. We have to look at our roots as humans again, develop awareness, and embrace the means that allow us to reach collective well-being, good coexistence, and a responsible relationship with the environment and the other co-inhabitants species of our planet. A coherent framework to orient designers and planners towards the common good consists of individual and collective reflection that allows them to think and constantly improve how their projects reflect a clear notion of ethics and sustainability. A key component of the process is that as designers we should generate self-awareness and work towards a broader positive impact. While shaping the built environment as individuals, teams, and communities, we also shape and change ourselves.

APPENDIX A - Urbanism for the Common Good: Assessment Table

Instructions: Read each parameter carefully, reflect individually and discuss with your team how the criteria for each parameter is reflected in the project. Answer each of the questions in writing, read your answers with your team and compare before giving the project a score. Upon completion of the process, create a three-column table in a spreadsheet program such as Excel. One with the names of the parameters; another with the scores obtained in each parameter and another one with the number 1-5 that represents the ideal level of the common good (not achievable). Proceed to generate a radar diagram. This diagram is illustrative of a self-evaluation of the project's behavior in relation to the parameters. Proceed to discuss it with your team. Reflect about the strengths, weaknesses and aspects to be improved in order to redirect the project towards the common good. Pay attention to how the parameters related to each other. Repeat the assessment in various stages of the design process, as many times as the team believe convenient. Keep in mind that this is not about the final score but about meaningful reflection.

Parameter	Does the project:	Why is it important, and how does it benefit to the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
Responsible Built Environment	1. have materials that are locally sourced?	Local materials account as resources that can be used in the project location and contribute to larger-scale systems such economic and social ones. These materials help the environment by reducing transport costs and thus, carbon footprint; strengthen local economies and businesses; allow for more flexibility and control; encourage vernacular languages in the city						---	out of 15
	2. account for conservation and repurpose of the existing fabric?	The existing built fabric of the space helps in providing a context to the newer developments. It serves as a cultural marker to the history and memory of the place. Additionally, repurposing in some cases can have environmental and economic benefit as it avoids the costs of breaking and reconstruction. Identification along with communities to determine what can be conserved and adopted is a crucial step in the thinking and design process.					---		
	3. plan for mixed land-use patterns that are walkable and bikeable?	The project accounts for proximity of residential and non-residential uses, as well as amenities accompanied by accessible and convenient design features of good quality that encourage walking and biking and diverse means of transportation to take place safely. Land-use patterns and street design strategies are key to ensure sustainability, to develop vibrant neighborhoods, and to reduce the length of trips per person by providing live-work opportunities, access to services and a variety of activities.					---		
Purposed Landscapes	1. have multipurpose and multifaceted landscapes?	Multipurpose landscapes are hybrid spaces with varied programs, resources, and usages, often appropriated by the community. Landscapes account for a significant portion of the project and ground cover. A single purpose environment can have a limiting effect on usage and impact on the people. Having landscapes that integrate various features and typologies help in catering to multiple communities with varied aspirations.						---	out of 15
	2. account for techniques to adapt to the existing fabric and respond to local concerns?	Adaptation techniques support existing municipal, ecological, and social systems, while providing livability of cities and set well-being of the urban dwellers. Landscape sustains the ecosystem and services within cities while promoting sustainable design of urban areas to promote bio-diversity, influence decision-making to create livable spaces for vegetation and wildlife systems and it encourages landscape heterogeneity, and species distribution according to local antecedents.					---		
	3. propose landscapes that help in restoring existing ecosystems and sensitive ecologies?	Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Landscape can be a powerful tool to balance the impact of new development in the built environment. Restorative actions can create awareness on contemporary ecological challenges such as hydrological and climate concerns, reintroduce native species, wildlife and important ecosystem keepers such as pollinators.					---		

Parameter	Does the project:	Why is it important, and how does it benefit to the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
Climate and Energy Resilience	1. encourage environmental sensitivity in present and future?	The environment is an exhaustible good and is faced with constant threats due to the current functioning of the urban systems. It is imperative for urban projects to be conscious of the ill effects on the environment and work towards reducing them. Sustainment and improvement of the habitat must be the overarching rule for any project, both for the near and far future. Policies and action plan must be generated for the different time spans to help create an immediate and lasting effect.						---	
	2. promote energy conservation and sustainable design?	Design features in the project are used to minimize the environmental impacts of the built component of the project over the course of its lifespan. Design recommendations and standards such as LEED rating system or similar are used to direct the project towards resource efficiency, waste reduction, pollution prevention, and occupant health and productivity. Energy conservation refers to reducing energy consumption through energy efficiency or behavioral change, which has to be embedded in the plan's goals and design decisions.						---	out of 15
	3. take into account future climate hazards?	Climate hazards are agents of disaster that affect the urban settlements or the environment. Policy planning and design works with adjacent jurisdictions and federal agencies to create a comprehensive strategy for disaster risk reduction; incorporates risk assessment to their methodologies; takes into account a comprehensive range of mitigation and adaptation actions; engages the community in discussions about sustainability.						---	
Intelligent Economy	1. have a revenue generative model for the communities?	Urban projects can help in generating revenue for the communities by providing for spaces, opportunities and systems that aid in creation of goods, supply, and demand. The revenue can be used for the maintenance and expansion of the public owned amenities. This will reduce the co-dependence of the community on outside stakeholders giving them autonomous decision-making power.						---	
	2. help in providing common resource and public goods for the communities?	Provision of public goods and common pool resources enhance the democratic nature and accessibility of the project. Goods that can be consumed simultaneously by everyone and from which no one can be excluded, are drivers for city-making directed towards the common good. Assuming that the market and private initiatives' main goal is to maximize profit, it is crucial to account for public opportunities to engage with space that communities can benefit from.						---	out of 15
	3. support a sustainable and resilient economy?	Resilient economies are able to adapt to future market changes and they regenerate after specific shock conditions. A sustainable and resilient economy strengthens the capacity of local government to adapt to changing conditions and creates policies that aim to mitigate polarization that create unequal access to public services. There is an important factor of adaptation to regional and local patterns of growth or shrinkage while strengthening productivity in urban centers to boost local economies.						---	

Parameter	Does the project:	Why is it important, and how does it benefit to the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
Community Assets and Ownership	1. propose a model for community ownership?	Community ownership can happen in several dimensions of the plan. Diverse models of cost-sharing, policy and regulatory frameworks, and capacity building within communities can enable participants to own key local assets, contribute to sustainable development and assure that neighborhoods remain vibrant in the long term. Ownership models are reflected in the availability of space proposed by the project for community-led initiatives. The incorporation of new technologies and innovation can be tools to empower communities. Simultaneously, clear steps to avoid displacement and reduce development pressures must be considered.						---	
	2. have planning and design measures that aid community involvement and ownership?	Community involvement and ownership is centered in people and the changes that can be done to improve their lifestyle. Community engagement ensures a broad and diverse representation of community needs and resources while encourages a culture of transparency that threaten interests in participatory processes. Publicly owned land avoids that these communities rely completely on real estate, given them an opportunity to build relationships in urban centers with strong markets and limited development opportunities. Involvement and ownership creates critical relationships between users and developers to advance together for the common good.						---	
	3. promote community development and local businesses?	Local businesses are pivotal in generating revenue and impact for small owners and dealers. Additionally, there are many services that are homegrown and need support, exposure, and audience. Encouraging them can directly help communities grow. These businesses suffer in the capitalistic model as they cannot compete with the market and hence are prone to elimination. Urban projects can help regulate this system by providing for markets, networks, and facilities to help small businesses grow.						---	
Genuine Engagement	1. have a diversity of stakeholders engaged throughout the design/planning process?	A diverse group of stakeholders helps to gain insight in specific topics, providing requirements or constraints in particular topics of their knowledge and reducing and uncovering risks. A wider range of trends and challenges has a better outcome in the planning process and a greater sense of ownership, while assuring a more comprehensive plan by communicative processes that facilitate engagement.						---	
	2. make an active effort in involving members of the multiple communities?	Urban environments are inhabited by a body of individuals grouped in different communities. Historically, minorities and vulnerable groups have experienced hardship making their voices heard in decision-making processes. Professionals must identify and propose tools for engagement with all communities affected by the project, provide ongoing, reliable and understandable information for all participants. Strategies should clearly state the process of involvement, create paths for engagement during the different phases of the project and after its completion. Transparency is key on showing how community members' concerns are reflected in the alternative scenarios and chosen final proposal.						---	
	3. consider or get affected by the inputs of the community?	Plans and visions of the project must be sensitive to inputs by the community and attempt to rationally include them. Since the community in most cases is not involved actively in the planning and design process, these inputs are valuable insights for designers and planners. Professionals should create a healthy dialogue with the local stakeholders in order to benefit from their discussions in order to strengthen the vision of the project.						---	

Parameter	Does the project:	Why is it important, and how does it benefit to the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
Attainable Implementation	1. account for its feasibility?	Planning, vision, action, and implementation of the project can be asynchronous in several cases which is a common provocation for designers and planners. When the projects advocate for common good, they are often interrupted by nuanced challenges of the everyday. It is important for them to be feasible in order to get implemented and create the necessary impact on the city. Feasibility therefore needs to be consciously accounted for during all the stages of the design and planning process.						---	out of 15
	2. have benefits for communities in the short-term during the process of implementation?	An urban design/planning project can take long periods of time to be completed due to its large scale nature. It is key to identify strategies to progressively activate spaces and better off communities as the project is being built. These strategies may work along specific objectives of the project and may create pathways for community engagement. The project encourages the completion of amenities and public components along with the private ones for their social, cultural value and potential as revenue generators.						---	
	3. aim to be completed in less than 25 years?	Political, economic, social, infrastructure environments are driven by change. The causes of these changes are short-termed, although consequences are likely to be expressed in long-term timelines. Short-term planning can be crucial for success. Addressing community change and local problems do not involve future trends that might completely change in the future, but short-term planning can help perceive them and take action in the next few years to accommodate communities for uncertain futures and present needs.						---	
Social Justice and Integrity	1. account for a multi-generational and multi-racial inclusion?	The project takes intentional steps to address and avoid reproducing systemic discrimination of vulnerable groups. A diverse approach uses multi-generational and multi-racial strategies to ensure inclusion. The plan promotes processes of education, discussion, exploration, and relationship-building specific to improve social dynamics. It uses the memory of the place as a crucial component for placemaking and to empower communities.						---	out of 15
	2. provide a range of housing options, amenities and environmental justice for vulnerable populations?	Providing a wide range of housing options and amenities encourages diversity in the project as it brings together people with different economic backgrounds. This helps in democratizing the project and opening large urban spaces to vulnerable populations. The landscapes and commonly owned spaces must be accessible and designed for communities in and beyond the project and should not harbor exclusivity.						---	
	3. advocate for fair mobility and access?	Equitable mobility and access assures safety, affordability and sustainability of the transportation systems. These systems are designed thinking about prioritizing the access for people, either walking, biking or in transit mobility; they follow clean mobility models and it accommodates a diversity of transportation choices. It is important that they comply with race and social justice, designed as a fundamental human need.						---	

Parameter	Does the project:	Why is it important, and how does it benefit to the common good?	N/A (0)	Not considered (1)	Considered but not resolved (2)	Partially proposed (3)	Proposed (4)	Common good achieved (5)	Total per parameter
Broader impact	1. include regional development visions and models in local planning scenarios?	Projects at an urban scale have a lasting impact that exceeds the boundaries of the project. The dialogue with the city is important to integrate the vision of the project with its context. If the project is in tandem with the model of regional development, it can aid in creating holistic spaces in the city and help in achieving the common good for all its citizens. An asynchronous project with respect to the regional vision can lead to challenges in large public systems. Decision-making involves the selection of a course of action for the project in its different stages. The plan states clear steps, principles and policies to be followed in the decision-making process. The plan's framework clearly states the strategies of community and stakeholder involvement for each step of the process. Steps may include but are not limited to: problem definition, data collection and information gathering, analysis and diagnosis of current conditions, alternative scenarios, developing and weighing the options, feedback loops, implementation phasing, and follow-up strategies.						---	
	2. establish principles, guidelines, and policies to achieve goals and reach decision-making?	Thinking about scenarios can reveal dynamics of change that can be used to reach new and/or innovative solutions to existing challenges. Scenario analysis helps identifying risks, plan for early mitigation, and help policy makers to identify key forces shaping the built and social environment. Early identification helps stakeholders to analyze how alternative development paths might have a better/worse impact in the future of communities, which leads to plan for strategic methods for long-term plans and what factors not present in the current conditions might be taken into account.						---	
	3. develop alternative scenarios of the future?							---	

References

- Asuad, N.E. (2013). Importancia estratégica de una política industrial por zonas y áreas para el desarrollo económico y social del Distrito federal y para la Ciudad de México en su conjunto. Centro de Estudios de Desarrollo Regional y Urbano Sustentable. [Strategic importance of an industrial policy by zones and areas for the economic and social development of the Federal District and for Mexico City as a whole].
- Basiago, A.D. (1999). Economic, social, and environmental sustainability in development theory and urban planning practice. *The Environmentalist* 19: 145-161.
- Celis S. L. (1988). La industria petrolera en México. Una crónica. I: de los Inicios a la expropiación. Mexico City. [The oil industry in Mexico. A chronicle. I: from the beginning to the expropriation].
- Comisión de Derechos Humanos del Distrito Federal (2018). Crecimiento urbano y derechos humanos en la Ciudad de México. Conde González, F.J. (Ed). Mexico City. [Urban growth and human rights in Mexico City].
- d'Anjou, P. (2009). Toward an Horizon in Design Ethics. *Science and Engineering Ethics*, 16: 355-370.
- Daly, H.E., & Cobb, J.B. (1989). For the common good: Redirecting the economy toward community, the environment, and a sustainable future. Boston: Beacon Press, distributed by Farrar, Strauss, and Giroux, New York.
- Dobraszczyk, P. (2019). Future Cities: Architecture and the Imagination. London: Reaktion Books.
- Frey, W. (2012). Population Growth in Metro America since 1980: Putting the Volatile 2000s in Perspective. Metropolitan Policy Program at Brookings.
- Fry, T. (2004). The Voice of Sustainment: Design Ethics as Futuring. Design Philosophy Papers; Crowns Nest, Vol. 2 (2). United Kingdom: Taylor and Francis.
- Fry, T. (2007). Redirective Practice: an elaboration. Design Philosophy Papers; Crowns Nest, Vol. 5 (1): 145-156. United Kingdom: Taylor and Francis.
- Fry, T. (2010). Design as Politics. Berg Publishers.
- García Villanueva, L.A., Fernández Villagómez, G., Iturbe Argüelles, R. & Ruiz Saucedo, U. (2010). Caso de estudio: antecedentes históricos de la ex-refinería 18 de marzo, Ciudad de México. *Revista Virtual Pro, Contaminación de Suelos*. [Case study: historical background of 18 de Marzo Oil Refinery, Mexico City]
- Godschalk D.R. & Rouse, D.C. (2015). *Sustaining places: best practices for comprehensive plans*. Pas Report 578, American Planning Association.
- Goodspeed, R. (2017). *An Evaluation Framework for the Use of Scenarios in Urban Planning*. Lincoln Institute of Land Policy.
- Gutiérrez Chaparro, J.J. (2009). Planeación urbana en México: un análisis crítico sobre su proceso de evolución. *Urbano*, Vol. 12 (19): 52-63. [Urban planning in Mexico: a critical analysis of its evolution].
- Hinthel, S.K., Hussein, H., & Aldabbagh, J.A. (2020). The impact of the public good for the tactical urbanism practices on the contemporary urban scene. IOP Conference Series: Materials Science and Engineering, Vol. 870, The International Conference on Engineering and Advanced Technology (ICEAT 2020).
- Huddleston, J. (2005). The Intersection between Planning and the Municipal Budget. Working paper, Cambridge, MA: Lincoln Land Institute.
- INEGI (2012). Aspectos generales del territorio mexicano. Recursos Naturales. Edafología. Mexico City. [General aspects of the Mexican territory. Natural Resources. Edaphology]
- INEGI (2017). Anuario estadístico y geográfico de la Ciudad de México 2017. Mexico City. [Statistical and geographic yearbook of Mexico City].
- INEGI (2018). Aspectos Geográficos CDMX. Mexico City. [Geographical Aspects of Mexico City].
- Lefebvre, H. (1968) The Right to the City. In Kofman, E. & Lebas, E. (Eds.), *Writings on Cities* (pp.63-181). New York:Blackwell.
- Lefebvre, H. (1991). The production of space (Donaldson-Smith, N., Trans.). Oxford, England: Basil Blackwell. (Original work published 1974).
- Lefebvre, H. (1995). Henri Lefebvre writings on cities. New York, NY: Blackwell.
- Lefebvre, H. (2003). Urban revolution (Bonono, R., Trans.). Minneapolis: Minnesota University Press. (Original work published 1970)
- Lefebvre, H. (1991). The production of space. Nicholson-Smith, D., & Harvey, D.(Eds.). Originally published in 1974.
- Marcuse, P. (2009). From critical urban theory to the right to the city. *City* 13 (2-3): 185-197.
- Marx, Karl. (1990) Capital: A Critique of Political Economy. Vol. 1. Ben Fowkes (Transl.). New York: Penguin.
- Mayer, M. (2009). The 'Right to the City' in the context of shifting motifs of urban social movements. *City* 13 (2-3): 362-374.
- McCann, J. (2002). Space, citizenship, and the right to the city: A brief overview. *GeoJournal* 58 (2/3): 77-79. Social Transformation, Citizenship, and the Right to the City.
- McDonald, J. (1997). Fundamentals of Urban Economics. Saddle River N.J. Prentice Hall: 79 109.
- Mikesell, J (1982). Fiscal administration. *Fundamental principles of Public Finance*: 1-40
- Miraftab, F. (2012). Planning and Citizenship. In Weber R. & Crane R. (Eds.), *Oxford Handbook of Urban Planning* (1180-1204). Oxford: Oxford University Press.
- Oliveira, V. & Pinho, P. (2008). Evaluation in urban planning: from theory to Practice. CITTA: Research Center for Territory, Transports and Environment, University of Porto.
- Palacio Muñoz, V.H., Montesillo Cedillo, J.L. & Santacruz de León, E.E. (2007). Análisis del mercado de tierras en México. [Analysis of land markets in Mexico]
- PEMEX (2006) Evaluación del riesgo a la salud y establecimiento de criterios de limpieza en la ex-refinería 18 de marzo. Ciudad de México. [Evaluation of health risks and establishment of cleaning criteria in the former refinery 18 de Marzo].
- Proceduría Ambiental y del Ordenamiento Territorial del D.F. (2010). Presente y Futuro de las Áreas Verdes y del Arbolado de la Ciudad de México. Ciudad de México. [Present and Future of Green and Tree Areas in Mexico City].
- Quigley, J. (1998, Spring). Urban Diversity and Economic Growth. *Journal of Economic Perspectives*, Volume 12, Number 2: 127-138
- Ruiz, N. V. M. (1988). La industria Petrolera en México. Una crónica. II. Gestión y Consolidación de Petróleos Mexicanos. 50 Aniversario. Mexico City. [The Oil Industry in Mexico. A chronicle. II. Management and Consolidation of PEMEX. 50th anniversary].
- Salinas Arreortua, L. A. (2010). *Revitalización urbana de áreas centrales en la ciudad de México*. Universidad Nacional Autónoma de México. [Urban revitalization of central areas of Mexico City].
- Schmid, C (2012) Henri Lefebvre, the right to the city, and the new metropolitan mainstream. In *Cities for People Not Profit*. Edited by Neil Brenner, Peter Marcuse, and Margit Mayer. Routledge. 42-62
- Semarnat (2008). *Informe de la Situación del Medio Ambiente en México*. Compendio de Estadísticas Ambientales. [Report on the Situation of the Environment in Mexico].
- Shearer, A.W. (2015). Abduction to Argument: A Framework of Design Thinking. *Landscape Journal*, 34:2: 127-138.
- Stone, C. (1993). Urban Regimes and the Capacity to Govern. *Journal of Urban Affairs*, 15:1-28.

- Tiebout, C. (1956). A Pure Theory of Public Expenditures. *Journal of Political Economy*, 62.
- Turok, I., & McGranahan, G. (2013). Urbanization and the economic growth: the arguments and evidence for Africa and Asia. *International Institute for Environment and Development (IIED)*. Vol 25(2): 465-482.
- UN-Habitat (2016): Miguel hidalgo, Ciudad de México, México. Informe final de la demarcación. [Miguel Hidalgo, Mexico City, Mexico. Final report on the delegation].
- United States Environmental Protection Agency. (2019a). *Anatomy of Brownfields Redevelopment*. https://www.epa.gov/sites/production/files/2015-09/documents/anat_bf_redev_101106.pdf
- United States Environmental Protection Agency. (2019b). *Cleaning Up Brownfield Sites*. https://www.epa.gov/sites/production/files/2019-10/documents/cleaning_up_brownfield_sites.pdf
- United States Environmental Protection Agency. (2020). *Assessing Brownfield Sites*. https://www.epa.gov/sites/production/files/2020-07/documents/assessing_brownfield_sites.pdf
- Zieleniec, A. (2018). Lefebvre's Politics of Space: Planning the Urban as Oeuvre *Urban Planning* 3, 3: 5-15.

References

We want to thank the multidisciplinary team of students of Studio Mexico Spring 2020 at UTSOA; our professor Juan Miró, FAIA, and Rosa Rivera for their enthusiasm and the excellent experience in Mexico City; Mario Schjetnan for his advice and for welcoming us in his office. Also, to those professors whose work and advice contributed to this project: Prof. Dean Almy, AIA; Prof. Allan W Shearer, Ph.D.; Prof. Richard Heyman, Ph.D.; Prof. Gian-Claudia Sciara, Ph.D.

Using Probes and Prototypes in Digital Environments for Participatory Deliberation

Keywords: Communitary, Digital Environments, Deliberation, Future Prototyping, Values.

Juan de la Rosa^{ad*},
Juan Sebastian
Bedoya Rodríguez^{bc},
Valentina Barrera
García^{ab}, Paul Bryan
Gamboa Mateus^b,
Carlos Andrés Garzón
Pachón^{bd}, Dora
Consuelo Villalobos^b,
Stan Ruecker^c

^aUniversidad Nacional de Colombia

^bCentro de Investigación e Innovación Comunitario

^cUniversity of Illinois at Urbana Champaign

^dB+A Estudio de Biología y Arquitectura

^eEscuela de Educación Ambiental Popular Guaches y Guarichas por Bacatá

*jadelarosam@unal.edu.co

In this paper, we discuss the use of semi-synchronous participatory design methods in the design of possible futures in the La Vaca wetland project on the outskirts of Bogota, Colombia. Working in conjunction with the grassroots organization called the Collaborative Center for Research and Innovation (CIIC), a series of three workshops was held, involving 25 families divided into five groups. Taking a values-sensitive approach, the first workshop dealt with values and stories, the second with topophilias and topophobias, and the third with prototypes for systemic future mapping. The project concluded with a session on strategic planning, where a dozen possible future projects were identified and mapped out. The use of digital online technologies, combined with physical resource toolkits provided to each group, enabled participants to work off-line at their convenience, then gather again to share their ideas and engage in the participatory discussion process. With this experience, we now feel that a semi-synchronous approach of this kind has potential in general, and in particular during times of crises such as the pandemic, when resources are scarcer than usual, but the community does not wish to lose momentum in its planning process.

1 Introduction

In the last 50 years, we have seen design paradigms shift, from craft to object, and from the design of objects to the design of intangibles like experiences or interactions. We have also seen the center of the methods move from an author perspective, to users, to community participation. These changes are not insignificant, and they represent a constant transformation in the culture of design, and in the responsibilities that designers are taking for the images, objects and services they are helping to shape, to guarantee what Simon (1969) defined as the main goal of design, facilitating better or more desirable futures for everyone.

Current realities of reduced mobility in large cities, scarce resources like time and money and factors that exacerbate the apathy of involvement in participatory environments, like the COVID-19 pandemic and others sure to come, represent a serious threat to democratic models of deliberation, where communities are asked to participate beyond expressing their opinion through voting systems. As new design methods rooted in participatory approaches seek to engage communities and stakeholders (Bødker, 1987) into the production of preferable futures (Simon, 1969) through collective actions, design researchers face the need to encourage the active participation of direct and non-direct stakeholders into co-constructive processes as the only way to guarantee a distribution of the agency and a deliberative process (Rawls, 1996).

With this concern in mind, this paper introduces the development of a series of online participatory workshops that were developed by the CIIC project (Collaborative Center for Research and Innovation) and researchers from academic institutions, at the initiative of diverse communities in the wetland of La Vaca, in Bogotá, Colombia. The research team comprises a series of individuals belonging to different organizations and from a wide range of different academic backgrounds who gathered their ideas, efforts and points of view to constitute a united effort and a work group that could strategically manage community-driven and territory-related processes so that they have a tangible outcome. This project also makes an effort to recognize the pre-existent context of the La Vaca wetland community's distributed and popular knowledge that seeks to include all members of their community as active co-creators of knowledge, and to defend initiatives of popular knowledge (Hall, 1981; Morrow & Torres, 2002) as a way to preserve the experience of environmental responsibility that has led to the restoration of the remaining sectors of the wetland.

We believe that both the process and the results represent an interesting example of a participatory process that uses mixed digital and physical actions and spaces to facilitate grass-roots deliberation and action. Additionally, we propose that certain of the tools and methods used in this project are not only innovative, but also

present a conceptual advance on the current methods that are commonly used in participatory practices.

2 Context

2.1 A Space of Socio-Cultural Relevance

The spirit of the participatory process developed at the CIIC is deeply rooted in the principles of its base community and their background, therefore, we believe it is appropriate that we present a small historic context of the La Vaca wetland project.

Before the urbanization process, during the pre-Columbian period, the land where Bogotá stands today was a prehistoric lagoon which slowly and naturally dried, giving place to numerous smaller lakes, rivers and wetlands (called *chupqua* in the Muisca language). For the Muisca people, the original settlers, such water masses were key in their cosmogony, since they were (and still are, by the remaining community) seen as sacred places where life originated and where life returned after death.

When the Spanish settled in the territory, it lost its sacred meaning, and they turned these lands into farms where they cultivated fruits and vegetables and raised livestock. Since 1940, the country went through the period known as The Violence, during which numerous forms of guerrillas developed due to the political forces that divided the population. As a result, a massive wave of rural population migrated to Bogotá and other cities, searching for a better future, running from the social and political violence that threatened their lives in the countryside. Given this situation, some people in the cities took advantage of the disorder: they drained the wetlands and, since these areas were not protected and did not belong to anybody, sold these lands to the migrants with an illegal title deed which the purchasers believed to be legitimate, only to build their homes there and find they did not have any utilities available. Still, many neighborhoods consolidated under these circumstances. One of the places that went through this unregulated process of urbanization and wetland destruction was the area of Corabastos and the wetland of La Vaca.

When the illegal condition of the area and the fact that they stood upon a wetland came to the knowledge of the community, they started organizing themselves in groups to fight for the legalization process of their neighborhoods. Eventually, they succeeded in getting them all legalized, which also provided protection of the remaining sectors of the wetland as well as the (ongoing) construction of an identity within the community.

2.2 Sustainability and Ecological Relevance

The wetland La Vaca is backed up by a Ramsar certification. This means that, according to the Convention on Wetlands

“Wetlands are indispensable for the countless benefits or “ecosystem services” that they provide humanity, ranging from fresh-water supply, food and building materials, and biodiversity, to flood control, groundwater recharge, and climate change mitigation.” (Ramsar Convention Secretariat, n.d.) .

Also, based on the fourth strategic plan of the Convention, these ecosystems play an important role in water risk management, coastal protection, pollution control, and leisure. They also offer cultural and spiritual inspiration, besides representing important tourist attractions (Ramsar Convention Secretariat, 2016). This is why territorial planning and community construction in this area have been, are, and will be related to the wetland, which represents the most part of the green areas and public spaces in the zone.

The principle of sustainability and the spirit of a balanced relationship with the environment have become foundational elements of the community and are now some of the leading values of the community. As this research project mapped different values and intentions with the community, there was a constant emergence of these values.

2.3 Participatory Planning and Construction in the Urban Space of Bogota

Although many researchers have demonstrated the importance of participatory planning in the construction of cities, Torres Tovar indicates that in Colombia, very few actions are taken to reconsider the spaces of the city from a collective perspective, leading to a better distribution of the resources and more equity, selecting technologies that are not suitable for the economic and social realities of the communities (Torres Tovar, 2009). Even the limited actions of participation might suffer from what Aguirre-Nuñez (2018) refers to as “empty rituals of participation” where communities are asked for opinions on superficial topics that do not represent a true agency on their futures.

Due to the lack of participatory spaces from the government and the absence of collaborative policies, the communities have had to organize themselves in order to fulfill those unmet needs. To reinforce these processes, they have searched for alliances with other entities on their own so that they will have an economical and legal backup, starting from the recognition of their own skills and capacities as community groups. For Torres Tovar (2009), these participatory processes stemming from community groups and organizations have turned the latter into an element of social cohesion that represents an autonomous way of solving problems in neighbourhoods with informal origins.

2.4 Organizing Under the 'Territorial Committee'

The Territorial Committee emerged towards the end of 2007, at the initiative of the Seed Bank Foundation, formed by several women who organized themselves. This space started with the objective of developing activities that involve the community in the society and territory's construction to seek the improvement of the quality of life of the inhabitants in the vicinity of the wetland.

It is precisely on the wetland where meetings took place and initiatives regarding wetland restoration and community improvement were discussed. Meanwhile, they started to count on technical support in order to take necessary samples to monitor the wetland's state. They kept meeting over a period of time on the wetland as well as in different locations made available by a few foundations. Even when there was no location, the meetings were carried out, reinforcing the fact that the process relies on the community network and the activities they conducted, not on a physical space.

2.4 Founding the CIIC

Building and learning as a community are the bases for popular and situated knowledge, and this process through the last twenty years has left a significant accumulation of documents and knowledge about the socio-ecological system. Interest in a community library was born in 2015 from the need to compile and classify the documentation and information (reports, analysis, research works, among others) related to the wetland, considering that many times, the responsible entities ended up losing and misremembering this information which was relevant for the wetland's memory and construction. Unfortunately, the community realized that they were not equipped with the required tools and conditions to store books and the technical knowledge to manage a library.

This situation, plus the idea that knowledge building was a constant reality in their community, led them to reconsider the library project and move into the idea of the formation of a community-based research center. Additionally, a research center could promote the support of district entities for ecosystem and community strengthening.

If the library is conceived on the basis of five axes – memory conservation, gathering, education, research and contemplation – then the CIIC (Community Center for Innovation and Research) added a new dynamic of community-based research, labs, and action.

3 Research Context

The previous social foundation is the main context for this research, since they created an ideal environment for a participatory process. Nevertheless, there are other conceptual foundations to this research.

First is the connection between participatory research and grassroots democratic actions, which has a long history, both in

practice and in scholarly work (Stout, 2012). Its main origin is in fact intertwined as the arguments of Fals-Borda were born in his work with grassroots and community-based organizations in Colombia and his work as a scholar at Universidad Nacional de Colombia (Castaño, 2008; Ortiz, 2008).

The ideological turn from objectivism to a distributed knowledge led to notions like the popular and situated knowledge that have been now accepted by scholars around the world. The initial application of this approach was defined by the idea of social transformation and agency of the community in the definition of their own future (Freire, 1974; Fals-Borda, 1978, 1987).

These ideas are deeply connected with the work of Jungk and Müllert (1987) and the Future Workshops; their work was born from the idea of self-determinism of the communities in the definition of their own future, and the role of the facilitator, igniting the conversation and creating the right environment to move forward.

In recent years, design has carried that torch, with the foundational work of Ehn, Lysgaard and Bødker (1988) in the Scandinavian context, which led to the ideas of cooperative and participatory design, and the recent work of Irwin, Kossoff and Tonkinwise (2015) on transitional design, as well as more radical ideas like the prefigurative design proposed by Asad (2019). These are proof of a new role for designers as facilitators of the means of construction of a deliberative future.

This new role for design helps the ideas of Fals-Borda resound again from the Colombian lands, amplified still further by the voice of Arturo Escobar, and his call for design to be an active participant in the redefinition of the social reality of Latin America and of those wrongfully called 'third world' countries.

4 Research Methodology: Participatory Digital Workshops for Community Deliberation

The background of participation and social deliberation is a path on the search for equality and self-determinism of the communities, and yet it carries many obstacles with it. First and foremost are the intense requirements of time and commitment of participants who already might live under conditions that involve strong constraints of time and resources.

Under the current circumstances of the COVID-19 pandemic and the social impact that it has created, those resources seem even more scarce, putting at risk the very idea of participatory deliberation. Nevertheless, the massive distribution that digital technologies have lived through smartphones and mobile data has created a space for participation that might be even more significant in some cases than the previous physical settings, allowing social organizations to search for new ways to connect, interact and deliberate.

Based on these constraints and possibilities, the researchers of the CIIC devised a series of workshops that used different methodologies related to collaborative work, design, urbanism and ethnography to continue the process of participatory deliberation with the community of 'La Vaca' and the ideas of desirable futures.

The methodology applied used as a framework the work on value sensitive design of Friedman, Kahn & Borning (2008) and Forlano & Mathew (2014), as well as a participative cartographic mapping of the current social situations of the area, similar to the work of Tyrväinen, Mäkinen, & Schipperijn (2007) in the forest of Finland.

For the deliberative part, we used a mixed approach combining the use of cultural probes as described by Sanders & Stappers (2014) and a more experimental approach to the use of prototypes as research tools based on the notion of displaced prototypes presented by de la Rosa, Kohler and Ruecker (2016) both to establish conversations (Galey & Ruecker, 2010) and to map possible futures from a systemic perspective (de la Rosa & Ruecker, 2020).

Despite the previous use of some of these tools, the main contribution of this process was the use of digital environments and tools as the foundation for the research process. This decision produced positive and negative repercussions that are the fundamental discussion for this paper.

4.1 Planning

Beyond the long history of participation that surrounds the 'La Vaca' community, during the year 2019, the CIIC organized a series of workshops with some of the stakeholders intended to create ideas of what a physical space for research, memory collection and collective work could look like. These workshops used various methods to facilitate the conversations and the ideation into the future space, including an inspired exercise that was made by setting up a couple of scaffolds at a height of 3 meters, which made it possible to understand how, at a higher level, one can comprehend the relationship between the wetland's extension, its immediate context and the city.

The idea of an urban master plan was also conceived during these meetings while talking about future scenarios and thinking about design as a wholesome imaginary of the territory where urban design, community construction and the research center are included.

During the year 2020, with the COVID-19 outbreak, the possibility of a participatory workshop was considered to keep the community linked to the process and progress in the pending tasks of the CIIC. That was how the idea of a virtual communitarian construction workshop emerged. The goal was to determine the values that move the community and the feelings associated with its spa-

tial dimension, and to imagine scenarios of the future through the use of tangible objects (prototypes) that can help the community envision a systemic future and create a feeling of plausibility.

The use of open meeting platforms, like *Google Meet*, was fundamental to support the work of the CIIC, and its ability to still be able to share ideas during these times. Some other tools, like shared folders and collaborative workspaces like *Microsoft Teams* or *Slack*, also facilitated the construction of shared documents and meeting records.

To accomplish the objectives established in the meetings, the group first set the goals and objectives of the activities that were to be executed. Based on this goal setting, an inventory was made of the supplies that would be needed by the participants of the workshop: an instructive brochure designed by the team, brushes, acrylic paints, modeling clay, pipe cleaners, markers, tape, glue, a ball of yarn, kraft paper, colored paper, cardboard, wooden sticks and a printed plan of the area. Everything was put in a box similar to what would be used for a cultural probe. These boxes were distributed by some of the members of the CIIC, keeping the sanitary precautions of a pandemic time.

4.2 The Digital Workshop

For the workshop, 25 families were selected as candidates to participate. They were contacted, invited and briefed with the necessary IRB forms. After consent, the families were divided into five groups according to their schedule availability. The intention of inviting families was that it gives a broader sample, includes different views and voices in the deliberative process, and presents an inclusive environment that was ideal during the quarantine, where all the members of the family could participate in the workshop.

Once at the workshop, each workgroup was facilitated by three members of the CIIC who were selected based on the requirements of the particular session. The workshop was planned for three sessions, which all five groups had to attend, plus one session where the results of the workshop were presented.

During session one, called values and stories, the goal was to use narratives and storytelling as a research tool to analyze the positive and negative values present in the community and the territory, to later envision which of those were decided by the community as fundamental values to lead the future of the community. To support this process, we asked participants to write a story about a moment of positive interaction with their environment (social or natural) before the digital workshop, and then narrate it to others during a *Google Meet* and *Zoom* call. We used collective analysis of the narratives and *mentimeter.com* to collect and tabulate opinions of the participants.

During session two, called topophilias and topophobias, places that produce positive and negative feelings were spatially identified on the map. For the last session, foresights and prototypes, the participants designed a prototype based on a desire they had for the future of the community. At the end of the session, participants were asked to imagine a better state of the community – one that incorporated the values that were determined before and where the wetland was an active member of the community – and consider different projects they could see fit for that future.

In between session two and three, participants watched a short video that explained what a prototype was, how to easily use the materials they received to give shape to the ideas they were imagining, and the importance of prototypes as bridges to connect with others and establish meaningful conversations about the future.

Finally, session three was set up for the use of prototypes. Previous to this session the participants were asked to use the materials they received in the box to produce basic prototypes of ideas for the future of ‘La Vaca’ community and present them during this final session. On it, each participant got the chance to use their cameras (smartphones and computers) to present their ideas and start the conversation using the prototype to make the argument. After each presentation, we initiated a short conversation about the elements and principles that these ideas were bringing to the discussion. As the discussion developed, we used the mapping tools provided by mindmeister.com to collaboratively analyze the implications of these ideas and what strategic plans for the future should include.

5 Workshop Results, Analysis, and Future Impacts

The research process used for this project does not rely on the researchers or professionals as information gatherers. Instead, it searches for more inclusive approaches to knowledge, including the production of this paper, where other forms of knowledge were encouraged. Therefore, we see information and knowledge as a co-constructed product rather than an objective truth.

As a conclusion, we present a description of the methods and results used from a designerly perspective that led us to believe that there is a significant future use for digital tools and environments as spaces for democratic deliberation and civic engagement, since they allow better allocation of the basic resources of the community.

VALUE MAPPING: value-sensitive design and critical studies have established the importance of values to every participatory or community-based project. In this case, we started by mapping the values of the community as the initial resource to produce ideas for the future. This mapping process is a task that involves a process of collective analysis and deliberation that in other participatory processes takes a significant amount of time. It requires an introspec-

tion of individuals and a later collective discussion to incorporate and interconnect those values. By using narratives and storytelling as an asynchronous process followed by a synchronous session where visual tools were used to map and interconnect these values, participants were able to better use their time and still find a moment of empathy and a collective discussion to recognize how these values apply to a possible future.

The use of virtual tools like the mentimeter.com, allowed us to bridge the boundary of participation, since participants could give their opinion anonymously and effortlessly from their devices, avoiding the tension that some participants experience in giving their opinions in a collective discussion. Furthermore, the digital environment allows the flexibility that other tools provide, like the use of sticky-notes, but brings a better way for data collection and final visualization (Figure 1).

The initial analysis of the social responsibility of the community was evidenced here, where values like equity, solidarity, love, nature and commitment were determined as the main values to define a plan for the future.



Fig. 1: Mentimeter.com visualization of values; first a word cloud of values based on a process of collective coding, and then a process of analysis based on community intentions for the future.

MAPPING TOPOPHILIAS AND TOPOPHOBIAS: Based on the same method of narratives and collective analysis, participants were asked to use their physical experience of the world to recognize possible problematic spaces and areas of positive experience. This process led participants to recognize social tensions and unattended stakeholders that were not invited or included in the process. It also allowed participants to acknowledge the positive actions and results achieved through time by the community and include these experiences in their ideas of the future.

The use of synchronous visualization tools, like the in-place production of a heatmap (fig.2), allowed participants a clear understanding of the effects that certain stakeholders were causing in the physical space, as well as a deliberative discussion of areas that require attention and possible actions to replicate. Particularly, CORABASTOS[1], was recognized as an epicenter for labour and resources, but also as a contributor of negative aspects, like pollution and unsafety.

Some of the more significant negative factors of the area were found to be related to micro-traffic of illegal drugs, common delinquency, gang activity and lack of attention and control from the government. The most positive factors were related to community building and an active relationship with the natural environment.

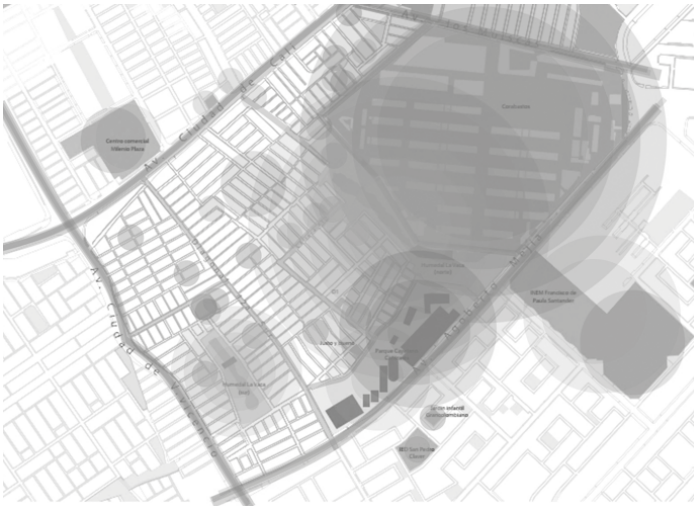


Fig. 2: A heatmap of perceived positive and negative factors in the area provided a visual tool to make the conversation about actors, actions and repercussions more tangible for participants.

[1] Corabastos is part of a public project of infrastructure from the 1970's in Bogotá, where the expected growth of the city led the government to the design of a central market for agricultural resources distribution. The studies were developed by Colombian researchers with the support from the University of Michigan and the United Nations' Food and Agriculture Organization. Today, Corabastos is a mixed association between the national and local governments, agricultural unions and the commercial sector.

PROTOTYPES FOR SYSTEMIC FUTURE MAPPING: This was the final step of the actionable process, where participants were asked to imagine a future scenario based on the values that were previously established and then develop an idea of a project that could exist on that preferred future. These ideas were then formalized through a prototype self-produced by the participants. There was no unified response to the process; while some participants decided to use a symbolic approach to express their ideas, others thought of very specific projects and prototypes. Nevertheless, the objective of a discussion about the future was enriched by these prototypes, as was the generation of ideas about the possible structure of a future state of the community.

After the prototyping process, twelve different projects emerged that seemed viable for the future of the community, as well as a series of actions and ideas to include as part of the plan for the future. Based on previous experience of these types of research projects, we see a significant reduction of the time required for the collective portion of the workshop. While in previous participatory workshops an average of four hours is needed in a location prepared for prototyping, this digital workshop allowed participants to use their resources of time and space when they found it more convenient, and reduced the collective time to an average of two hours.

STRATEGIC PLANNING: Finally, the members of the CIIC consolidated all the findings of the different workshops and presented the results to the community. The futuristic emphasis of the workshop as well as its systemic nature allowed us to produce a plan for the future where the needs and possibilities for action of the participants were included as a resource. We also used digital tools to visualize a map of principles, actions and projects to incorporate in the plans of the community (Figure 3). This map defines a strategic approach for the future of the community as well as the foundations for a bank of ideas of the community. Furthermore, it uses the cartographic approach of the process to include the possible location of these projects, so they affect in a more positive way the current situation of the neighborhood.

We believe that the use of a systemic approach through the participatory research process leads to a more collaborative view of the future, increases the agency as well as the commitment of participants in the goal generation and in the action planning process, and that the digital nature of the workshops facilitated participation at a time where mobility and time allocation were very restricted for the members of the community.

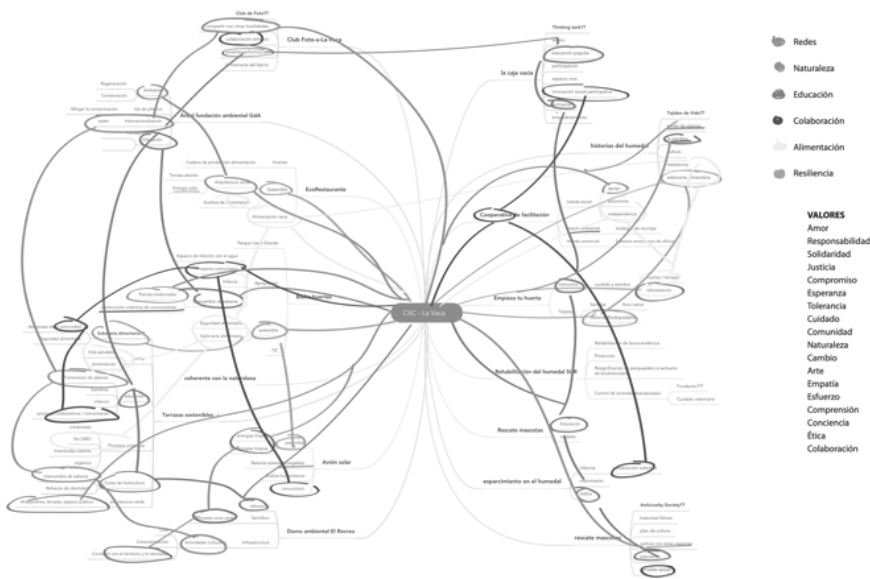


Fig. 3: A systemic approach to the future allowed us to map individual projects as a network of relationships that work together to support collective flourishing. The use of a digital space for the mapping process on mindmeister.com helped in the collective visualization of the goals and as a tool to facilitate the conversation about the future in a more tangible way.

6 Conclusion

Although we are currently experiencing very strange times due to the pandemic, the results of workshops like the ones presented in this paper seem to show that there is a very promising space and resources in the digital environment that can be used to facilitate and increase the participation of communities, and with that increase their ability to deliberate into their future.

We believe that there is a need for more research on the use of digital semi-synchronous environments for participatory research, since they relieve some of the initial burden of time and space of participatory approaches.

We also found the need for academic research to be more inclusive regarding forms of knowledge and how scholarly work is produced and presented, since for the production of this paper the work of some of the researchers was produced on a more popular type of knowledge but its formalization required a more classical approach from other researchers. We call for a profound discussion regarding the types of knowledge that we validate through the ideas of postcolonialism, situated realities and the ideological pluriverse that they represent (Escobar, 2016).

References

- Aguirre-Núñez, G. (2018). *Citizen participation in a neoliberal context: 'empty ritual or real power'?*. (Master's thesis, Aalborg University, Copenhagen, Denmark). Retrieved from https://projekter.aau.dk/projekter/files/280912414/Guillermo_Aguirre_Master_s_thesis.pdf
- Asad, M. (2019). Prefigurative design as a method for research justice. *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 1-18.
- Berroeta, H., Ramoneda, A., Rodríguez, V., Di Masso, A., & Vidal, T. (2015). Apego de lugar, identidad de lugar, sentido de comunidad y participación cívica en personas desplazadas de la ciudad de Chaitén. *Magallania* (Punta Arenas), 43(3), 51-63. <https://doi.org/10.4067/S0718-22442015000300005>
- Bødker, S. (1987). Prototyping Revisited: Design with users in a cooperative setting. *DAIMI Report Series*, 16(233). <https://doi.org/10.7146/dpb.v16i233.7589>
- Bødker, S., Ehn, P., Knudsen, J., Kyng, M., & Madsen, K. (1988, January). Computer support for cooperative design. In *Proceedings of the 1988 ACM conference on Computer-supported cooperative work* (pp.377-394).
- Cataño, G. (2008). Orlando Fals Borda, sociólogo del compromiso. *Espacio abierto*, 17(4).
- de la Rosa, J., Kohler, K., & Ruecker, S. (2016). Prototyping as a resource to investigate future states of the system. Oslo, *Proceedings of the RSD6, Emerging contexts for Systems Perspectives in Design*. Retrieved from: <https://systemic-design.net/wp-content/uploads/2017/12/RSD6-dlaRosaKohlerRuecker-1.pdf>
- de la Rosa Munar, J. A., & Ruecker, S. (2020). Using prototypes to produce high-resolution systemic future maps. A proposed model for design research and knowledge. *Bitácora Urbano Territorial*, 30(2), 87-100.
- Escobar, A. (2016). Autonomía y diseño. *La realización de lo comunal* (1st ed.). Editorial Universidad del Cauca.
- Fals-Borda (1978). Por la praxis: el problema de cómo investigar la realidad para transformarla. In *Crítica y política en ciencias sociales*. Ed. Punta de lanza, Bogotá, Vol 1: pp 209-249
- Fals-Borda, O. (1987). The application of participatory action-research in Latin America. *International sociology*, 2(4), 329-347.
- Forlano, L., & Mathew, A. (2014). From design fiction to design friction: Speculative and participatory design of values-embedded urban technology. *Journal of Urban Technology*, 21(4), 7-24.
- Freire, P. (1974). Research Methods. *Literacy discussion*.
- Friedman, B., Kahn, P. H., & Borning, A. (2008). Value sensitive design and information systems. *The handbook of information and computer ethics*, 69-101.
- Fry, T. (2009). *Design futuring*. University of New South Wales Press, Sydney, 71-77.
- Galey, A., & Ruecker, S. (2010). How a prototype argues. *Literary and Linguistic Computing*, 25(4), 405-424.
- Hall, B. L. (1981). Participatory research, popular knowledge and power: A personal reflection. *Convergence: An International Journal of Adult Education*. 14(3), 6-19.
- Irwin, T., Kossoff, G., & Tonkinwise, C. (2015). Transition design provocation. *Design Philosophy Papers*, 13(1), 3-11.
- Jungk, R., & Müllert, N. (1987). *Future Workshops: How to create desirable futures*. London, United Kingdom: Institute for Social Inventions.
- López-Meza, M. I., & Brito-Peña, A. (2020). Medición de la pérdida de acceso a la tierra y su impacto en el apego al lugar: El caso de la histórica comunidad minera de Puchoco, Chile. *Revista Urbano*, 23(41), 102-129. <https://doi.org/10.22320/07183607.2020.23.41.06>
- Morrow, R. A., & Torres, C. A. (2002). Gramsci and Popular Education in Latin America: From revolution to democratic transition. *Gramsci and education*, 179-200.
- Ortiz, M. (2008). La Investigación Acción Participativa: aporte de Fals Borda a la educación popular. *Espacio abierto*, 17(4).
- Ramsar Convention Secretariat. (2016). *An Introduction to the Ramsar convention on Wetlands*. Ramsar Convention Secretariat, Gland, Switzerland.
- Ramsar Convention Secretariat. (n.d.). The importance of Wetlands. Retrieved November 23, 2020, from <https://www.ramsar.org/about/the-importance-of-wetlands>
- Rawls, J. (2005). *Political liberalism*. Columbia University Press.
- Sanders, E. B. N., & Stappers, P. J. (2014). Probes, toolkits and prototypes: three approaches to making in codesigning. *CoDesign*, 10(1), 5-14.
- Simon, H. A. (1969). *The sciences of the artificial*. MIT press.
- Stout, J. (2012). *Blessed are the organized: Grassroots democracy in America*. Princeton University Press.
- Torres Tovar, C. A. (2009). *Ciudad Informal Colombiana. Barrios Construidos por la gente*. Editorial Universidad Nacional de Colombia.
- Tyrväinen, L., Mäkinen, K., & Schipperijn, J. (2007). Tools for mapping social values of urban woodlands and other green areas. *Land-use and urban planning*, 79(1), 5-19.

Acknowledgements

This paper would not have been possible without the support of the community and their knowledge and especially without the hard work of all the members of the CIIC and the nourishing environment of La Vaca.

Speculating, Acting and Deliberating About the Common Good

**The Problem With Problem Solving.
Design, Ecology and the Common Good**
Felix Kosok

Design For Public Thinking
Youngbok Hong

**Designing Beyond the Common Good –
an Evolutionary Process between
Speculation and Reality**
Dustin Jessen, Simon Meienberg

**Challenging Design for (the) Good –
New Design-Roles:
Making Design Vulnerable**
Lucas Kuster

The Problem With Problem Solving. Design, Ecology and the Common Good

Keywords: Wicked Problems,
Ontological Design, Sustainability,
Total Design.

Felix Kosok^{a*}

^a*Hochschule für Gestaltung
Offenbach am Main*
^{*}kosok@hfg-offenbach.de

In this paper, reflecting on my creative paralysis caused by the Covid-19 pandemic, I want to rethink the capability of design to solve problems, which is usually associated with its ability to contribute to the common good. Critically questioning modern conceptualizations of design as fundamental human activity that intertwines us with our environment I will highlight that it's not so much the problems solved that make design meaningful, but the differences it creates. Differences, that some would consider small and superficial. Even in the face of impending climate catastrophe, an understanding of the common good by design must be defended as debatable. More radical and far reaching contemporary conceptualisations of design – such as ontological design – will be the counter position from which this paper develops a different understanding of design's capabilities. Facing this crisis difference beyond novelty is not much, but it might be all that design has to offer.

1 Introduction

We live in times of crisis. Which is not an unusual statement for a human being at any given point in time. Just imagine the horrors of untamed nature, the mastery of which had determined the whole history of mankind culminating in modernity. Human cooperation has led us out of nature's chaos and into a continual process of collective self-improvement. Even though the multiple crises that were caused by the Coronavirus paralyzed this progress, designers–me included–still held onto that unbounded optimism that seeks the opportunity in every crisis. Following our mantra of world improvement, we continued to look for ways to make the world a better place. As true philanthropists we continued to look for problems that still can be solved in the name of the common good. For a second let's imagine that our struggle can be properly celebrated again after this long winter in adequate form: with a (design) festival for and by the people. No one described this better than the Genevan political philosopher Jean-Jacques Rousseau:

“Plant a stake crowned with flowers in the middle of the square; gather the people together there, and you will have a festival. Do better yet; let the spectators become an entertainment to themselves; make them actors themselves; do it so, that each sees and loves himself in the others so that all will be better united.” (Rousseau, 1960, p.126).

Why do I bring this up? What does this festival have to do with design–other than its setup and the military uniforms that the (male) citizens wear, which Rousseau describes. Because this festival isn't just a leisure activity for Rousseau, the theorist of the common good. The Genevan festival gathers together a community that is transparent to itself in that everyone is at the same time an individual and a universal citizen and found 'in his place'. The festival, therefore, is to be a spectacle in which the community and the republic “is not represented but presented”, thus also presenting the social order, as everyone demonstrates the place where they belong (Rebentisch, 2016, p.199). It is, so to speak, a manifestation of Rousseau's understanding of the general will, a striking materialization – a design – of the common good.

It's not surprising that if one looks close enough at Rousseau's concept of the common good one is to find many similarities with common conceptions of design as a problem-solving activity. Modernist design is, after all, a product of modernity, a child of the enlightenment that was set in motion by Rousseau, among others: modern ideas materialized in form. So, before I come directly to the concept of problem solving through design, I want to summarize some key points of Rousseau's concept that bear particular similarity and therefore significance to the concept of designer as problem solver in this short introduction. After framing the paradox of the definition of the common good from an enlightenment perspective, I will turn to two modernist understandings of design, each of which

attempted to define design as a problem-solving activity in a different way. But let's first see what Rousseau has to say.

It is fascinating how Rousseau equates government with collective self-government among equals, thus giving the ethical question of self-government immediate political relevance. Politics and ethics cannot be separated, and they must not be disturbed by aestheticization at any cost. For this would be the downfall of civilization, marked by effeminate men that are concerned with appearances, recognition and only know amour-propre, self-love or pride. (Rousseau, 1994, p.134f) Men who in their particular wills have lost sight of the general will of the common good. Rousseau stresses that while any sum total of each individual's desires remains particular, the general will, that is supposed to be present in the Genevan spectacle, is the one will "which tends always to the conservation and well-being of the whole" (Rousseau, 1999, 7). Political authority, to Rousseau, should be understood as legitimate only if it exists according to the general will that is manifest in the constitution. As it was written to voice the general will of the sovereign, beginning with: "We the people [...]". The pursuit of the common good, then, enables the state to act as a moral community, again linking ethics with politics.

But who defines this common good, that the state is supposed to work in accordance with? Who is this 'we' that is supposedly speaking? Before the constitution of a state who is able to define this common good, that's supposed to manifest itself as the general will in the constitution? Here Rousseau runs into the paradox of the legislator. The ones who write the constitution for the people in the name of the people—the ones who design it—would have to be at least enlightened philanthropists. They already have to have identified from their particular perspective the common good of the general will to write a constitution in accordance with it.

This paradox is still paralleled in design today. In designing for the common good how do we identify what's best for all? Certainly not by asking everyone, because this would only give us the sum of all particular wills and not the general will of the common good. Rousseau 'solves' this 'problem' by delegating it to a higher authority: the divine. The legislator is writing the law in the name of the people manifesting god's will. 200 years after his influential texts on the Social Contract we're still trying to delegate this problem to higher authorities, whichever they may be, and fear the perils of aestheticization. I now want to take on those questions that the paradox of the legislator poses in regard to design.

I will now turn to two positions, each of which attempted to define design as a problem-solving activity in a different way. This modern problem-solving paradigm, which gained influence especially since the 1960s, needs to be looked at more closely to under-

2 Problem Solving

stand its perpetuation in a designerly optimism – my own designerly optimism – that seeks opportunity in every crisis and dreams of saving the world, as stated in the beginning. Because this is what designers do after all, isn't it? Solving problems and making the world a better place: a "course of action aimed at changing existing situations into preferred ones" (Simon, 1996, p.111) as one of the pioneers in artificial intelligence and design methodology Herbert A. Simon put it in his 1969 work *The Science of the Artificial*. He elaborates his very broad understanding of design as part of a science of the artificial, "[that] is concerned with how things ought to be, with devising artifacts to attain goals," (ibid., p.4) as opposed to the sciences of the natural, "[that] are concerned with how things are" (ibid., p.114). Simon sees the necessity of this differentiation in the madeness of the human environment, which has already become a completely artificial one. Therefore, his science of design as a science of the artificial is in fact a science of the social. In this perspective of social optimization, designers act and judge in a space of possibilities in which they compare a necessarily limited number of different potential worlds that could result from their intervening design decisions in order to select the best one.

Because design makes things the way they should be in the future as solved problems, it needs a standard of evaluation. However, Simon rejects moral standards. In his opinion design should be about the knowledge-based selection of appropriate parameters and variables whose interaction in a kind of compromise would promise the best result. Consequently, the science of design is about how to make this optimization process itself as optimal and efficient as possible: "There is no question [...] of the design process hiding behind the cloak of 'judgment' or 'experience'" (ibid., p.135). Aesthetics and morals are out.

The problem with this understanding of design as an activity that rationally solves problems and optimizes the world is the exclusion of ethical issues, which for Simon are irrelevant in the pure comparison of variables. The higher power that he delegates the decision over the common good to is the algorithm.

But according to Claudia Mareis' critique of Simon's understanding of design, it is itself a problem to understand the reality of life as a design problem to be solved (2011, p.139). A critique I must add, that has become even more relevant in times of the quantifiable personas of data driven self-optimization. From this scientific perspective, as represented by Simon, all disorder of reality can ultimately be transformed into an artificial as well as rational order of design, which resists chaos due to its meticulous planning. For Mareis however, this creative, ordering perspective on the chaos of the world is a reaction to the increasing complexity of society. At the same time, this understanding of design reveals the design optimism and belief in progress that had not yet reached

such a crisis in Simon's time. Because reading Simon's famous definition of design half a century later, with the earth's temperature increased by almost 1°C and a pandemic spreading across the globe, this modern utopia of endless progress and constant optimization feels hollow.

3 Wicked Problems and Entangled Objects

But for now, let's focus on these modern heydays of planning theory and its mantra of ongoing world and self-improvement. A contemporary of Herbert Simon put forward another outlook on design, that is still engaged in this scientific and rational approach but one that characterized problems very differently. In a paper that was published in 1970, the design theorist Horst Rittel defines design problems as complicated, complex, almost unsolvable: "wicked" (1973, p.XX). He described a total of ten characteristics of those "wicked problems", among which are that these problems can never be conclusively determined, that every attempt to describe the problem already provides a specific solution, that they never stop evolving, that they are usually merely symptoms of a deeper problem, and that their solutions cannot function in the rational categories of "right" or "wrong" (ibid., p.161-167). Therefore, designers and planners are responsible for the mistakes they make when 'solving' these problems. This gives design an inevitable moral dimension, an imperative for communication and debate, one that Simon neglected. Reading Rittel's definition of a wicked problem one is immediately reminded of the current challenges that the design discipline faces. Operating on a systemic level, 'solving' problems while enframing the possible actions of our everyday lives, design plays an immense role in creating these problems in the first place. E-mobility, for example, might solve the problem of greenhouse gas emission. But a recent study highlighted that higher demand for batteries will also increase the mining for minerals and rare metals required for those batteries (Wehrspohn, 2017). Those unintended consequences of design are what make these problems 'wicked' and therefore any easy solution impossible.

Even though Rittel's approach conceives problems and designer's capability to solve them in a more complex way, including moral decisions and debate, his understanding remains one of design as a problem-solving activity, in which, like Simon's science of the artificial, he expands the concept of design immensely and extends it to countless, mostly intellectual activities: like law making-writing a constitution in the name of the common good. Although the very definition of the problem is supposed to be a problem, any problem definition according to Rittel, even a wicked one, automatically provides the basis for a possible solution. Design keeps being trapped in the teleological structure of problems and solutions. Despite his insistence on the ethical dimension of all planning, and despite Simon's approach of thinking in terms of possibilities, the optimization of the society as a whole through planning and design ultimately remains the goal of both modern approaches. But much

more fundamental – apart from a positivist and technophile tone of these approaches connoted as 'masculine', as again Claudia Mareis rightfully points out (Mareis, 2011, p.151) – is the problem of speaking of problems in design at all and thus always suggesting their possible solution (Dorst, 2006). But what if the supposed goal of all design isn't that clear after all? What if design never solved any problem but made things more complicated? And finally, what if that's a good thing? So, let's forget about the problems but keep the wickedness that made design a complicated moral endeavour.

Almost fifty years and several environmental crises after Rittel's definition, the separation between a definable problem, the one who defines it, and a rational and objective solution is dwindling. Facing today's multiple crises, we also have to ask ourselves if the definition of a common good can remain solely focused on the realm of humans or if our interdependencies don't require us to broaden this concept. Bruno Latour's Actor-Network-Theory recently received considerable attention in design theory as a new way to understand the interaction between us humans and our designed environment as well as other non-human entities as co-actors (Latour, 1996). To rethink design's problem-solving capability one of Latour's controversial suggestions might enable us to see through the modern teleological conception of problem/solution, especially regarding the environmental crisis. It's a simple yet complicated demand: we have to get rid of the division between nature and politics! In *Politics of Nature* Latour argues that this division has been fortified especially by those who claim to protect nature. But 'protecting nature' insinuates that her crisis could be objectively analysed and that her problems are a matter of fact, that can be analysed by experts only, that demand only one possible solution. Thus, politics are negated by environmentalists and their scientific experts. They claim to know the only solution to a clear definable problem-like Rousseau's legislator they very clearly see a post-human common good for all—and thus there's nothing that needs to be debated. Latour pleads that precisely those supposedly purely objective problems that present themselves as unchangeable "matters of fact" and can thus only be solved by experts, must be turned into "matters of concern" that affect us all (Latour, 2004, p.22). The supposed crisis of nature that political ecologists proclaim is not a crisis of nature as separate from the political debate but a "crisis of objectivity" (ibid.). This controversial shift and the dissolution of the division between nature and politics as well as between subject and object has implications for the definition of design as a problem-solving activity as well. The "risk-free objects, the smooth objects to which we had been accustomed up to now, are giving way to risky attachments, tangled objects" (ibid.). Tangled objects that make their producers appear in broad daylight as "complicated, implicated, with all their instruments, laboratories, workshops, and factories" (ibid., p.24).

In his description of design Latour emphasizes its special characteristics, for example its process character: "to design is always to redesign. There is always something that exists first as a given, as an issue, as a problem" (Latour, 2011, p.154). So, design does not solve problems, but re-designs them as tangled objects. Latour's tangled objects free Rittel's definition of the wicked problem of its teleological structure and open them up to a new form of politics entangled with nature and objects: "Dingpolitik", as Latour calls it referring to Martin Heidegger (Latour, Weibel, 2005, p.23). A thing is a tangled object, a wicked problem, a matter of concern that causes division and at the same time assembles us around it. They are the tangled objects, the amalgamation of nature and politics in an "object-oriented democracy" (ibid., p.16). In this reformulation, problems, even wicked ones, are never really solved, but rather re-defined, negotiated, and iteratively transformed. Ambitious designers become entangled in them through the design process itself. In the worst case, which is by no means the least uncommon, problems become even more entangled and are perpetuated. The focus in Herbert A. Simon's famous definition of design as an activity that can change an existing situation into a preferred one must be shifted from the result (the preferred situation) to the process (the changing), the difference, if one wants to define design as elementarily dependent on the evaluation of many as Horst Rittel highlighted.

4 Design as Politics

So far, we rid design of its focus on solving problems and discovered an entangled wickedness, that fuses the artificial and the natural and calls for a new form of politics, a new way to unite us over what divides us. But is this enough to tackle the unfolding environmental crisis? Is this all that design can do? At one point Latour is even tempted to replace the concept of revolution with that of design (Latour, 2011, p.155). Building on Heidegger's definition of the thing and its ontological "thinging" design theorist Tony Fry takes a decisive step further and turns design in Design as Politics into politics (2011). Facing the age of unsettlement that will be caused by the climate crisis and rising sea levels design finally has to step up. Fry more radically calls for a politicization of design, whereby design should itself become politics through the "ontological" transformations it can bring about, the way we become human by design: "Design as worlding (world-making) is ecologically and ontologically transformative" (ibid., p.234). To secure the future of the planet facing the ecological catastrophe, design has to be moved "out of its economic function and into a political frame", it has to become a "redirective practice" in its capacity and finally an endeavour of enabling the future, of "futuring" (ibid., vii).

Until now, however, all design has played a decisive role in the unsustainability of the overall system conceived by the Enlightenment, modernity and – if you will – Rousseau. Design created the problem that looms outside my window. The global capitalistic and

exploitative setting systematically destroys any possible future for humans and non-humans alike. It is, therefore, a force of “defuturing”. This system has to be destroyed and we as humanity have to redesign ourselves by redesigning the things that surround us. This radical redesign encompasses this new form of design-politics: the ontological designed “dictatorship of sustainment” (ibid., p.131). This is brought about “by the design of things (material and socio-political) rather than by force”, Fry argues. “Our ‘becoming otherwise’ is a matter of ontological change. It is a question of changing the ways things are” (ibid., pp.110-111).

The fundamental change by design as well as the dictatorship of sustainment, however, is not one of unfreedom, not a “grey regime of authoritarian uniformity” (ibid). The dictatorship of sustainment alone is the basis on which there can be real difference and not merely a false liberal pluralism that would prevent real difference by neutralizing it through commodification, economic exclusion, or violence justified by national security. Likewise, it must be clear that there will be limits and boundaries to production and design but: “these would be based on empirically confirmed common interests” (ibid., p.214). The ‘futuring’ of the ontologically designed ‘dictatorship of sustainment’ would be a more radical form of politics, a more consistent decision-making, than the current deliberative democracy would allow. However, this is still based on decisions in the spirit of the common good, as long as these are within the framework of sustainability. This dictatorship through design would again be a dictatorship of true design philanthropists and invisible experts.

Recent political events, as well as the continuing resistance of climate sceptics who invoke the plurality of differing opinions on this issue, seem to support the importance of Fry's radical call for design as politics. Only radical change and ontological design seem to be able to prevent this radical crisis from turning into a disaster. But who are the ones to decide the radical course of action? Who are the invisible experts, that will dictate design as politics? The concept of a designed dictatorship of sustainment contains all the megalomania that designers are capable of. Fry's proposal to finally overcome modernity, which he accuses of a totalization of all areas of life, unsustainability, and a creative impetus of boundless growth and boundless (superficial) design, falls short of his own criticism when he wants to replace the modern totalitarianism with a new, sustainable one. ‘Sustainment’ and ‘Enlightenment’ are not as different as Fry wants us to believe. We would switch from one essentialist understanding of design to another. In the end, what's eliminated is any debate about what's to be done. Design as politics eliminates politics.

So, what do we do now? I am again sitting in my room staring out the window and in the days that this paper took to write the situation of our planet has probably gotten worse. It has probably gotten worse to the time you are reading this. There's no great festival to be found anywhere. Not a single problem has been solved and I doubt that design was ever able to do that in the first place. Still, I won't let go of the optimism I feel towards designs' inherent potentials. But they are very different from what Fry imagines them to be. We have to think of design differently. Design won't fundamentally change the world. But it doesn't have to. In design, we are neither dealing with a process of neutral problem solving nor with a construction of human nature, that always changes society as a whole. Designing is a decision-making process. Particular, contingent decisions, that demonstrate the possibility of being otherwise. Design is the stage on which meaningful differences can appear and questions about the conditions of our living environment can be negotiated. We have to acknowledge the aesthetic dimension of design if we want to conceptualize a debatable design for the common good. We have to defend design's artificiality against any essentialist understanding of design, in which everything is predetermined, and nothing has to be debated anymore. In its character as a proposal to which there must always be alternatives lies the special potential of design. Design persuasively shows us that things could be otherwise—in many different ways. Its world-making potential is one of many different worlds, a pluriversal one (Escobar, 2018). Like the philosopher Juliane Rebenitsch highlights in regard to the paradox of the legislator that Rousseau faces, "the general will [...] turns out to be the fiction of the legislator. It exists [...] only in and by virtue of the performative momentum of its representation" (Rebenitsch, 213). In reference to Jacques Derrida Rebenitsch emphasizes the rhetoric, public and aesthetic dimension of any speech act that submits itself to the laws of giving reason(s). This is not like Tony Fry would have it a weakness of democracy however, but it's strength:

"The antidote to [...] and irreducible presumption of authority at the founding moment [...] of democratic societies, consist not in denying this presumption, but in staging it publicly." (Ibid.)

Democratic Societies are "theatrocracies" by nature, meaning that politics and ethics cannot be separated from an aesthetic dimension, for "a democracy that has become immune to the aestheticizing transformation of its own ethical-political self-understanding would no longer be a democracy" (Rebenitsch, 2016, p.259).

In the end, what role remains for design to avert the impending climate catastrophe? Especially climate sceptics and reactionary forces seem to play out the crisis of objectivity in a fabulous way. But what they are missing is a fundamental relationality that Latour describes. After all, climate change sceptics don't articulate their

scepticism as a contribution to an open discussion, but rather as a way of preventing any debate by trivializing their opponents. In doing so, their alternative facts want to remove themselves from any contestation or dispute and to eliminate the relationality of truth-finding altogether. In defending a definition of the common good that is debatable and staged by design, design needs to do the opposite. It needs to articulate different proposals and make a new world seem possible—not enforce it. Because our being human is being together with others, connecting and communicating is design's primary task. Like the pioneer of product language Jochen Gros put it: If the "material basis of society changes - as is currently the case due to the ecological crisis - then not only the opportunity but even the necessity arises" for design to formulate new proposals and to bring significant and effective differences to the public and society (Gros, 1974).

References

- Escobar, Arturo (2018): Design for the Pluriverse. Radical Interdependency, Autonomy, and the Making of Worlds, Durham, London: Duke University Press.
- Dorst, Kees (2006): "Design Problems and Design Paradoxes", in: Design Issues. Vol. 22, pp.4-17.
- Fry, Tony (2011): Design as Politics, Oxford: Berg.
- Gros, Jochen (1974): "Des-In: Weniger Konsum durch mehr Sinnlichkeit" [Des-In: Less consumption through more sensuality], quoted after: Schwer, Thilo (2014): Produktsprachen. Design zwischen Unikat und Industrieprodukt [Product languages. Design between unique and industrial product], Bielefeld: Transcript.
- Latour, Bruno (1996): "On Actor-network Theory. A few Clarifications", in: Soziale Welt 47, Heft 4, pp.369-382.
- (2004): Politics of Nature, Cambridge, MA., London: Harvard University Press.
- ; Weibel, Peter (2005): Making Things Public, Cambridge, MA.: MIT Press.
- (2011): "A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)", in: Schinkel, Willem; Noordegraaf-Eelens, Liesbeth (Ed.): In Media Res. Peter's Sloterdijk's Spherological Poetics of Being, Amsterdam: Amsterdam University Press, pp.151-165.
- Mareis, Claudia (2011): Design als Wissenskultur: Interferenzen zwischen Design und Wissensdiskursen seit 1960 [Design as Knowledge Culture: Interferences between Design and Knowledge Discourses since 1960], Bielefeld: Transcript.
- Rebentisch, Juliane (2016): The Art of Freedom: On the Dialectics of Democratic Existence, Cambridge, Malden: Polity Press.
- Rittel, Horst; Webber, Melvin (1973): "Dilemmas of a General Theory of Planning", in: Policy Sciences 4, pp.155-169.
- Rousseau, Jean-Jacques (1960): "Letter to M. D'Alembert on the theater," in: Politics and the Arts, Glencore: The Free Press.
- (1994): Discourse on Inequality, Oxford: Oxford University Press.
- (1999): Discourse on Political Economy and The Social Contract, Oxford: Oxford University Press.
- Simon, Herbert (1996): The Science of the Artificial, Cambridge, MA.: MIT Press.
- Wehrspohn, Ralf (2017): "Leitprojekt ›Kritikalität Seltener Erden‹ [Lead project 'Criticality of rare earths'], in: Ressourceneffizienz, Berlin, Heidelberg, pp.303-321..

Design For Public Thinking

Keywords: Public thinking, Collaborative Action Research, Design methodology, Deliberation, Common Good.

Youngbok Hong^{a*}

^a*Herron School of Art and Design
Indiana University-Purdue
University Indianapolis*
^{*}*youhong@iu.edu*

Is wearing a mask a common good? The simple act of wearing a mask during the Covid-19 pandemic has starkly revealed the pluralistic nature of the society we live in on a global scale. This unprecedented situation forces us to confront an array of questions: what we regard as a common good, when and how we act upon it. Although these questions have been extensively discussed from various theoretical points of view in the realms of philosophy, political science, and economics, we still remain divided upon agreement and acting on common good. In an effort to contribute to advancing the discourse and practice of common good, this paper discusses why and how Design can be an alternative methodology for Public Thinking by sharing the methodological framework. The introduced framework has been developed for curriculum development, applied to numerous problems and proven its validity in collaborative problem-solving contexts.

1 Introduction

On December 2, 2020, NBC news reported 13,973,669 confirmed cases and 273,827 of total fatalities due to the coronavirus, meaning that Americans are dying about every 35 seconds (Williams, 2020). Despite the severity of the situation, we are still divided on wearing a mask. Why do people ignore or refuse to accept this tragic fact and not act upon it?

1.1 Flaws in the Way we Reason

The split on wearing a mask during the Covid-19 pandemic sums up the flaws of the way we reason as a society. The dichotomous view between public health and individual choice has polarized the act of wearing a mask. The emphasis on the scientific reason for wearing a mask has divided people between those who are seemingly rational and those who are not. Instead of cultivating public deliberation in recognizing the meanings of the Covid-19 pandemic as a social phenomenon and exploring appropriate acts at the individual and community level, this argumentative discourse has forced us to choose to wear a mask. Although we live in a pluralistic society, the way we reason has been rather monolithic by established ideologies or a narrowly defined concept of rationality.

1.2 Absence of Social Space and Public Thinking

The meanings of the Covid-19 pandemic lie in a wide spectrum of contexts. For healthcare workers, the Covid-19 pandemic means the staggering loss of patients' lives. For others, it means losing their job and the means to feed families. We act upon based on a personalized meaning of reality. Some people can understand reality in a larger context beyond where they are individually situated. Some don't or can't. In order to establish the act of wearing a mask as a common good, we should have a proper "public sphere" (Habermas, 1962) and a deliberative process for sensemaking in which people can connect individual meanings of the pandemic, define shared meanings of Common Good, and act appropriately.

We live in a media-saturated world, especially since the rise of social media. People can easily create a social space reflecting individual values and perspectives. However, it seems we haven't found a space for public deliberation yet, or are not capable of doing it. The survey (Anderson & Rainie, 2020) presents the patterns of how social media-abetted tribalism has weakened deliberative public discourse as well as the capacity of it. The selected patterns are: Empowering the powerful: Exploiting digital illiteracy: Waging info-wars: Sowing confusion.

2 Design as the Methodology for Public Thinking

After all, can we ever act upon a common good if it falls beyond an individually perceived reality? What would the alternative reasoning process look like that helps people think and act on a common good collaboratively? What is needed for people to create a social space for deliberation where they are situated? Can Design contribute to understanding and practicing the Common Good?

The paper discusses the methodology developed for responding to these questions. A methodology is a logical choice based on the aim of inquiry, the nature of the subject of inquiring, and the role of the inquirer. It is necessary to cover the foundational concepts so that the paper is structured as follows: The Nature of the Common Good, People's Roles in the Deliberation, and Collaborative Action Research in Design for Public Thinking.

2.1 The Nature of The Common Good

What constitutes the Common Good? The Common Good refers to “the benefit or interests of all.” (Oxford University Press, n.d.) For further articulation, we need to pay attention to the concept of “all”. In the article of The Common Good (Hussain., 2018), the term “common good” means “the interests that members have in common or to the facilities that serve common interests”. I have synthesized these definitions so that the Common Good is something regarded as good in common by a group of people with a shared value perspective. The Common Good is about the meaning of goodness associated with the concept of Phronesis. Phronesis is often translated as “prudence” or “practical common sense.” (Flyvbjerg, 2001) The Common Good concerns good judgment toward action.

Is the Common Good the appropriate subject on the continuum of design inquiry? From its origin, Design has evolved with creating forms that contain cultural meanings. *Vormgever*, the Dutch word for designer, concisely captures the ontological aspect of Design, giving a form to abstract, invisible meanings that are significant to people in operating life. Regardless of what kind of forms they produce, it has been inevitable for designers to understand what people perceive as meaningful and make a design decision accordingly. Market research, usability, and Design Thinking are the names of the efforts to understand *meanings* valued by people. The focus and scope of understanding of the subject have evolved from functional meanings (is this chair comfortable?) to the experiential ones (is this experience meaningful?) according to societal changes. In this sense, the Design discipline has pursued the Common Good as the core subject of knowing, and contributed to producing value-based normative knowledge with forms of artifacts. However, the purpose of design inquiry has mainly been geared towards making useful artifacts. Consequently, its reasoning process and cultural knowledge has been confined with making artifacts and its effectiveness to be used. What if we expand the aim of inquiry to intervene with Public Thinking? A series of questions arise such as: what does the design reasoning process look like? What could be an alternative role of making artifacts in this inquiry process? What could be the forms of normative knowledge generated from this process? The introduced methodology is an attempt to answer these questions.

2.2 People's Roles in the Deliberation

Knowing what is regarded as the common good is a point of departure of action. People possess the meaning of it. Thus, it is inevitable for people to be a part of the deliberation process in analyzing the meanings and values of the common good in context. It is assumed that the Sustainable Development Goals emphasize the need for co-creation and co-design following this line of thought.

Webder (1949, p.81) noted, "We are cultural beings, endowed with the capacity and the will to take a deliberate attitude towards the world and to lend it significance." Despite the long-standing belief in human capacity and numerous theoretical and practical efforts in forming public thinking, the role of people in the discourse of the Common Good does not seem to have progressed enough. How we managed the act of wearing a mask during the pandemic is a compelling example of it. Active public thinking and practice in the Common Good have disappeared amidst the argumentative discourse. How can we restore the critical role of people in deliberating the Common Good? Where is the disconnect between a theoretical understanding of the Common Good and its practice?

The dominant cultural value on fact-based empirical knowledge has marginalized other sources and forms of knowledge. A story is one of them. In reflecting a point of view, it is the most natural way people perceive and exchange meanings of the reality they live. However, stories with context-dependent qualities with a subjective perspective are not regarded as a legitimate source of knowledge from the perspective of scientific objectivity. In order to make the Common Good such as no poverty to be meaningful for people to take action, we should count diverse sources helpful for their reflective understanding of reality.

The idiosyncratic nature of Common Good demands more than analytical thinking in reasoning. Deliberation is the process that includes recognizing, analyzing, interpreting, and conceptualizing contextual meanings. The employment of multiple thinking skills, including empathy, is critical for people to perform a deliberative reasoning process.

In this paper, an alternative approach is presented, which recognizes the pluralistic values of data and utilizes human capacity in making meanings. Thus, we can access the rich meanings of reality and perform reasoned acts accordingly.

3 Collaborative Action Research in Design for Public Thinking

The Collaborative Action Research in Design (CARD) is originally the name of the course that the author has taught. It is a core requirement of the graduate program offered at the Visual Communication Design department at Herron School of Art and Design. The author has sought a proper framework that reflects the nature of the study in the course as well as the concept of the graduate program. As the graduate program director, the author led the de-

velopment of the framework in working with the faculty in the department. The transferability of the framework serves each faculty member to use it with different goals.

CARD as the methodology is adapted from the program framework and named after the author's action research course. CARD is used for public thinking in deliberating the Common Good. It aims to provide a procedural framework for people to understand and practice the Common Good. In parallel, it is intended to serve design researchers to create methodological interventions for public thinking. CARD is the result of experimenting with and testing numerous theoretical models in the areas of action research and design. It has been continuously refined for over a decade in real world problem-solving contexts in and out of the classroom. The following section provides an analytical review of the methodology based on the author's extensive experience with using it.

3.1 Concepts

3.1.1 From an Idea to an Act through Making Meaning

CARD consists of three key concepts: Collaboration, Action Research, and Design. In developing CARD, the author used Action Research with its comparable traits to articulate and conceptualize the methodology. Action Research, coined by Kurt Lewin, seeks transformative change through taking action which is informed by research. In developing CARD, the author took a stance of design by adopting Herbert Simon's definition of design: "aimed at changing existing situations into preferred ones." Both are motivated by the utility of knowledge following pragmatism that "emphasizes the practical function of knowledge as an instrument for adapting to reality and controlling it" (Thayer & Rosenthal, 2020). Thus, both tend to take a critical stance to look at reality and a problem-driven approach for improvement.

The diagram below presents a thought process in developing the concept of CARD. Step 1 shows the schematic models defining the core concept of design from the faculty's perspective. Step 2 presents the chosen model. The circle with an arrow implies the ultimate aim of inquiry, transforming an abstract idea into action for change. The colors added in Step 3 indicate the relationship between an idea situated in reality and action occurring in the future. Step 4 presents the process activities to make change happen: Understand, Define, Ideate, Prototype, Evaluate, Plan, and Act.

An abstract idea can be anything from a product to social action. For an abstract idea to be transformed into an actionable entity, it should go through the process of deliberating its goodness within an interest group.

Many design-oriented approaches embark its process with a predefined solution framework imposed by the implementor's

point of view. CARD views the process as an open-ended inquiry that enables people to unfold meanings of the goodness of an idea, conceptualizes the Common Good from those, thus, define reasoned acts individually and collectively. An act is broader than a solution. It can be awareness, agreement, plan as well as production. CARD aims to be a transferable methodology of making meaning which is applicable across sectors.

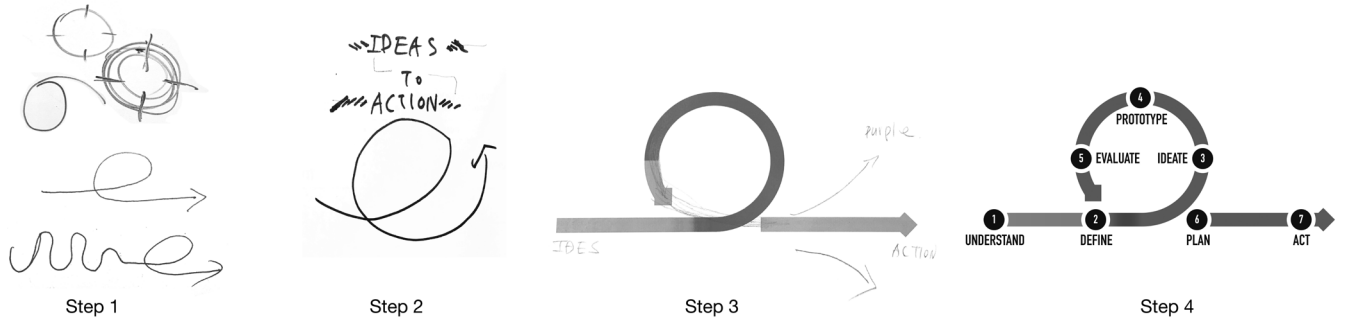


Fig. 1: Thought process in developing the Collaborative Action Research in Design methodology, from left to right.

3.1.2 From Practice to Experience

Many action research models embody the cyclic or spiral nature of taking action, doing research, and conducting reflection through the lens of the practitioner. For Kemmis and McTaggart, the action research process consists of Plan, Act and Observe, and Reflect. Ernie Stringer's model- Look, Think, Act- has a different starting point but shares the same concept. Action Research is led by practitioners to improve their own practices, closely related to the notion of reflective practice coined by Donald Schön (1983). It is a self-reflective process with systematic data collection. A practitioner's perspective governs the research activities.

CARD approaches action research as collaborative sensemaking or reflective process for everyone owning a stake in the chosen situation. While Action Research focuses on practitioners and their practice, CARD values the people-centered approach that provides a larger framework to understand reality. The people-centered approach takes people's experience as a baseline of the inquiry process. In the dimension of experience, there are people receiving experience and those providing it: students' educational experience vs. teacher's teaching practice. Although a teacher's teaching practice is the pivotal element that composes students' experience, it is one of the factors in operating educational experience.

Taking a people-centered perspective provides multiple benefits in changing an existing situation for the better.

- Enable practitioners to reflect their practices holistically in relationship with other influencing factors
- Provide a coherent perspective in collaboration with other practitioners and researchers who bring their professional or disciplinary perspectives
- Strategically implement interventions in leveraging points of action embedded in the situation
- Empower people who own the experience to be a change agent with concrete action aligned with their context

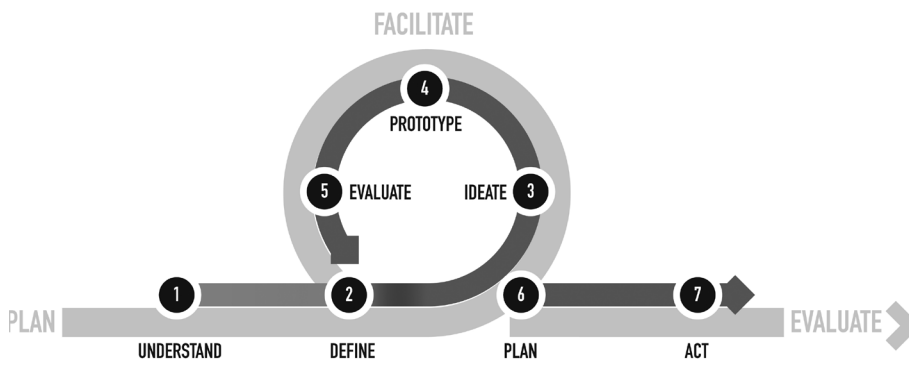
The value of Action Research for people is widely accepted. Adelman (1993) states, "Action research gives credence to the development of powers of reflective thought, discussion, decision and action by ordinary people participating in collective research on "private troubles" (Wright Mills, 1959) that they have in common". However, there is a gap between the value of collaborative action research and the implementation of it. It is noted by Waters Adams (1994), "although there is much discussion of why it is important, there is often very little recognition of how it is supposed to develop." The discourse of collaboration in Action Research mainly covers the relationships between researchers and practitioners or among practitioners. Much of the literature on how to conduct collaborative action research also serves practitioners.

Expanding the scope of collaboration from practitioners to stakeholders who have a personal interest or involvement in the chosen situation, questions remain: Who are the people in the people-centered approach? What are the roles of researchers, practitioners, and people in a collaborative endeavor? How is this concept different from participatory action research? Is this legitimate research, not a problem-solving practice? The next section answers these questions by explaining CARD in detail.

While Action Research processes reflect a practitioner's perspective, CARD carries two perspectives, as shown in the diagram below. The inner-circle represents the reflective thinking process conducted by participants, and the outer circle is where researchers or practitioners design conditions of the thought process. This framework serves as a way of thinking for participants to deliberate a situational problem and act for change collectively. In parallel, it serves as a methodological framework for researchers to investigate underlying patterns of experiences and meanings revealed from the inner circle.

3.2 Collaboration through the Sensemaking Process

Fig. 2: *The Collaborative Action in Research Methodology model.*



The researcher's roles are mainly divided into Plan, Facilitate, and Evaluate.

CARD benefits from systematic and critical planning. It is a researcher's responsibility to define the following components.

People as participants: CARD always starts with the perceived human problem situated in a particular situation. It is initiated either by a researcher or a community organization as a collaborator that represents a group of people. In identifying and recruiting people, CARD applies the following definition. People in CARD mean those who are situated in the chosen particular situation, operate everyday life with a certain capacity linked with social conditions embedded in that situation, and have a stake in potential changes. This definition serves as criteria to secure diverse perspectives from operative to receptive. There are various logical challenges to access those perspectives due to the lack of infrastructure and protocols depending on sectors. This topic, implying the cultural barriers to the notion of research, requires further discussion next time.

A shared purpose: CARD requires a shared purpose between both researchers and collaborators. A researcher should have an explicit purpose of producing a positive change or valuable outcomes for collaborators. Collaborators should be aware that action research is a process-oriented activity involving learning and understanding. Being specific about the objectives and scope of change clarifies mutual expectations, along with the process of engagement.

Researchers are listeners, documenters, and communicators in the CARD. A researcher's facilitative role involves designing methods and tools, documenting and analyzing data, and communicating process data with people throughout the process. The facilitative role with an emphasis on communication might be the most distinguished aspect of the CARD. The details of this role will be discussed in the next section.

Evaluation is continuous and internal in the CARD as it is in Action Research. Besides, the open-ended inquiry of the CARD doesn't yield an act as the definite result. Depending on the purpose of the inquiry, results are various from clarifying meanings to developing intervention. The researcher's role is to facilitate conversation among participants, define the evaluation purpose, and formulate the evaluation frameworks. Guthrie et al. (2013) emphasizes that the purpose of the evaluation has to be clear from the outset.

People are essential in the CARD. They bring lived experience and provide perspectives that allow researchers to access the contextual meanings of the phenomena. Meanwhile, participants utilize the thought process to deliberate the existing situation and anticipate their acts for improvement. With a researcher's facilitation along with the methods and tools, this is the thought process participant will conduct:

- UNDERSTAND participants directly or indirectly describe the current experiences and examine the meanings of it in light of the perceived problem collectively. By doing so, they expand the individually perceived reality into a larger context and reconfigure meanings of personal experience.
- DEFINE Participants identify patterns of meaning, understand the relationships among them, choose the most inclusive, significant and impactful one (common good) to improve the existing condition.
- IDEATE + PROTOTYPE + EVALUATE Based on the chosen meaningful problem, participants ideate potential acts. Through the iterative process, participants conceptualize and decide on acts for improvement.
- PLAN Participants examine the employment of the chosen act in reality through the planning process.
- ACT Participants individually or collectively take action. In completing this stage, participants are expected to be able to conduct the reflective thought process.

3.3 Methodological Characteristics

In order to restore the critical role of people in deliberating the Common Good and bridge the disconnection between a theoretical understanding of the Common Good and its practice, the CARD adopts a people-centered approach. The following are specific characteristics of it.

3.3.1 A People-Centered Perspective

The pluralistic society has necessitated collaboration. Collaboration is often regarded as soft skills, including attitude toward teamwork, and interpersonal communication skills. Seeking a shared meaning of goodness (common good), CARD approaches collaboration from a cognitive perspective by providing a shared mental model for participants to systematically reflect their experience.

3.3.2 Leverage of Human Capacity

As discussed above, deliberation is the process that includes recognizing, analyzing, interpreting, and conceptualizing contextual meanings. Due to the influence of natural science tradition, we have had a limited approach to employ human capacity in reasoning. Analytical thinking with rational and objective methodology has been regarded as the only legitimate way to reason. The CARD activates multiple human capacities that people already use in operating daily life. Each activity is designed and facilitated for leveraging intended capacities: empathic sensitivity to understand others, analytical thinking for the part and whole relationship, critical thinking to make connections, creative thinking to uncover hidden meaning or perspectives, etc.

3.3.3 Sensemaking

The CARD following pragmatism relies on lived experience and evidence as a basis for interpretation. It starts with fact-based understanding. After then, it invites people to reference various data types such as memories, stories, theories in interpreting patterns of meanings. It is the activity recognizing the pluralistic value of data for reflective deliberation.

The CARD structures a sensemaking process as collective coding beyond affinity mapping for securing a rigorous analysis. Urquhart et al. (2016) describe that “sense-making/sensemaking are terms commonly understood as the processes through which people interpret and give meaning to their experiences.” Its process actively utilizes categorical thinking in identifying and conceptualizing the Common Good. In the collective sensemaking process, participants recognize, adjust, and reconceptualize their meanings in a larger network of meanings. The collective, interpretative, participatory aspects of sensemaking are the core character defining CARD.

3.3.4 Visuals for Thinking

The CARD is the cyclic process of looking and thinking. Participants commence the process by looking at the situation. Mapping process informs participant patterns of meanings and values that operate in everyday life within the shared social conditions. In repeating this process, participants expand a horizon of understanding reality, and formulate an idea of the reasoned act.

The alternative roles of making artifacts are found here. The importance of the visual is increasingly significant in participant engagement with development research and practice. The ability to catch and employ the nuanced meaning of visual languages is instrumental in humanizing the entire engagement process. It enhances data collection, data organization, and communication as well as mutual understanding between researchers and participants. The CARD uses visual communication design as a method of conducting the people-centered inquiry.

4 Conclusion and Outlook

The author views the debate of wearing a mask comes from the absence of self-reflection in our culture. Despite people's capacity for deliberation, the current society has created a culture of public thinking, which is argumentative, fast, and output-driven. The focus of the CARD is to tap people's latent minds by proposing a way of thinking. Living in a pluralistic world, we never reach an agreement to define a common good and act upon it with an expert-driven, one common good approach. The CARD provides a methodological framework for collective sensemaking that enables people to unfold meanings, conceptualize the meaning of the Common Good, and formulate reasoned acts accordingly.

The author has used the CARD in various contexts, including healthcare research, community development, and product innovation. The methodology has consistently proved its validity. The CARD is not a new thing for people to learn. Its visibility of the mental model helps people systematically organize their stories, and articulate their point of view for making things better in a collaborative context. In the sense that the CARD provides the method and tools for people to construct their meanings, it contributes to creating democratic engagement for collaboration.

This paper mainly focuses on the CARD as a situational inquiry for participants due to the scope of the paper. The next step is to work on the research aspect of the CARD. In terms of analyzing the CARD for knowledge production, the author needs to survey current design discourse on the subject of the system. Buchanan's notion of the Four Orders of Design (2001a) discusses the evolution of design around complexity levels and scope of influence. The four orders are: Communication & Symbols, Objects Or Artifacts, Interaction and Experience, and System. The adoption of the Common Good as the subject of inquiry is directly related to the fourth order. The complexity of the concept requires Design to acknowledge and connect with the rich knowledge in social science and humanities. Based on the current version of the CARD, the author looks forward to further investigating conceptual connections with philosophical and social science theories and examining the design discourse.

References

- Adelman, C. (1993) Kurt Lewin and the Origins of Action Research, *Educational Action Research*, 1:1, 7-24, DOI: 10.1080/0965079930010102
- Anderson, J., & Rainie, L. (2020). Concerns about democracy in the digital age. In Pew Research Center, from www.pewresearch.org/internet/2020/02/21/concerns-about-democracy-in-the-digital-age/
- Frey, B. (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation* (Vols. 1-4). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781506326139
- Flyvbjerg, B.(2001). *Making Social Science Matter*, Cambridge University Press
- Guthrie, S., Wamae, W., Diepeveen, S., Wooding, S., Grant, J. (2013). *Measuring research: A guide to research evaluation frameworks and tools* (Report prepared for RAND Europe). Retrieved from https://www.rand.org/pubs/reports/2013/04/Measuring_Research_A_Guide_to_Research_Evaluation_Frameworks_and_Tools.html
- Hab Goldkuhl, G. (2013). *Action Research VS. DESIGN Research: Using Practice Research as a Lens for Comparison and Integration*. Retrieved from https://www.researchgate.net/publication/261111111_Action_Research_VS._DESIGN_Research_Using_Practice_Research_as_a_Lens_for_Comparison_and_Integration
- Habermas, J.(1989 [1962]). *The structural transformation of the public sphere: An inquiry into a category of bourgeois society*. Cambridge, MA: MIT.
- Hussain,W. (2018). *The Common good*. In *Stanford Encyclopedia of Philosophy*. Retrieved December 2, 2020, from <https://plato.stanford.edu/entries/common-good>
- Kant, I. (1998). *Critique of pure reason*, Cambridge University Press, New York.
- Kompridis, N. (2000). So We Need Something Else for Reason to Mean. *International Journal of Philosophical Studies*. 8(3): 271–295. doi:10.1080/096725500750039282. S2CID 171038942.
- Oxford University Press. (n.d.). *The Common good*. In *Oxford Advanced Learner's Dictionary*. Retrieved December 2, 2020, from www.oxfordlearnersdictionaries.com/us/definition/academic/common1#common1__223
- Ozumba, G. O., Ukah, M. E, Mendie, P. J, & Udofia, C. A. (2017). *Critical essays on postmodernism*. Makurdi - Benue State: Mikro Ticha & Associates
- Rawls, J. (1971 [1999]). *A Theory of Justice*, Cambridge, MA: Harvard University Press.
- Salkind, N. J. (2010). *Encyclopedia of research design* (Vols. 1-0). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288
- Stringer, E.T. (1996). *Action research: A handbook for practitioners*. Thousand Oaks, CA: Sage Publications.
- Smith, M. K. (1996; 2001, 2007, 2017) *What is action research and how do we do it?*, *The encyclopedia of pedagogy and informal education*. <https://infed.org/mobi/action-research>
- Swann, C. (2002) *Action Research and the Practice of Design*, "in *Design Issues*, vol. 18, no. 1, pp. 49-61, doi: 10.1162/07479360252756287.
- Thayer , H.S., & Rosenthal, S.B . (2020). *Pragmatism*. *Encyclopedia Britannica*. www.britannica.com/topic/pragmatism-philosophy
- Urquhart, C., Lam, L.M.C., Cheuk, B., Dervin, B. (2016). *Sense-Making/Sensemaking*. *obo in Communication*. doi: 10.1093/obo/9780199756841-0112
- Waters Adams, S. (1994). *Collaboration and Action Research: a cautionary tale*, *Educational Action Research*, 2:2, 195-210, DOI: 10.1080/096507994002020
- Weber, M., & Shiels, E. (1949). *Max Weber on the methodology of the social sciences*. [1st ed.] Glencoe, Ill.: Free Press.
- Williams. (2020). *As Covid Rages, Trump Rages About The Election For 46 Minutes* [Video]. YouTube. https://www.youtube.com/watch?v=-ysN5Dudtt4&ab_channel=MSNBC

Acknowledgements

I thank Christopher, Eva, Pamela, Helen, Gurkan, and Aaron for being my thought partner. Also, my deepest gratitude goes to my friends from the Public Scholarship Community, Julie, Mary, David, Jason, Kristi, Ross, Katie, and Ellie.

Designing Beyond the Common Good – an Evolutionary Process between Speculation and Reality

Keywords: Beyond Common Good, Design Practice, Mediating Plurality, Interactive Social Research, Evolutionary Design, Ambiguity, Appropriation, Speculative Design.

Dustin Jessen^{ab*},
Simon Meienberg^{cd**}

^aFolkwang University of the Arts

^bWuppertal Institute for Climate,
Environment and Energy

^cUniversity of Cologne,
Institute of Ethnology

^dKöln International
School of Design (KISD)

*dustin.jessen@folkwang-uni.de

**simon.meienberg@gmail.com

To what extent can designers direct their professional practices towards serving the common good? Design constitutes itself anew with every project. Each project is both conditioned and made possible through a unique constellation of actors, timeframes, objectives, skills, etc. which arise from both social values and political agendas. We discuss the different approaches of two selected design projects by the authors, and the respective strategies and methods. While the designers' ambition in both projects was certainly to change an existing situation into a preferred one – the first by the means of interactive user engagement, the second through the idea of semi-finished product semantics – we emphasize on the challenges and ambiguities arising from the evolutionary process of design, aiming at the common good. Eventually we conclude that design processes can serve as a tool to *debate* rather than *create* the common good.

1 Introduction

While hardly any designer would claim not to be concerned about the common good, very few seem to declare it as an essential objective of their design agenda; and it is to be questioned whether this circumstance can actually be considered a negligence of social responsibility. Communicating to direct one's work towards the common good is one thing, trying to 'realise' the common good through design is another. Either way a certain restraint and modesty might be appropriate. While Paola Antonelli once demanded that designers should just like doctors take a Hippocratic Oath (Antonelli, 2013) as a promise to serve humanity, designers might break that vow upon picking up a pencil. The manifold factors and circumstances that constitute a professional design project also frame a scope of action, within which a designer has to learn to navigate. Thrown in a landscape of obstacles, it is due to the designer's experience, ability and vision which ways are found to speculate, negotiate and form alliances throughout the process, and by that reshape the initial scope of action. Therefore, making 'wicked problems' (Rittel et al., 2012), such as the common good, social justice or sustainability, a design objective is a complex matter. We would like to argue that it is a misconception of both design as well as democratic processes that something like a common good exists as a unifiable goal, or that it might arise from common sense and shared values. Rather than trying to satisfy one's need for harmony, finding ways of dealing with the inevitable ambiguities (Bauer, 2018) and conflicts of interest that most likely occur during design processes becomes a necessity in both design and public decision-making.

2 Two Approaches

In the following, we will share insights into two design projects. The selected projects differ in terms of actor constellation, cultural context, objectives, methods, timeframe and levels of user engagement. While neither had the common good as its declared goal, in both cases it was certainly the designers' ambition to devise „courses of action aimed at changing existing situations into preferred ones“ (Simon, 1981, p.129). As designers we always find ourselves trapped between the hope that our interventions will lead to some kind of betterment and the awareness that we always change more than we seek to change. In the following, we will show that the initial framings that made the two projects possible, in each case have led to unique design approaches and ways of reasoning. However, the here presented approaches are neither dichotomous nor complementary to each other. They should rather be seen as part of a pluralism of approaches that characterises design as a profession. Although the selection of the two projects may seem eclectic, it is no less arbitrary than the variety of projects designers encounter in their everyday professional reality.

Making design decisions explicit and reflecting on the forces that shape design processes and their outcome – “which can only be supplied by the primary designer” (Agnew, 1993, p.129) is impor-

tant in order to establish a deeper understanding of design as a professional activity. However, “[t]here is seldom much meaningful documentation and therefore little evidence of the deeper objectives of the design or the many and complex ways it is connected to its operational and economic environment” (Agnew, 1993, p.121). The two projects, which are both described from a personal perspective as they originate from the author’s design practices, reveal the complex interdependencies between what conditions design and what can be designed. At first, Simon Meienberg will elaborate on the potential and consequences of participatory design and interactive user engagement within the project *Redesigning Migration Information Centres in The Gambia*. Subsequently, Dustin Jessen will reflect on the evolutionary process of *Designing a Table Trestle for the Folkwang University of the Arts*. This will be followed by a discussion on the general observations that can be drawn from these two design projects about design as a profession, and its potential to deal with the abstract concept of the common good.

2.1 Redesigning Migration Information Centres in The Gambia

Designers:	Simon Magnfält & Simon Meienberg
Project duration:	August 2019 – December 2020, ongoing renovation until January 2021
Places:	Soma and Basse, The Gambia
Commissioned by:	International Organization for Migration (IOM) National Youth Council of The Gambia (NYC)

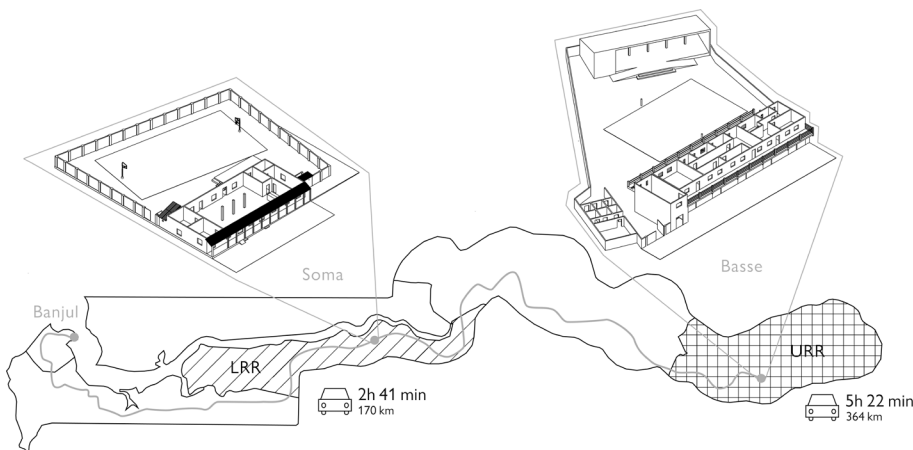


Fig. 1: The location and spaces of the two youth centres in Soma (left) and Basse (right).



At the beginning of 2019, IOM partnered with the Gambian National Youth Council (NYC) to create Migration Information Centres (MIC) within existing youth centres over the country. The idea behind creating these MICs is to empower young Gambians to make better-informed migration decisions and to advocate returned migrants for safe migration alternatives. At the MICs, staff answers questions of young people regarding migration while raising awareness among communities on irregular migration as well as existing reintegration mechanisms for returnees (Meienberg & Putteman, 2019, p.3).

From August to September 2019, I was commissioned as a design consultant by IOM The Gambia to explore new ways to promote safe migration within the EU-IOM pilot project *Redesigning Migration Information Centres in The Gambia* (fig.1). In order to capture an integrated picture of the complex processes, forces and environments at play, I opted for a Mixed Methods Design (Pole, 2007) with elements of Participatory Action Research (Fals-Borda, 1987, p.330). The four weeks of human-centred design research at two youth centres in the cities of Soma and Basse consisted of four phases and small-scale interventions that had a youth takeover at its core. The main research objective was the creation of an in-depth analysis of the challenges of the local youth and their needs and aspirations. This was complemented by uncovering and tracing local potential and knowledge, by identifying pull factors and local resources and, finally, by developing, co-creating and testing small-scale interventions with the youth at the MICs. Research activities included daily interactions, mapping of local dynamics and surroundings, and observational learning (Meienberg & Putteman, 2019, p.7).



Fig. 2: Young Gambians drawing their future vision for the MIC in Soma.

Prototyping and testing ideas with young Gambians allowed us to identify inter-locking processes between different socialities and spaces. Finally, we summarised our findings within 20 speculative future scenarios for the redesign of the socio-spatial entanglement at the MICs (fig.2). Subsequently, they served as a tool, a common ground for discussion between IOM and NYC. In January 2020, after several months of negotiation, they gave green light to enter the development phase of selected scenarios.

In the follow up, I partnered with Simon Magnfält, a local architect who had prior experience in building with sustainable resources and vernacular architecture. Together we tried to set-up an interactive user engagement driven design process, which would enable us to work closely with local builders, artisans and youth to transcend ideas into reality (fig.3). “This is particularly important when faced with the complexity that sustainability challenges present, which requires analytical and normative input from diverse actors” (Talwar et al., 2011, p.382).



Fig. 3: *Jointly inquiring the wishes and needs of youth at the youth centre in Basse.*

As designers, our main challenge was to frame, manage and facilitate interactive decision-making processes among the different actors involved. Unlike Unidirectional Social Research (USR), which is characterized by one-way communication with the main objective of information extraction or decision support, our form of Interactive Social Research (ISR) was structured around the components of dialogue, joint building and mutual learning. Thus, our user engagement enabled two-way exchange in order “for the users [to] become integral to the shaping and execution of the research” (Talwar et al., 2011, p.382).

When we first introduced our vision of building together with the local community, we hardly met any opposition. There was a shared excitement about the involvement of youth and communi-

ties in the design process. Upon further inquiry, however, we encountered a variety of contrasting ideas, motivations and objectives behind the facade of common understanding. While the main goal of IOM was to promote safe migration at the MICs, the youth aimed for having a safe space, a place to play, discuss and study and express their creativity. The NYC was foregrounding the importance of revenue making through a business approach. Whereas, the local basketball team would like to see the court behind the building renovated to host tournaments.

While each of these perspectives would possibly add value to the youth centres, we felt that prioritising interventions benefiting young people was paramount. After numerous formal and informal discussions with the actors, we finally found common ground in the following four principles forming a process-based approach:

- *Co-creation*: organising design workshops with the local youth and the community.
- *Sustainability*: working with locally available materials, knowledge and traditional-modern techniques.
- *Capacity building*: enabling mutual learning between workers, artisans and us.
- *Openness to appropriation*: designing spaces for a multitude of activities and use.

Under the constraints of a tight schedule and budget, we had to find ways to translate these premises into viable design interventions. In standard renovation and building projects, meticulous planning beforehand is paramount to seamlessly coordinate between designers/architects, builders and construction workers on site. Such processes are based on hierarchy, where the architect's instructions are passed down and each deviation from the plan will cause delay. We soon understood that this traditional approach would not give us the flexibility to engage users and respond to unforeseeable developments in the process.

For soft changes, we engaged youth in co-creation workshops on selected interventions e.g. Mural Artists (fig.4), Weld Champions (fig.5), etc. These small-scale interventions did not require any prior knowledge or expertise and presented a low barrier for participation in a well guided process of learning by doing. The decision-making power of the voluntary participants was limited to certain interventions and timeframes.



Fig. 4: Mural Artists workshop facilitated by Simon Magnfält (left) at the youth centre in Basse.



Fig. 5: A local welder man is giving the final touches to a Bantaba (garden pavilion) co-created by youth during the Weld Champions workshop in Soma.



Fig. 6: The first intervention of Building Together was to create a connection between the study café and the basketball court at the youth centre in Basse.

For structural changes and renovations, we collaborated with local artisans and builders on a daily basis. They received more responsibility and decision-making power due to their expertise in their respective fields (fig.6).

Although, at the beginning of the project our aim was the application of a strong interactive social research where our users were fully engaged “in all parts of the research process including problem definition and designing a research strategy”, we were not always able “to balance the multi-faceted power relations, ownership, accountability etc. between researchers and users” (Talwar et al., 2011, p.383). Our main obstacles were the limits of time, the diverse schedules of the involved participants, the different expectations of the outcome, and lengthy procurement procedures. Throughout our design process, we were therefore oscillating between different levels of participation (Arnstein, 2019, p.26) and intensities of user engagement (Talwar et al., 2011, p.382) (fig.7).

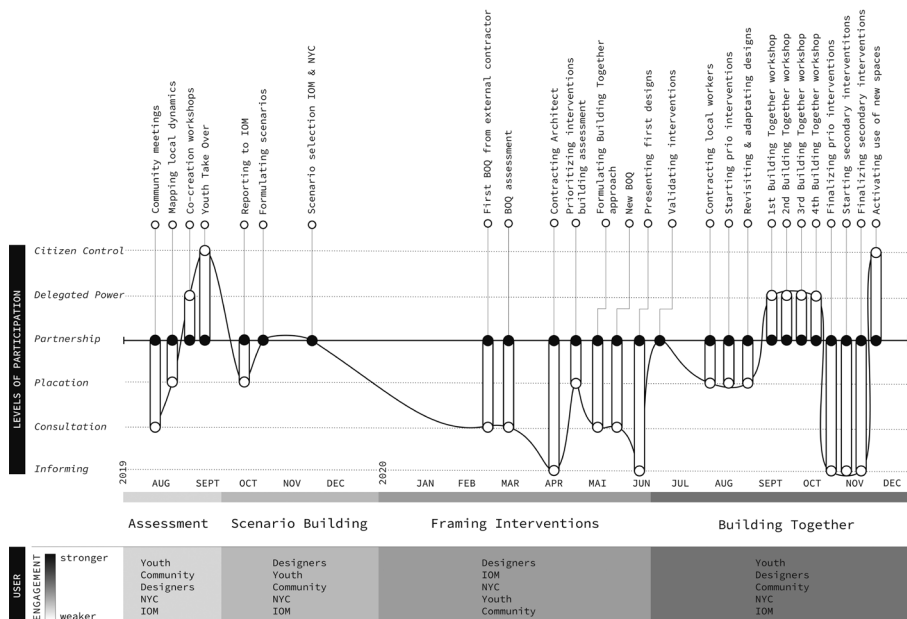


Fig. 7: Our design process displays changing levels of participation and intensities of user engagement in analogy to Arnsteins’ “Ladder of citizen participation” and the “Typology of user engagement in research” by Talwar et al.

While the architect and I took responsibility over the implementation of the chosen interventions, we deliberately inscribed a certain vagueness into our proposals in order to enable interpretation. Thanks to this strategic measure, many design processes took shape in the exchange with the community, e.g. through the sharing of hand-drawings and smartphone photographs of local solutions. On the building site, we would then discuss the idea with our workers and test different approaches. Later we translated them via CAD-software to add exact measurements, well knowing that there would be deviations as our construction workers and artisans will interpret the technical drawings and add their personal 'handwriting' to it. We often found ourselves retroactively adapting the plans to a built reality. Thus, the finalized interventions can be described as unpredicted outcomes of an evolutionary process. The deviations from our plans and speculations initiated a dialog between different cultures, values, meanings and understandings of the common good (fig.8).



Fig. 8: Preparations for a community dialogue at the youth centre in Basse.

2.2 Designing a Table Trestle for the Folkwang University of the Arts

Designers:	Philipp Hermes & Dustin Jessen
Project duration:	2015 – 2017 (design phase), since late 2017 in use
Places:	Essen (place of use) & Stendal (production), Germany
Commissioned by:	Folkwang University of the Arts



Fig. 9: The new building of the design department of the Folkwang University of the Arts in Essen.

In October 2017, the design department of the Folkwang University of the Arts moved into a new building on the UNESCO world heritage site Zeche Zollverein in Essen (fig.9). A couple of years before, the dean of the design department came up with the idea to develop a custom solution of a table trestle, which would allow a versatile use of the future seminar rooms. In analogy to the famous

'Ulmer Hocker' designed by Max Bill and Hans Gugelot in 1954 for the Hochschule für Gestaltung Ulm, the Folkwang University of the Arts should also get its own iconic furniture. A design competition was organised, and about 20 design students submitted their entries. Despite its high iconicity the winning proposal, which was inspired by an anti-tank barrier, did eventually not prove to be a technically feasible solution. So when Philipp Hermes and I were asked in 2015 to create a new proposal, the project already had a history. This helped us to understand what was not desired – 20 rejected proposals –, but also meant that the project was biased by some of the decision-makers. The subsequent design process was therefore not only characterised by finding a technical solution to the challenge of a table trestle, but above all by negotiation tactics within the social construct of the university. Us being alumni of the B.A. Industrial Design program was both an advantage and a challenge at times. During the numerous presentations in front of a planning committee consisting of professors, students and staff, it was always important to take the various ideas and objections seriously while at the same time to carefully reason why not everything can be implemented.



Fig. 10: *This concept, which was ultimately discarded, envisaged the production of large boxes made of expanded polypropylene, which, in addition to their function as table trestles, could also be used for storage.*

After we realised that we would not get a majority for a rather speculative concept of giant black boxes (fig.10) made of expanded polypropylene, we quickly abandoned this idea, although we had pursued it for almost one and a half years. While this felt like a failure at the time, it was incredibly insightful in order to find a better fit for the situation. In this particular case, our final proposal, which was presented only a few months before the opening, can be seen as a 'lucky punch' of a fighter who is in danger of losing on points in the last round of the fight. What seemed to be fortunate though, was actually the result of a long research process characterised by perpetual materialised speculations of a future reality; revealing the designability of the situation. The numerous rejected iterations paved the way for the success of the project. One might draw the conclusion that design processes are

always processes of constant failure until the best possible compromise is found – “Try again. Fail again. Fail better” (Glanville, 2007).



Fig. 11: Depending on their size the seminar rooms were equipped with 12 to 76 trestles.

Even though the design of our CNC-bent steel tube trestle (fig.11), of which more than 500 units were eventually produced, meets the initial briefing that basically asked for a “sturdy and stackable” table trestle, it would be inaccurate to consider it a direct answer to these rudimentary requirements. Over the course of the project new requirements and challenges emerged as a result of design rather than design providing immediate answers to preconceived conditions. For example, the requirement to provide the greatest possible legroom under the table arose during a presentation of a prototype that took up exactly this room. The same prototype also made apparent that the conversational dynamics in teaching situations often require that two persons are able to sit and talk across a corner of a table. Requirements and constraints evolved along the evolving artefact (cf. Jonas, 2007, p.195), and so did our own ambitions as designers. We wanted our piece of furniture to not only enable its users to build a table, but to inspire the creation of further spatial arrangements. Instead of dictating concrete possibilities of use, our table trestle should trigger its own appropriation and reinterpretation, what can be considered an inescapable reality of design anyway, as “[t]ools are born as challenges to existing concepts of utility” (Colomina & Wigley, 2016, p.52). In order to provoke this, we deliberately designed it in such a way that it does not clearly communicate what it should be used for. Its ambiguity (Gaver et al., 2003) makes it flexible and adaptable. The thought of a semi-finished product, that is provoking its own appropriation for purposes that are still to be discovered by its users, became a leading principle in all further design decisions. Although the targeted budget of 50 euros per unit was probably the most significant constraint, most decisions cannot be explained in a linear fashion or based exclusively on one single criterion (Komar, 2008, p.54), but are the result of weighing up a wide range of aspects.

The tube diameter, for instance, was already narrowed down due to the required stability of the trestle, but the decision to use an exactly 32 mm thick tube was also based on the fact that there are standardised electrical installation pipes of the same diameter available in every DIY store. These plastic pipes come with a large number of fastening solutions, like clamps, connectors and other add-ons, which can be utilised for our table trestle as well. Our artefact would thus literally be ‘connected’ to a whole range of already existing artefacts. As it became clear that the company L&C Stendal, which already produced the original furniture for the Bauhaus Dessau, would be commissioned to produce the table trestles, the dimensions also had to be compatible with the moulding tools and manufacturing capabilities of this project partner. In addition, the diameter of 32 mm proved to be comfortable to hold in



Fig. 12: The table trestle and the facade of the new building share the same surface coating.

the hand which potentially enhances the portability of the object.

The hot-dip galvanised surface of the steel tube is a direct reference to the facade of the new building, which is clad with hot-dip galvanised steel panels (fig.12). As a purely formal reference, this would certainly be a rather superficial argument, but in the course of the project this argument proved to be quite convincing, as the demand for memorability and iconicity of the product was thereby satisfied. Apart from the fact that this decision had advantages in the context of the project dynamics, from our point of view it had the benefit that a zinc coated table trestle is potentially less squeamish in use. As it is a surface coating that is commonly used outdoors for reasons of corrosion protection, there is no need to be overly careful with the object and it can be turned on its side without fear of damaging its surface. Thus, the choice of this particular surface coating potentially increases the appropriation of the object.

As a research assistant at the Folkwang University of the Arts, I have not only seen the trestles move into the new building (and some of them already mysteriously move out again), but I have now had the opportunity for more than three years to observe if the daily use of the table trestles meets our previous speculations about it. This gave me some valuable insights on how the product is *actually* used and adapted. It is a rather rare occasion that a product designer is able to make this kind of close-up and long-term observation as the use of one's products often happens in an unattainable private context. Seeing the consequences of my design work can be both a blessing and a curse, but is above all a great opportunity for design research. A main observation is that hardly any table trestle is still in the spot where it was originally placed as they are constantly being moved through the building. It is as if the table trestles became a 'common good' for all the students, teachers and staff of the university, who collectively reconfigure and re-define their working environment by appropriating an undefined object. This object is, of course, often used as table trestle (fig.13) or exhibition furniture (fig.14), but apart from this core application one also finds it being used in plenty of other ways "created out of necessity, convenience and play" (Brandes & Erlhoff, 2006), which could be described as 'Non-Intentional Design'. Albeit it was not foreseeable it was certainly *intended* that our table trestle would be used as a barrier (fig.15, 16), to create a ping-pong table (fig.17) or a football goal (fig.18).



Fig. 13: In seminar rooms, the table trestles allow flexible rearrangement of the teaching situation.

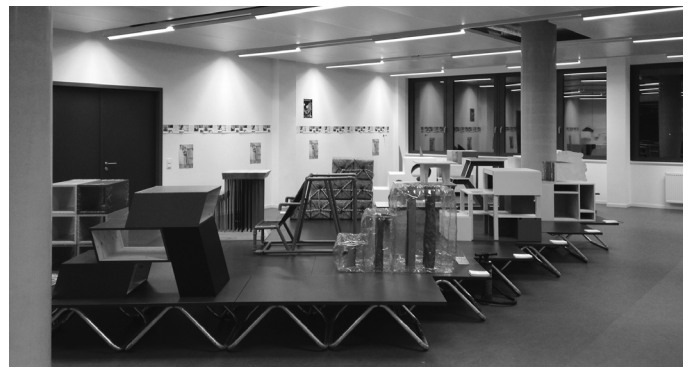


Fig. 14: By placing the table trestles on their sides, flat pedestals can be built for exhibition purposes.



Fig. re 15, 16: The table trestles are often used to erect barriers.



Fig. re 17, 18: On various festive occasions, the table trestles were used to build sporting equipment to enable activities like ping-pong and football on campus.

When the project was presented to the Resources Commission at the German Environment Agency in 2018, the first question was whether we were aware of how difficult it is to recycle zinc once it has been applied as a surface coating. While we had thought about the ecological impact of our product, issues of recyclability have, admittedly, played a subordinate role in the course of the project. George Nelson once said: "We all tend to see in terms of what we know, or believe" (Nelson et al., 2017, p.13), and there was simply no party involved that looks at material flows from a perspective

like the German Environment Agency. Considering the recyclability of materials alone, an untreated surface might have been the more ecological choice, but this decision might also have caused the whole project to end as yet another unrealized speculation. Moving beyond the eco-political paradigm of sustainability (Blühdorn, 2017) and questions of material choice, it still remains questionable whether or not we have served the common good with our intervention.

3 Discussion

From the very beginning, the project *Redesigning Migration Information Centres in The Gambia* aimed to engage with the various actors and their diverse demands by democratically involving them in the design process. The design process of the project *Designing a Table Trestle for the Folkwang University of the Arts* was certainly less driven by the involvement of all actors, but more directed towards a certain outcome. In short, one could say that the first project focused more on *how* to design, while the second project focused more on *what* to design. While the first project followed a participatory design approach, the second project's focus was mainly on the potential usage of the final product. Nevertheless, in both projects the expected outcome for the designer was to deliver some kind of materialized intervention. Can we now conclude that one of the approaches is superior when it comes to addressing the common good? Is a focus on a certain process necessarily more targeted on the common good than a focus on a certain product typology? Is a higher level of user engagement and participation or a bigger focus on the use phase a more legitimate strategy towards the common good? Have the projects succeeded with their intention to change an existing situation into a preferred one? An appropriate answer to these questions was already formulated by Rittel:

“Fortunately for all of us, most designers don't succeed in shaping the world their way. Design takes place in a *social context*. Virtually all plans affect many people in different ways. Plan-making aims at the distribution of advantages and disadvantages. No plan has ever been beneficial to everybody. Therefore, many persons with varying, often contradictory interests and ideas are or want to be involved in plan-making. The resulting plans are usually compromises resulting from negotiation and the application of power. The designer is party in these processes; he takes sides. Designing entails political commitment – although many designers would rather see themselves as neutral, impartial, benevolent experts who serve the abstraction of ‘the common good’” (Rittel, 1987, p.6).

Resonating on Rittel, it is nonsense to define a set of criteria, which has to be fulfilled, or use a ‘toolbox’, which can be used in every possible situation in order to achieve the common good, as the evaluation of such abstract goals is inevitably bound to changing values and contradictory interests. This would only lead to a deceptive sense of unanimity. In commissioned project settings, it

is often the (political) agenda of a client that defines the values and parameters, which are inscribed into a design project from the start. Within design processes, these have a certain elasticity and can – to some extent – be reformulated among the involved actors by the means of iterations and critical inquiry. Hereby, the social, political and economic forces that shape a design project become both constraints and opportunities.

“Design has been both the greatest emancipator and implicitly supported the exploitation of communities around the world, at times improving the lives of citizens and at times subjecting them to the interests of the dominant economic and political forces” (Badano et al., 2020, p.24).

What is considered to be changeable, and what is considered to be untouchable, or simply accepted without reflecting about it, depends on a huge variety of internal and external factors. Certain skills, specialist knowledge or situational possibilities might lead some designer to question other things than some other designer. Traditions of how things should be done, expectations of supervisors, personal goals, technical feasibilities or simply the factor of time and timing might all affect the design task at hand. One might say that *design constitutes itself anew with every occurrence*. Broadly speaking, design becomes possible when contingency appears. Realizing that something is contingent, meaning that it is not necessary the way it is, and that it could be done differently (Geiger, 2018), opens the door for change. However, what we consider to be changeable is affected by various institutional, situational, and personal factors. We believe, one should not start a project with a pre-defined idea of the common good, but *suspend judgment* for a moment, and consider design a form of inquiry, rather than a way to solve a problem.

If there is one design strategy that could actually be drawn from both projects it is the value of vagueness and ambiguity (Bauer, 2018). An ambiguous formulation can have great benefits and empower people – whether it is a technical drawing that can be interpreted by local craftsmen (project 1) or a product that enables flexible use due to its polysemic appearance (project 2).

4 Conclusion

Even if the common good was seemingly identifiable in consensus, it remains challenging to foretell or anticipate (Simon, 1981, p.187) whether a design intervention – no matter how noble its intentions are – will eventually lead towards this objective. In contrast to dreamy world-saving aspirations, a more realistic and modest position would be to reconfigure design processes in ways that the development of common good becomes a likely possibility (Fezer & Hochschule für Bildende Künste Hamburg, 2016). This involves a better understanding of the complex relationships between human and non-human agents (Latour, 2019) but also moving “from

clinging to notions of total control to a relaxed acceptance of letting go" (Till, 2013, p.151), and acknowledging that the "human is permanently suspended between being the cause and the effect, between designing living systems and being designed by them" (Colomina and Wigley 2016, p.56–57). It means designing – as Susan Leigh Star frames it in her concept of the 'boundary object' – in order to facilitate the collaboration between different commitments of participants from different social worlds, allowing the exchange of information and different interpretations and perspectives on a common thing of interest (Star, 2017).

It is the mediation of plurality of differentiating visions, ideas and socio-cultural values which remains challenging. Consensus might be overrated, dissent and conflict can be drivers for novel approaches on complex problems (Miessen, 2012). In making the common good the ultimate *goal* of design one might more often fail than achieve it. Therefore, we should rather consider the common good as a possible *result* or a *consequence* of the design process – neither working against nor for, but *beyond* the common good. Thus, designing *beyond* the common good means enabling a critical debate (Draser & Liedtke, 2019, p.69) about the common good and keeping it alive.

References

- Agnew, K. (1993). The Spitfire: Legend or History? An Argument for a New Research Culture in Design. *Journal of Design History*, 6(2), 121–130. JSTOR.
- Antonelli, P. (2013). 60 Jahre Designkultur—2. Deutsche Designdebatte. <https://vimeo.com/68477648>
- Arnstein, S. R. (2019). A Ladder of Citizen Participation. *Journal of the American Planning Association*, 85(1), 24–34. <https://doi.org/10.1080/01944363.2018.1559388>
- Badano, R., Lewin, R., & Grabowska, N. (2020). Formafantasma: Cambio (2nd ed.). Koenig Books.
- Bauer, T. (2018). Die Vereindeutigung der Welt: Über den Verlust an Mehrdeutigkeit und Vielfalt (3rd ed.). Reclam.
- Blühdorn, R. (2017). Post-capitalism, post-growth, post-consumerism? Eco-political hopes beyond sustainability. *Global Discourse*, 7(1), 42–61. <https://doi.org/10.1080/23269995.2017.1300415>
- Brandes, U., & Erlhoff, M. (2006). Non Intentional Design. Daab.
- Colomina, B., & Wigley, M. (2016). are we human? Notes on an archaeology of design. Istanbul Tasarım Bienali, Zürich, Switzerland. Lars Müller Publishers.
- Draser, B., & Liedtke, C. (2019). Konsum ist nachhaltig und nicht-nachhaltig: Ambiguität befruchtet das Leben. In C. Bohn (Ed.), *Gegenwart und Zukunft sozial-ökologischer Transformation* (pp.63–74). Nomos.
- Fals-Borda, O. (1987). The Application of Participatory Action-Research in Latin America. *International Sociology*, 2(4), 329–347. <https://doi.org/10.1177/026858098700200401>
- Fezer, J., & Hochschule für Bildende Künste Hamburg (Eds.). (2016). Öffentliche Gestaltungsberatung: 2011-2016 = Public design support. Sternberg Press.
- Gaver, W. W., Beaver, J., & Benford, S. (2003). Ambiguity as a Resource for Design. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 233–240. <https://doi.org/10.1145/642611.642653>
- Geiger, A. (2018). Andersmöglichsein: Zur Ästhetik des Designs. transcript.
- Glanville, R. (2007). Try again. Fail again. Fail better: The cybernetics in design and the design in cybernetics. *Kybernetes*, 36(9/10), 1173–1206. <https://doi.org/10.1108/03684920710827238>
- Jonas, W. (2007). Design Research and its Meaning to the Methodological Development of a Discipline. In *Design Research Now: Essays and Selected Projects* (p.254). Birkhäuser.
- Komar, R. (2008). Grünes Bauhaus: Wir brauchen völlig neue Formen ; Dokumente eines Diskurses. Deutscher Buchverlag.
- Latour, B. (2019). Eine neue Soziologie für eine neue Gesellschaft: Einführung in die Akteur-Netzwerk-Theorie (G. Roßler, Trans.; 5th ed.). Suhrkamp.
- Meinenberg, S., & Putteman, L. (2019). Redesigning MICS in The Gambia. International Organization for Migration.
- Miessen, M. (2012). Albtraum Partizipation. Merve Verlag.
- Nelson, G., Stein, K., & Bierut, M. (2017). How to See: Visual Adventures in a World God Never Made. Phaidon Press Limited.
- Pole, K. (2007). Mixed Methods Designs: A Review of Strategies for Blending Quantitative and Qualitative Methodologies. *Midwestern Educational Researcher*, 20, 35–38.
- Rittel, H. W. J. (1987). The Reasoning of Designers. 9.
- Rittel, H. W. J., Reuter, W., & Fezer, J. (2012). Die Denkweise von Designern: Mit einer Einführung von Wolf Reuter und einem Interview von 1971. Adocs Verlag.
- Simon, H. A. (1981). The Sciences of the Artificial (2nd ed.). MIT Press.
- Star, S. L. (2017). Grenzobjekte und Medienforschung (S. Gießmann & N. Taha, Eds.). transcript.
- Talwar, S., Wiek, A., & Robinson, J. (2011). User engagement in sustainability research. *Science and Public Policy*, 38(5), 379–390. <https://doi.org/10.3152/030234211X12960315267615>
- Till, J. (2013). Architecture depends. MIT Press.

Challenging Design for (the) Good – New Design-Roles: Making Design Vulnerable

Keywords: Design-Roles,
Who is the client, Social-Ecological
Research, Vulnerability.

Lucas Kuster^{a*}

^a*Doctoral Candidate at
Europa-Universität Flensburg
Norbert Elias Center for
Transformation Design & Research
contact@lucaskuster.com

This paper starts with a meta-reflection on design and common good. The relationships between designers and clients are discussed wondering who commissions design for societal challenges. Based on the assumption that society as a whole cannot be interpreted as a client, only by ignoring individual interests, the paper further examines approaches of self-contracting selections of problems which result in sketchy self-legitimized design commissions. This is followed by design 'for' and design 'as' common good as two rough approaches. A description of a practical project serves as reflection while the previous concepts are tried to be applied on it. Final thoughts on characteristics of the described design-roles that pop up when breaking the traditional designer-client relationship are presented. This is followed by a discussion if this leads design to a new vulnerability in context of criticizability, disciplinary doubts and more.

1 Introductory Questions and Considerations

Design. And. Common good. Does this represent a compatible combination of intentions? This question arises at least if one starts with a critical view of design. Victor Papanek (1971) assumed that there are few professions more destructive than industrial design - and continues in *Design for the Real World* with a quite fundamental critique of *advertising design*. Although Papanek's statement is well known and he speaks of very specific sub-disciplines of design, it is still as relevant as ever. Especially considering the destructive potential of design. Such as the design of antisocial and unsustainable products and services or the communication of just such lifestyles or offers: A design perspective does not seem to be directly interested in the common good. Rather in the exclusive good, in entertaining, satisfaction, seduction and reduction of complexity to increase comfort. And this does not only apply to design sectors already mentioned by Papanek but could certainly be extended to many design fields from A (like automotive) to Z (you name it).

On the other hand, the common good - understood in this text as a utopia of general well-being. The pluralistic approach poses difficulties in its clarification, is inevitably fuzzy and probably more appropriate without using the article. Whether an attempt to promote common good can be evaluated at all, if, in advance or retrospectively, is sometimes disputed (see Schubert / Klein 2018). All in all, however, a 'good' thing, one might think. In a utopian understanding of common good, as a general good, yes, possibly. But only if the generality excludes the minority. So, the question arises: Can there really be a common good for everyone? Should it really and finally be achieved, or is it always necessary to have the reference to the 'common bad' in order to be able to constitute the positive counterpart? It may help to understand common good as an ongoing process-oriented project - nothing to be finished.

The turn (or appropriation?) of design to social problems could possibly be understood as an attempt to break up a disunity that does not need to be one: Design and common good.

The theme of the conference *Design as common good* can be understood in this context both as a criticism of a conventional, service-providing understanding of design and as a stimulus to investigate the turn of design towards common good. The introductory text speaks of a "call[s] for new approaches of design" (Swiss Design Network 2020) and means design ambitions to address the *Sustainable Development Goals* of the United Nations. The following thesis could be derived from this normative assumption: A turn of design towards socially relevant challenges is basically appropriate, even sensible.

But what exactly is the "call" for these new approaches? And to what extent is it directed at design at all? Who is the *client* (see Simon 1996) in this scenario which both provides the problem

definition and prescribes the legitimation to process it? And who would be responsible for the design? Can the 'exclusive client' become the 'common client' and if so, would this mean society as client? If yes, how expresses society itself?

The following theses and questions could be derived from the title and abstract of the conference, which lead to the subject of this paper:

- Who awards a contract, the legitimation to design, for social undertakings?
- How could design become capable of acting independently and break up the relationship of dependence between client and designer?
- What would design interventions to promote common good look like?
- How could design itself be understood as a common good?
- What impact does such a discussion have on design? Does a transparent discussion of the destructive and seductive potential of design make it vulnerable? Would that be desirable?
- What impact do these ideas have on methodologies and research approaches in the design context?

2 Who Is the Client?

2.1 Design Affairs

Design, in many of its facets and sub-disciplines, can be understood as a service-providing discipline. In a clear and hierarchical relationship of dependency between designers and clients the contract is awarded by the latter. This serves both the drive and the legitimation of design action. As a result, designers do not tend to be responsible for defining the problem to be solved (the problematisation). The client determines what the chosen problem is. The design can follow willingly, does not have to ask questions, may (and should) remain apolitical. In this case, taking responsibility for the design outcomes does not come into mind independently by design either (see Simon 1996, p.150), is not demanded, not necessary in this relationship - after all, design was only a service provider.

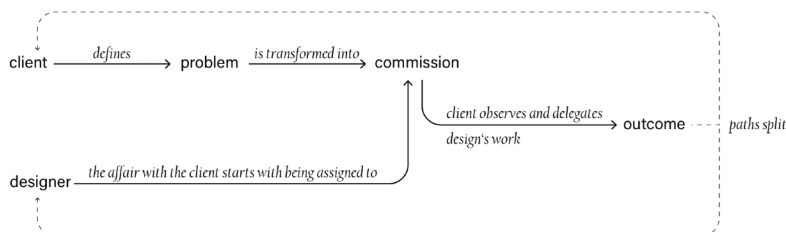


Fig. 1: *Designer-client-affairs.*

2.2 New Playgrounds

In view of an opening of design towards social and ecological challenges new stances/scopes - new playgrounds - for design activity are emerging. Herbert Simon (1996) in mind, this is not a new phenomenon. The theme of this conference and the emergence of several new courses of study (Transformation Design, Social Design, Eco-Social Design, [...]) in recent years describe in concrete terms the entry of design, in different ways, into new fields. So, a change of perspective in design is already taking place. Still, the discussion about the new roles and self-understandings of designers resulting from this remains fuzzy.

First of all, the entry of a normative basic attitude into various design disciplines can be observed, because how else would it be possible to turn to the above-mentioned subject areas? It could be argued that the less 'directness' of clients in the area of socio-ecological challenges demands this: After all, who awards the contract to do something about climate change, to deal with the extinction of species, to work on common good or to promote social justice? The concrete, hitherto often singular client is becoming more diffuse. One could imagine it in the form of various stakeholder groups, animal species, society or planet Earth, but these actors do not express a concrete concern, a problematisation or a mandate. They are not clients following such a logic, but they are stakeholders.

Not every problem is clearly and in unity defined by a stakeholder group, while at the same time other problems are only made clear by them. The new scope/stance could therefore represent two (or more) possibilities: The first one is to be understood as something like 'self-appointing' design. The second one here presented is to 'skip the client', designing directly for the stakeholders; not only *for* but *with* them, as equal co-designers.

New challenges arise in these new playgrounds: They raise the question of how to deal with one's own responsibility, which Herbert Simon (1996, p.150) describes as: "[...] to take account of the external effects the consequences beyond the client's concern that are produced by the designs". Also, the question of how design is enabled (by self-appointing?) to pursue a certain problem - and at the same time neglect others - to commission itself to act is unclear.

Planet Earth did not ask for the invention of the SDGs, just as the SDGs did not ask to be approached by design. However, a fundamental interest of design in this or similar issues could be cautiously interpreted as welcome (perhaps simply contemporary and seeking for self-preservation). But what does this mean to design's role in the chaos of actors, disciplines, views, intentions, research, initiatives and supposed 'world-improvement' attempts? At least the latter should perhaps be looked at sceptical.

The problem of weighing and deciding can possibly be discussed across disciplines. Can decisions be made in a non-normative way at all? Perhaps a trivial question, but in the context of design, coming from a conventional contractual relationship, quite concrete.

But design approaches and frameworks could well bring opportunities: iterative und process-oriented proceedings, intuitive experimentation, creative action, [...] could possibly be useful potentials in dealing with complex social challenges. Without a restrictive client, new encouragement can arise. (Self-)Politicisation can be developed and the freedom of self-determined design could be an emancipating, self-efficacy strengthening and activating momentum.

For this reason, this paper follows the assumption (also normative, but probably largely in agreement with the conference) that a turn of design towards challenges of this kind is basically appropriate, although not always sensible. After all, well-intentioned design interventions will not necessarily have been good. But who am I to judge this?

3 Self-Assigning Design

3.1 Getting Started: What is the Problem?

Before responsibility for a design intervention can be accepted, an intervention must take place or deliberately not take place, but at least the thought of it must first come to mind. The question to be asked is therefore what it is all about: What is the problem that design deals with? In other words, the search for a problematisation, a problem design. Without a client?

The question, which may seem trivial, can be understood as a starting point for action to make use of the new scope for action. The question should not aim to develop a solution to a problem, but to find access to a problem in the first place; whether or not the specific problem is already understood as a problem is not the decisive criterion here. What is needed is an attempt to clarify one's own interests, ideals, and normative ideas in a fundamental way. This is influenced by hardly avoidable (moral) basic assumptions, by individual path dependencies, prejudices and ambivalences. It comes to the attempt to reflect on such. So, if one is looking for (or acquiring) challenges on one's own, how does the selection take place? How is it weighed? How does the financing of the project play a role here and, if necessary, influences this? How does such a design project end? Will it ever be completed? What role can design still play? Is it perhaps only a question of offerings and moderation? Or also about implementation, own impulses and irritations?

The question of the problem can quickly spill over into existential questions of principle. Questions about why one finds something (whatever) problematic, why one is committed to something, how much oneself must be affected or involved in a problem space

before the badge 'problem' is 'awarded'? And why some things simply elude personal problematisation. As this train of thought drifts (or flees) into the philosophical, and possibly entrenches itself in even greater uncertainties and ultimately in nihilism, new opportunities also arise. Because finding one's 'own' problem is not only a difficulty but also an emancipatory possibility: Nobody now decides for the design (for designers, for you) what it must design for. You decide it yourself, normatively. But does this represent an inappropriate mixture of professionalism and private norms? Perhaps inappropriate, perhaps unavoidable. Perhaps a temporary solution, not to fall back into comfortable traditional dependency relationships, but to try out self-conscious paths and see where things might lead to. The next station of this train of thoughts seems to be unknown.

3.2 Necessary Normativity

The first step could be the conscious incorporation of normativity as a vehicle for the emancipation of a purely service-oriented design to a political design attitude that motivates the use of design expertise in a social context. As can also be seen from the quote of the conference abstract, the normative attitude of the Swiss Design Network inherent in this conference describes the possibility of justifying design intervention. At least to oneself and in this case also to the (scientific) design community. In security of disciplinarity, this may work more easily than elsewhere. Either way, this is how design might actively enter the (necessary?) realm of the political, pursues boldly chosen goals, and attains its own (but always individual) agenda. Here, a differentiation of tastes of design activities could be helpful. Let us take three different forms of activity: "to reflect" / "to (co) design" / "to initiate" (Jonas 2020a, p.84).

While all three variants presuppose a normative problematisation process, they have different degrees of involvement of the designing person. While the first two forms of design inquiry can also take place in the quiet chamber, the direct effect of normativity plays only a subordinate role. The latter, the 'initiation', on the other hand, intervenes in real-world problems and has a much more immediate character: An attempt of intervention through design.

Designers are directly involved in the problem space. Changing the problem during and through their practice makes a reflexive handling increasingly necessary - and at the same time more difficult. Transparency in the approach could play a key role here and at the same time make the design criticisable. Vulnerable.

The proactive normative readiness to act through the initiation can enable designers to make decisions from the complex oversupply of challenges to be selected/neglected from. Nonetheless, distorted self-images can certainly emerge. Such as self-imposed world salvation attitudes and overestimations of the effectiveness of one's own actions (see Jonas 2020a, p.84). (Re-)Actionist self-ini-

tiative can possibly run the risk of becoming a paternalistic, 'hip' form of access, appropriating trendy problems and 'colonising' them in a designerly way.

Nevertheless, it might be possible to add to this: Normativity is what makes design without a traditional client relevant in the first place; otherwise it would just be decoration. ('Just decor?' How about: function follows form?)

3.3 Design Engagement

As described above, a design project can emerge from a normative problem-solving process. One could say 'successfully commissioned by yourself - congrats' (really something to congratulate for?). The designer as the client. But the briefly mentioned idea of skipping the client in order to work directly with the stakeholders should be taken up again.

This results in the following graphic in two forms: Design as a bold intervention and design as infrastructure.

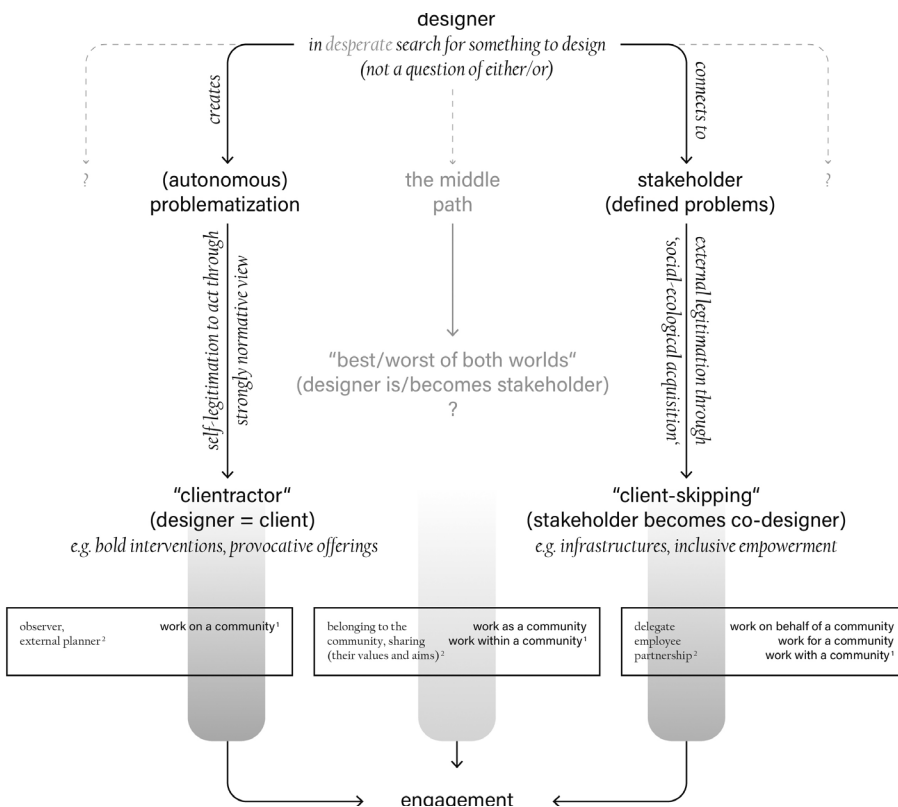


Fig. 2: Design engagement
1) Valerie Brown (2010, p.71), 2) Wolfgang Jonas (2019, p.292).

4 Designing Common Good

4.1 Design for Common Good

In order to discuss the possible roles of design practice in relation to common good, two exemplary areas are identified below. Starting with design for common good.

This formulation could be understood as a project-specific effort by design to promote common good. The use of design engagement to further work on SDGs, for example. Design for common good can mean lobbying for 'uncomfortable' issues: climate change, social justice, extinction of species, [...] whose stakeholders are now difficult or only in the future directly addressable.

Here, too, an idea of common good as a 'project' can form a basis: Design as a negotiating tool of common good; as a discussion tool that could express itself in a form that does not directly attempt to design common good but tries to stimulate possibilities and perspectives on it. À la 'designing common good through not designing common good' (but supporting the negotiation process). This could be attempted by raising questions through design, for example by prototypically trying out designs in the real field, for example through installations as "heterotopias" (Foucault 2013).

Designers could boldly move forward as clients and use the experimental potential of design to initiate options for action.

4.2 Design as Common Good

Design as common good questions the accessibility and inclusion of the discipline itself. This describes the question of how the relationship between designers and non-designers (or the ones being designed) can be broken up. Design as common. How could we understand a democratisation of design that allows the ones normally being designed to become (their own) designers? A recognition of stakeholders as experts on their problems and understandings of design not as an end product, but as a democratic, communal process?

Design as common good could be understood in practice as follows: Design in the form of infrastructure offerings. Normativity also plays an undeniable role in this consideration, whereas in the actual application of design as infrastructure it fades into the background. In co-creation with the stakeholders, the design act is not directed at a solution to the problem but at trying to develop conditions for dealing with the problem (with and by the stakeholders).

4.3 Practical Example: Corona Futures

The following text is taken with minor adjustments from my presentation of the project at the University of Hamburg organised by the *Humanities Centre for Advanced Studies Futures of Sustainability*. (For more information see Kuster 2020).

The outbreak of the COVID-19 virus at the end of 2019 and its global spread towards a pandemic have led to many new questions. Even very personal ones, such as: "How do I behave in this new / unfamiliar / frightening situation? ". This was one of the questions that motivated me to think about a proactive approach to regain an (at least perceived) ability to act and some security: The attempt to find some kind of appropriate way of dealing with the situation.

So, what could a design practice look like now? "At least not paternalistically alone, over the heads of others" was one thought, and the vague idea of creating a kind of public space for reflection to examine the situation together with others was born. This led to the idea of initiating an open call to the civilian population, sciences, arts and design, which would raise questions such as

- Which existing structures are currently being implicitly questioned and what do possible futures look like that can be targeted from the current situation?
- What can be learned from the current situation for other current and future socio-ecological challenges?
- [...]

The initiative finally started as Open Call Corona Futures (www.corona-futures.de) in March 2020.

In accordance with the situation, a digital call was created. Initially, the implementation began with finding fellow campaigners, sparring partners (shoutout to Anna Frommberger and Philipp Rösler). Later a digital infrastructure in the form of a website followed. I would describe the initiative as becoming active and involved within this social challenge in order to deal with it as research through (transformation) design (see Jonas 2016). Through a process-oriented approach and the open call as a 'designerly draft' within the research environment, new insights and new questions should possibly arise.

During the project, attempts were made to reflect on one's own approach and to adapt it to the content of the open call: The project was tried to be structured as little hierarchically as possible, to avoid the impression of author design and to raise inviting questions in communication. The presentation of the submitted contributions on the website in an unsorted tile system without order (e.g., according to the professional position of the submitting person, medium or content of the submission) could be representative of this attempt: to act with restraint and to present submissions impartially and equally.

39 contributions from a wide range of media such as performance, essay, story, photo, illustration and rendering, were submitted in a balanced gender ratio.

The initiative concluded with experiments on how the content, which was seen as a temporarily result, could be interpreted and communicated. The outcome is a lecture, a digital artefact and an exhibition object.

If one now reads this uncommented description of the project example, the approaches previously described may seem to blur. Here it becomes clear that in practice Figure 2 does not offer clearly defined paths. Individual preconditions of the problem and the project, personal factors, not least geographical, biographical or even physiological, have an effect on the process. The intervention through the open call, as self-legitimised design commitment, is finally expressed by offering an infrastructure trying to let others design. A kind of symbiosis that could perhaps be understood as a design/artefact in the sense of an *interface*:

"An artifact can be thought of as a meeting point an "interface" in today's terms between an "inner" environment, the substance and organization of the artifact itself, and an "outer" environment, the surroundings in which it operates" (Simon 1996, p.6).

At the same time my own involvement plays a role, because, even if only marginally affected, I found myself within the problem that was tried to be 'designed'. Perhaps the middle way described in Figure 2 was my approach of design engagement. At least it becomes clear: The scheme is intended to serve as a soft and expandable orientation aid and not to be a determinant model.

To put it bluntly, the described blurriness could also be seen in the division into the introduced design for/as common good. But also here I would like to argue for considering the two variants not for guidance but for investigation. For example, to examine different approaches and to identify the interests behind them.

In case of the practical example, it could be understood as design for common good. It tries to test ways of dealing with the situation and speculates about im/possible un/desirable futures. A rigorous evaluation of whether this has been successful turns out to be difficult and a well-intentioned initiative can also be critically interpreted as a reflex-like and self-affirming reaction to the 'hype topic' COVID-19 (see Jonas 2020). In terms of the project as design as a common good, a more conclusive statement could be made on the basis of the 39 participants, stubborn and quantitatively.

From this paper, and especially from the previous reflection, a certain refusal to use final terms can be identified; many cautious uses of the subjunctive, which are intended to illustrate both uncertainty and non-closure.

5 Reflections: Vulnerability of Design as Potential

Does design become (unnecessarily) vulnerable through the communication of these thoughts from a designerly perspective? Does the detachment from fixed process models, the emergence of new self-doubts in one's own approach and the transparent identification of these thoughts weaken design?

Design's swimming trials in [not so] new, [but still] murky waters make it attackable. Necessarily. But not only attackable, even vulnerable.

The described roles as 'clientractor' or 'client-skipping' lead into a(n) (un)wanted political realm. The mystery of the design as an unapproachable instance hiding behind the client is weakened. If design becomes transparent it loses some magic as well, it becomes more democratic. Co-designable.

This article should not be understood as a narrowing but as an extension. It is about working on a transparent presentation of design processes within and outside the design scientific community. The increase of design's vulnerability is understood as a targeted challenge and invitation to criticise and play around with design's self-understandings and interventions.

Specifically, design becomes vulnerable (and emancipates itself) through:

- Taking responsibility for one's own work and the need to defend it.
- Transparent communication, within and outside the design community.
- Discarding the self-understanding of a special qualification for world rescue.
- Allowing normativity while at the same time trying not to become moral.
- Breaking up the relationship between designers and ones being designed.

Such an understanding does not exclude the subversive and guerrilla-like potential of design. Primarily it shall just protect design from spilling over into moralism and dogmatism. The fundamental willingness to explain oneself [or the design] could be decisive. And to know in advance about this possibly occurring state. Design is not art and may and must be asked [or allowed] to explain itself. This can be uncomfortable.

In the context of design research, this principle may also serve to strengthen 'design's scientific' credibility while developing accessibility for other disciplines - design becomes vulnerable in this context as well. By offering a glimpse behind the scenes, leaving the paths of seduction strategies behind and revealing the difficul-

ty of evaluation. For example, in case of singular, non-repeatable design interventions (for common good) as an experiment which is difficult to argue for in a scientific context.

Design could try to be an equal sparring partner beside and with science. In doing so, it can temporarily, but not permanently, slip into the guiding and at the same time restricting corset of scientificity. In this way, design research becomes neither a soft science being designerly but not respected in the scientific community, nor a rigorous approach getting accepted but giving up "designerly ways of knowing" (Cross 2001).

6 Conclusion and New Questions

The paper started with a meta-reflection on design and common good and came to the conclusion that two opponents (design and common good) can become partners. Within design's turn towards social challenges difficulties in the traditional relationship of designers and clients arise. It is assumed that a problematisation of 'FILL THIS WITH SOMETHING YOU ASSUME A PROBLEM' can be the starting point for design engagement. Therefore, two possibilities were proposed: the designer as 'clientractor' and the designer (plus the stakeholder) 'skipping-clients'. Nevertheless, a detail in the text, the provocative question, of if function could follow form, asks whether the problem actually has to be the starting point. This question remains unanswered.

Two rough approaches to find transitions into practice are described by design 'for' and design 'as' common good. The described practical project (Open Call Corona Futures) highlighted that the scheme in this paper should be seen as soft and open-minded approach, not an attempt of narrowing things down. So, one could say, the scheme fails in its first test. But I would rather suggest seeing this as the nature of complexity of social challenges – no guideline fits them all – but this is fine as long a framework is flexible enough to be remixed to serve the unique individual case.

While this flexibility can support bringing projects into *praxis* it can make them hard to defend. This was discussed by introducing the term 'vulnerability' into the design context and suggesting that a vulnerable design approach brings some new potentials with it.

The conclusion closes with another few questions as an outlook or inspiration:

- 'What is the problem? - Normativity - ability to act - initiative - personal responsibility - entry into the political arena'. Is this programme, which is to be understood iteratively, an appropriate design approach in the context of socio-ecological challenges?
- Can there even be design without a client? Would a semantic detachment from the hierarchical, capitalistic and service-pro-

viding wording (client, stakeholder, designer, commission, ...) be helpful?

- Does it always have to be design? Can 'not-designing' be an active design strategy favouring common good?
- What would concrete methods of design for/as Common Good look like? Can suggestions be derived from other projects with a corresponding self-image?

7 A Quick Note

The challenging design for the good.

Challenging design for the good.

The challenging design for good.

Challenging design for good.

References

- Brown, V. A. (2010). Collective Inquiry and Its Wicked Problems. In: John Alfred Harris, Jacqueline Y. Russell und Valerie A. Brown (Hg.): Tackling wicked problems through the transdisciplinary imagination. London, Washington, DC: Earthscan, p.61–83.
- Cross, N. (2001). Designerly Ways of Knowing: Design Discipline Versus Design Science. In: Design Issues VOL. 17 (3), S. 49–55. DOI: 10.1162/074793601750357196.
- Foucault, M. (2013): Die Heterotopien. Les @hétérotopies. Unter Mitarbeit von Daniel Defert. Zweisprachige Ausgabe. Berlin: Suhrkamp (Suhrkamp Taschenbuch Wissenschaft, 2071).
- Jonas, W. (2016). Social transformation design as a form of research through design (RTD): Some historical, theoretical, and methodological remarks. In: Wolfgang Jonas, Sarah Zerwas und Kristof von Anshelm (Hg.): Transformation design. Perspectives on a new design attitude. Basel: Birkhäuser, p.114–133.
- Jonas, W. (2019). Design Cybernetics: Concluding Remarks From a Semi-external Perspective. In: Thomas Fischer und Christiane M. Herr (Hg.): DESIGN CYBERNETICS. Navigating the new. Cham, Switzerland: SPRINGER (Design Research Foundations), p.281–298.
- Jonas, W. (2020). Die Corona-Krise als Chance? 3 Tage im April 2020 – ein paar Gedanken. Open Call Corona Futures. Retrieved from <https://corona-futures.de/wolfgang-jonas>, last proofed on 17.06.2020.
- Jonas, W. (2020a). On Futures, Un/Certainties, Design Hubris and Morality: A Cautious Plea for Reflection and Moral Disarmament in Transformation Design*. In: Journal of Design Thinking 1 (1) 1, S. 81–88. DOI: 10.22059/jdt.2020.76039.
- Kuster, L. (2020). Was ist (D)ein Problem? Veränderungs- und erkenntnisorientierte Forschung durch Transformation Design. Beitrag im Workshop Praktiken und Instabilität. Konferenz: Dealing with the (Un)Known Unknowns: Praxistheoretische Perspektiven auf sozial-ökologische Krisen. Universität Hamburg. DFG-Kollegforschungsgruppe »Zukünfte der Nachhaltigkeit«. online, 06.11.2020.
- Papanek, V. (1971). Design for the real world. Human ecology and social change. New York: Pantheon Bks.
- Schubert, K. & Klein, M. (2018). Das Politiklexikon. Begriffe, Fakten, Zusammenhänge. 7., vollständig überarbeitete und erweiterte Auflage. Bonn: Dietz.
- Simon, H. A. (1996). The sciences of the artificial. 3rd ed. Cambridge, Mass: Mit Press (first published 1969).
- Swiss Design Network (2020). Swiss Design Network Symposium 2021. Online Conference. Abstract. Retrieved from <https://www.designascommongood.ch/>, last proofed on 29.07.2020.

Acknowledgements

Special thanks to Mirja Bauer for the extensive overall feedback and Philipp Rösler for the spontaneous brainstorming on Figure 2.

Striving Towards a Common Good / Social Design in Emerging Economies / Places, Communities and Collaboration / Methodologies and Research Approaches / Structuring Interaction: Four Viewpoints on Design Methods in Communities / Equity, Justice and Inclusion / Design for Agency / Diverse, Open, Collaborative: Innovative Approaches to Design / Reflections on Designing Agency under Socio-Technical Conditions / Design, Toys and Commoning. A Panel of Pluriversal Approaches / Activating Processes in the Cultural and Civic Space / Making the Design Commons – Methods, Tactics and Processes / Negotiating Ethics, Methods and Responsibility / Future Scenarios for Crisis and Resilience / As Strong as the Weakest Link: A Global Blueprint for Sustainable Practice

Social Design in Emerging Economies

**Moving Mountains: Case Study
of Community Based Participatory
Research as an Approach to Social
Design & Entrepreneurship**
Dhriti Dhaundiyal, Richa Pant

**Design for and from the Community:
A Review of Social Design in Egypt**
Sherin Helmy

Moving Mountains: Case Study of Community Based Participatory Research as an Approach to Social Design & Entrepreneurship

Keywords: Rural Communities, Participatory Research, Social Design, Social Entrepreneurship.

Dhriti Dhaundiyal^{a*},
Richa Pant^{a**}

^aDoon University, Dehradun,
Uttarakhand, India

*dhriti.dhaundiyal@gmail.com

**richa.detour@gmail.com

Social sustainability endorses social value, well-being, quality of life and satisfaction of residents, both present and future. In this paper we attempt to map design opportunities for livelihood generation in remote villages of Uttarakhand, India with design students through social entrepreneurship. Village communities are reeling from scanty means of livelihood and arduous subsistence on tough to harvest local resources. In the past, community based participatory research has yielded ideas for sustainable interventions in primary education and public health. We worked in a Himalayan village as part of a month long design education module, exploring the viability of using it to identify areas for effective design intervention. An iterative model of exploration, analysis, design proposition and refinement was followed to identify opportunities for design intervention and entrepreneurial ventures. Finally, the study proposes a model for collaborative social entrepreneurship that can help ameliorate issues of migration due to lack of employment opportunities.

1 Introduction

Social sustainability, as envisioned by the Sustainable Development Goals, endorses social value, well-being, quality of life and satisfaction of residents, both present and future, demanding a new approach to planning, design and development, that we call social design. Social design advocates designing for the greater good, supporting long term growth goals and trajectories in communities. Planning community interventions however is a complex and challenging process for all involved due to the myriad socio-economic and socio-cultural issues involved. Design thinking has been successfully deployed as an agent for social change at community level in the past. Participatory design exercises in the last decade or so have brought design thinking to the end user and increasingly, power and agency is being shared with the communities involved. In the rural context, participatory appraisals of the 1980's included the residents as stakeholders in the research process with the noble aims of decentralization and empowerment. However, they failed to address issues of scale, power, access to resources, and social justice related to rural development. More recently, participatory action research has come to the fore as an approach to knowledge creation and social change that embraces diversity, assimilating participation by all stakeholders with immersive action by researchers. User participation in the process is a key component of participatory action research and serves as a vital component in shaping the outcomes based on the needs of the user.

As design has moved from a consumer-focused discipline to a human-centred one, with a more complex agenda, design education too has evolved to include methods that empower the end-user beyond the past petri-dish style study (Buchanan, 2001). Human beings have always been the focus of design and inviting users to the drawing board in co-creation practices is a logical offshoot. Working collaboratively in trans-disciplinary areas has added much needed new skills to the design student's portfolio in the expanding scope and application of design (Souleles, 2017; Singh, Lotz, and Sanders, 2018; Dhaundiyal & Pant, 2020).

In this paper, we document the second part of our ongoing exploration of social design research methods. Our previous research explored the use of techniques and tools of Community-Based Participatory Research (CBPR) as a mechanism for information collection and rapport building with participants in design research (Dhaundiyal & Pant, 2020). Continuing to address the towering issue of mass migration and ghost villages in the rural areas of the Himalayan state of Uttarakhand, this study proposes a model of social entrepreneurship in partnership with villagers. In a detailed study, built on the learnings from the prior field exercise (Dhaundiyal & Pant, 2020), we employed community research methods like transect walks and socio-cultural mapping to identify design opportunities and generate sustainable solutions through

co-design activities. We were able to develop a deeper understanding of barriers to social entrepreneurship in these rural areas, beyond the obvious ones of resource equity and information flow. The community based participatory approach extenuated the likelihood of researcher bias.

This paper opens with a contemplation of social entrepreneurship as the third sector of enterprise, with a background of social design and design education. We then detail the methodology we followed, employing complementary methods from design and development studies. We report our findings, reflecting on pathways to social entrepreneurship in mountainous villages, and finally, reflect on the efficacy of participatory methods in generating sustainable solutions.

2 Background

2.1 Social Design

Complex societal challenges are sometime termed ‘wicked problems’, with no right or wrong solution (Buchanan, 1992), encompassing a gamut of socio-economic, socio-political and socio-cultural issues with complex linkages. With no direct linear solution available, practitioners have turned to social design with its inclusive, iterative approach. The emphasis lies on threshold concepts that build ways of thinking and practice, as opposed to standalone theoretical ideas (Souleles and Ferreira, 2020). Social Design has been defined as “activities that espouse various and mostly participatory approaches to researching, generating and delivering outputs towards collective and social aims, rather than pursuing an exclusive focus on consumerist objectives” (Armstrong, Bailey, Julier, & Kimbell, 2014).

AHRC (2014) has recognized design capabilities to create progressive social impact through new knowledge and co-designed solutions to address issues the modern society grapples with. The report also highlights the need to equip design students with the tools required to address social issues. Research has highlighted the need to include interdisciplinary and multidisciplinary approaches to build an innovative design methodology (Aryana and Ozgur; Souleles and Ferreira, 2020). Exploratory addition of participatory methodologies from the social sciences and development studies in field studies in design education has proved beneficial with rich insights and a holistic approach (Dhaundiya & Pant, 2020).

2.2 Participatory Research

Improving the daily lives and reducing drudgery has been a primary focus of participatory action research, as opposed to the artefact driven approach design is known to follow (Cohen, Manion, & Morrison, 2011). It brings researchers and participants on equal footing in the research and ideation processes. In the context of design research, participatory action research has the major advan-

tage of not just discovery but discovery oriented to institute social change (Brydon-Miller, 2001).

From development studies we borrow a set of research techniques referred to as Participatory Learning and Action (PLA), comprising of interactive methods for analyses, planning, monitoring and evaluation of social development. Key methods involved are direct observation, semi-structured interviews and sequences or chains of interviews, focus group discussion, diagramming, mapping and modelling, participatory mapping, social network mapping, transect walk, livelihood analysis, oral histories, group walks, storytelling, portraits etc. Use of PLA techniques has been flagged as vehicles of implementing hidden agenda and strategic manoeuvres by researchers or even community leaders (Pottier, 1997) though. Participatory workshops need extreme reflexivity on the part of the researcher to ensure they are fair and truly representative.

In design, participatory design has initiated a questioning of practices built on hierarchical societal structures, placing power back in the hands of the end user (Dubberly & Sanders, 2006; Meissner et al., 2015). It has been useful in countering the 'tourist' approach that design sometimes takes, with superficial insights that lead to short-sighted solutions (Fuad-Luke, 2009). Community-Based Participatory Research (CBPR) has been shown to be effective in building fundamental knowledge about socio-economic issues, due to the emancipating process of bringing community members, organizational representatives, researchers, and any other stakeholders in the design process around the same drawing board (Israel, Schulz, Parker, & Becker, 1998).

The mountainous Himalayan area of Northern India is peppered with small towns and villages in difficult terrain, often with limited accessibility. Enterprise in the rural areas has been minimal, with some development schemes introduced by the state Government and some private enterprise mean to capitalise on taxation incentives offered. There is a vast scope for collaborative social enterprise that can help provide employment and income-generation avenues for the residents within the area, thus stemming mass migration. This study was an attempt to ideate and identify key entrepreneurial opportunities with the residents and propose a sustainable model for social entrepreneurship.

2.3 Social Entrepreneurship

Social enterprise primarily aims at creating social value, recognising relevant opportunities and employing innovative methods to 'adapt novelty', create and distribute value, while taking on business risks, and all this while tackling challenges that include a scarcity of resources and assets (Peredo & McLean, 2006). After the for-profit, and not-for-profit sectors, the 'social enterprise' economy has come up as the third sector, as a way to overcome structural issues in the former (Mulgan, G. and Landry, 1995). Legal frame-

works and fiscal responsibilities and duties differentiate social enterprise from conventional forms of enterprise (Haugh, 2005). Social entrepreneurship has been defined as a “for-profit social venture’ (Dees and Anderson, 2003), and also contrastingly termed a ‘social purpose enterprise” (Wallace, 1999).

The contribution of social entrepreneurship to social, economic, cultural and environmental resources and outputs has been recognized (Shaw & Carter, 2007), especially in the wake of criticism of charities and voluntary organisations for excessive bureaucracy and rigidity in functioning (Mulgan and Landry, 1995). In the face of disproportionate demands on the public sector, civic and social entrepreneurs gave rise to innovative solutions to tackling the new asks (Leadbeater, 1997). Social entrepreneurs are defined as “individuals who establish enterprises primarily to meet social objectives rather than generate personal financial profit” (Shaw & Carter, 2007).

Some scholars have criticized social entrepreneurship as a mere application of business principles to non-profit organisations (Reis, 1999) while some have lauded its ability to deal with and solve complex socio-economic needs (Johnson, 2000). In either case, they accept that existing public and private sector organisations are unable to meet the developmental goals of an increasingly unequal society, and that there is a pressing need for innovation (Peredo & McLean, 2006).

At the same time, however, social enterprise has been criticized for fundamentally having the same aims as profit-oriented enterprises, even if on a smaller scale.

What differentiates them is perhaps the defined social aims and social ownership structures that ensure power and agency is not monopolized by a person or group of persons in leadership. Developmental schemes and entrepreneurial ventures with traditional structures suffer from an unequal ‘U-shaped’ design where leadership gets disproportionate maintenance (Khwaja, 2001). Complexity in socio-economic factors in a community can worsen the power and resource allotment skew, empowering those involved at all levels. However, this has been shown to have negative effects on technical decisions (Khwaja, 2001). Social entrepreneurship has been credited with more inclusive project design. The advent of this third sector has challenged orthodox profit making bodies and their narrow purposes (Shaw & Carter, 2007).

3 Case Study

Our primary research objective was to examine CBPR as an effective design tool for Social Design, as a pathway to social entrepreneurship. Within the scope of this study, we attempted to identify possible areas of design intervention and to find opportunities of self-sustained entrepreneurship in the villages of the Himalayan

state of Uttarakhand in India. The study was part of a one month long module on Social Design with 14 participating design students and 2 faculty members. The main study was carried out at Sangaon in Uttarakhand. Out of the many small villages that dot the area around Dehradun, the capital city of state Uttarakhand, student researchers gathered data from Sangaon with some inputs from the nearby village of Sindhwalgaon. Sangaon is located at a distance of roughly 45 kilometers from Dehradun. Although not remote, the access to the village is extremely difficult in the absence of a motorable road leading to the village. The existing dirt road is difficult to navigate. The population of the village is 400 (Census, 2011), with a total of 90 households. The village has to be accessed on foot. Facilities like a local healthcare centre and secondary school are common for nearby villages and are present in Sindhwalgaon. The literacy rate is 86.06%, but there is only a primary school in the village. For secondary and higher education, the children either travel to nearby villages daily or migrate to the capital city of the state. The village has electricity available in houses, telecom connectivity for mobile phones and water supply through pipes. The terrain is mountainous with terraced fields used for farming. The village has a good forest cover and is rich in natural resources like medicinal plants of commercial value. The primary occupation of the villagers is agriculture with people also being in government service and owning private businesses like shops, transportation services etc. Traditionally crops like pulses, potato, kidney beans, french beans, ginger, rice and finger millet were grown in this region. Agricultural produce currently includes crops like vegetables, fruits and pulses and also high value produce like taro, turmeric, red chillies, split pigeon peas and horse gram. Most of the farming population that practiced agriculture here earlier has reduced significantly now due to mass migration; people leaving in search of more profitable ventures. In the last two years, villagers estimated that 150 people have migrated out of the village. Terraced fields have many challenges in terms of access, watering and drainage. In addition, increased intrusions by animals like wild boars and monkeys have made farming even more difficult in this region. Hence people from the village have been looking beyond agriculture as a primary profession and moving on to find other employment opportunities. Due to lack of infrastructure and new opportunities inside the village, people are forced to move out.

4 Methods

To test out our protocol, we conducted a pilot exercise in a more easily accessible semi-rural area called Maldevta, also near the capital city. Student researchers worked in teams (fig.1), mapping the area via transect walks, a research technique borrowed from rural development studies. A transect walk is an observatory trek across the area under study, recording resources, infrastructure, topography, indigenous practices, natural vegetation etc.

These are tallied for opportunity mapping and deep insights, gaining tacit knowledge that conventional research methods can not achieve (Narayanasamy, 2009).



Fig. 1: *Participatory Mapping Exercises with Villagers.*

Combining the transects with participatory exercises, we identified issues of education, administration, health, gender, infrastructure and livelihood. Data was compiled into layers on a composite map and further analysed for opportunity identification for design intervention via a systemic model of change.

For the main study, the initial days were utilised to conduct sensitising sessions for the researchers, getting familiar with the people and the local livelihood practices. The native language is Garhwali, but Hindi was also commonly understood.

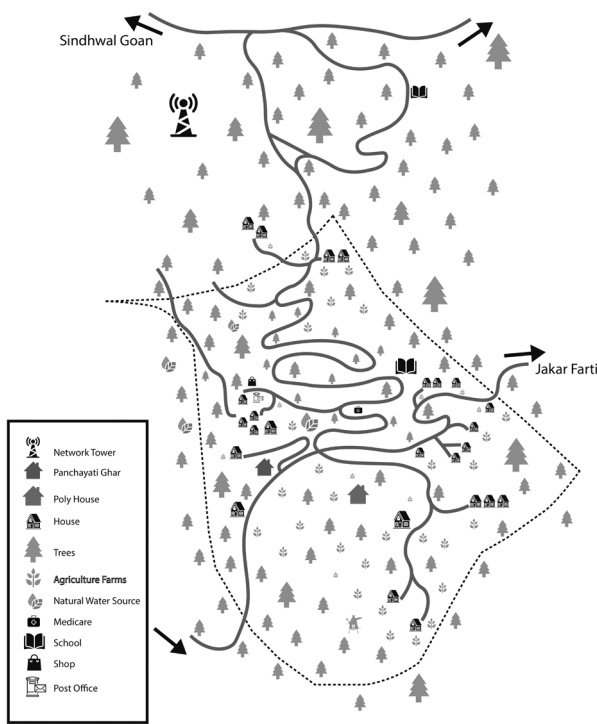


Fig. 2: Transect Map digitized after collation.

The researchers divided into groups for easy data collection and extensive coverage of the village and nearby areas. Tools of participatory rural appraisal that included participatory mapping and modelling, mobility maps, seasonal calendars, geographic, cultural and resource transects, timelines, observations and interviews were conducted in a structured manner for data gathering. For carrying out the transect walks, a key local resident facilitated the exercise and functioned as the local guide. The guide also detailed important things like natural resources like ponds, water sources, trees, plantations, soil, terrain, seasons and season related changes that affected the village. All transects were compiled and were a source of information for participatory mapping with the villagers. Participatory mapping also helped in cross-verifying the data gathered during transects. The process of participatory mapping had a setup that had three key individuals managing the exercise. The team leader who supervised the event and documented and compiled everything, the designated note taker who was responsible for recording the information verbatim while drawing the maps and the facilitator who introduced the concept of mapping, assisted in map making and moderated the process. Map making was done by using locally available natural materials like branches, twigs, stone, sticks and leaves and was translated on paper. To break the ice easily and keep the process informal, natural settings like houses, fields, and the local community hall were chosen for conducting the exercise. The walks were done on foot and in absence of any motorable roads the commute between village and nearby areas was also conducted on foot.

The observatory transect walks by students that were conducted along with one key individual from the village was collated after gathering data from all students. This data was then tabulated and used to create maps. These maps had a base map on to which layers of information like population, local and natural resources, house construction type, presence of livestock and occupation were superimposed. These were used for quick observations and discussions regarding the climate, resources, geography and culture of the village.

Another tool used to gather patterns were the mobility maps. The mobility maps explored the daily movement and commute of the villagers and also reflected upon the long term migration pattern of the community. It helped answer questions like the scale and reasons of exodus from the village. Besides this, seasonal-calendar was another relevant tool that helped in understanding the effect that seasons had on occupations like agriculture, wage labourers and tourism.

Dialogue and semi structured interviews were also a source of information from school children and young adults. The data gathered through these interviews gave insight about how within two and three generations the perspective of living in the community and thoughts, feelings and aspirations changed. Student researchers also used timelines to find out and identify key events of the villagers and significant changes in the history of the village. These tools helped them in co-identifying areas of interest and probable opportunities in the village.

To build a common consensus for bringing any change in the village, the students interacted and took opinions of local stakeholders like village sarpanch (locally elected head), the members of panchayat (locally elected governing body), school teachers, and local business owners from governmental and non-governmental setups. Besides this data collection that was done both digitally in the form of videos and photos and analog in the form of charts, notes and lists was shared and was cross referenced with secondary research to find workable ideas. Data digitization and tabulation was done at the end of each day and all information collected was analyzed and superimposed over the participatory maps and models to create mind maps that further clarified most suitable concepts and pathways to be taken up further.

5 Findings

The test project at Maldevta, that was done prior to the participatory exercise in Sangaon, played an important role in clarifying the mechanisms required to conduct the walk in the community. The exercise done at Maldevta also helped in understanding the nuances of all the tools to be used and the ways in which these participatory tools had to be used in a rural setting. It cleared a few misconceptions and also helped in handling biases that were per-

sonal, spatial, geographical and seasonal in nature. The students by visiting villages in two different settings also found it easier to interact with the villagers and were able to improve upon their mapping exercises and ice-breaking sessions. A cursory walk had not revealed much about the infrastructure in the village but when it was contrasted with the data gathered from villagers, it was found that the village had a health-care center, the panchayat house, a small water conservation structure and a local shop. By comparing and contrasting this walk with the study in villages of Sangaon and Sindhwalgaon, the students along with the community were able to understand the variations among urban, semi-urban and rural infrastructures, communities and resources available.

An analysis and discussion about the locally available natural resources after resource mapping helped identify the primary commercial resources as jackfruit wood, neem wood, guava leaves, golda twigs and bhimal bark. Reflecting together with the village residents, Bhimal (*Grewia optiva*) was identified as the most versatile and unique product with high potential for entrepreneurial development. The stalk of Bhimal contains short staple fibres, used to make ropes after the process of rotting. The leaves are a rich source of crude protein, making them ideal for use as a shampoo base. Currently they are only utilized in feeding cattle. Bhimal fibre with its coarseness and jute-like appearance may also be used as an inexpensive jute replacement in bags, slippers, table mats and baskets, following a simple process detailed in Figure 3 below.

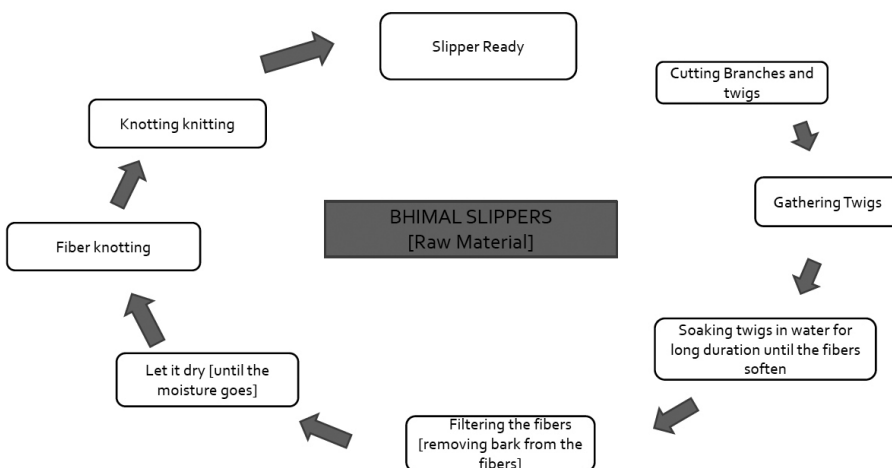


Fig. 3: Raw Bhimal Processing Cycle.

Product ideas included using freely available Bhimal as raw material for producing slippers. Figure 4 below shows a detailed workflow for production at the village and direct delivery to customers without middlemen. The production does not require any special setup and can be done at any public area in the village. Students conducted a few workshops in the village where they explained the process of fiber extraction from the stem and the process of knotting to make the slippers.

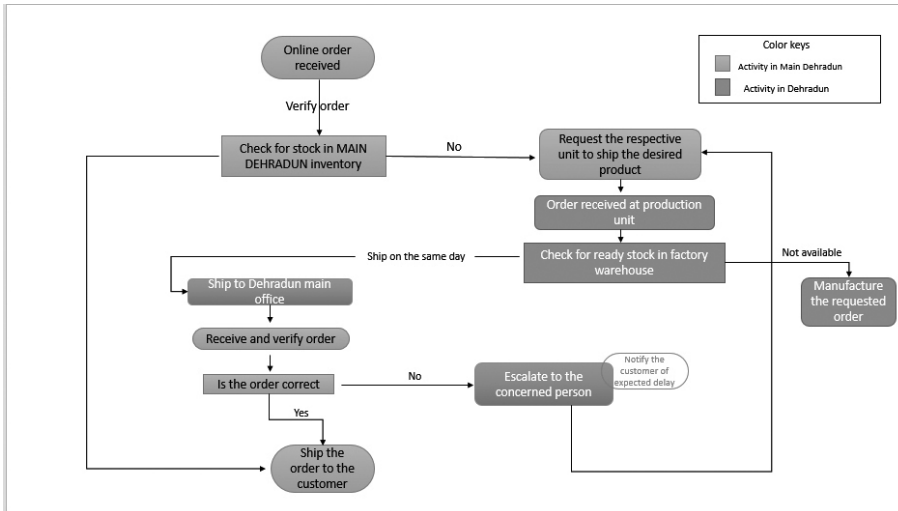


Fig. 4: Proposed Workflow Co-created with Villagers.

The people of the community were enthusiastic and receptive of the proposed system of value creation and using it to generate income. Figure 5 below details the participatory model for setting up social enterprise that is a contribution from our research. The system includes two self-sustained stages of production and distribution where the community will be divided into two cohorts, one batch overlooking collection of raw material, processing and production of the slippers while the other will be responsible for fulfilling the orders from customers. The operation will initially need a push and management at an overall level, managed by home-grown social entrepreneurs. The proposed plan also includes fulfilling the capital and operational expenses by getting access to and utilizing Mudra loan by the central government and seed funding via various state based incubators.

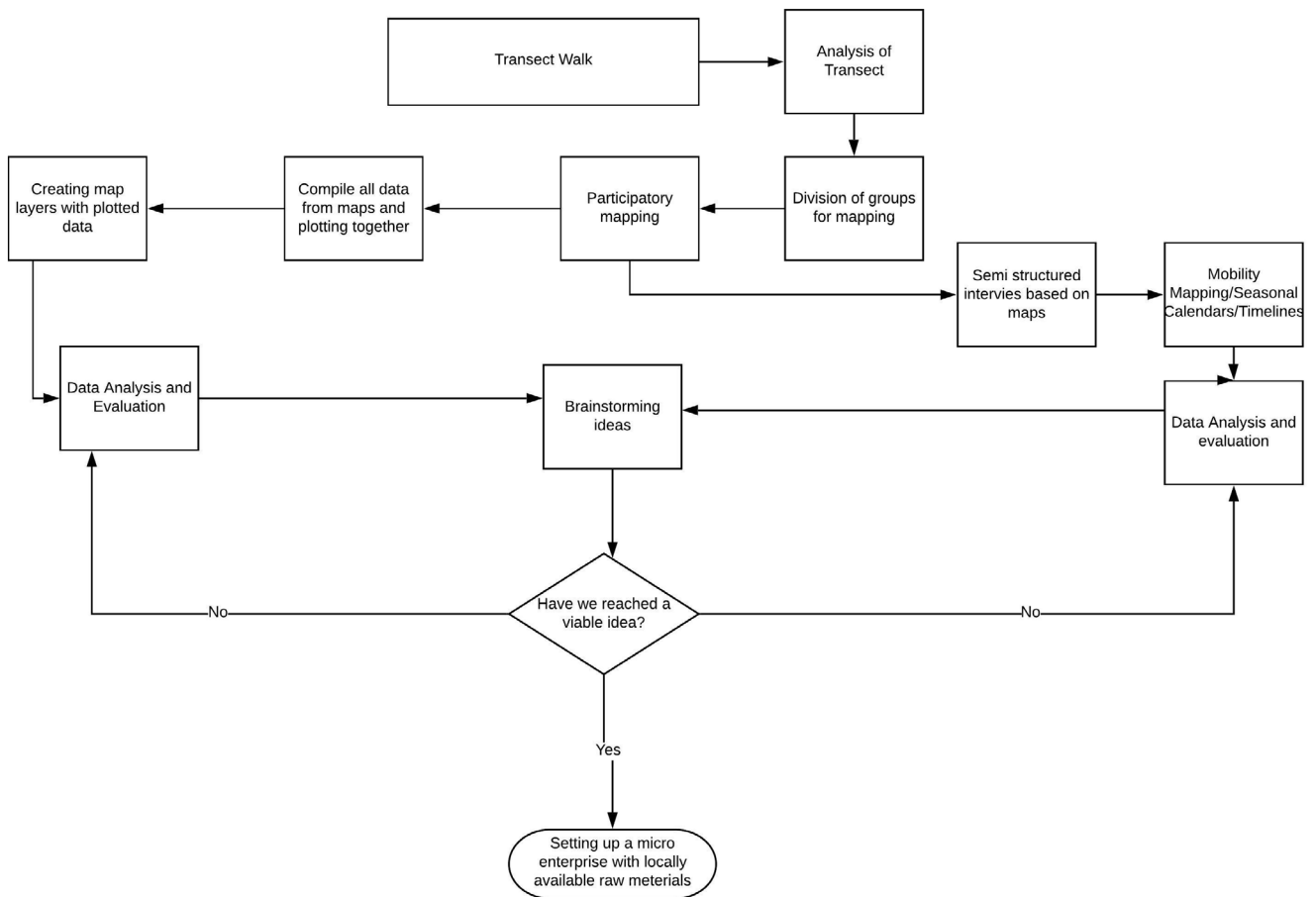


Fig. 5: Participatory Model for Setting up Social Enterprise.

6 Conclusion

This paper presents our findings from our field study of integrating Community Based Participatory Research and Design Thinking approaches in the field. Our main aim was to explore participatory methods in creating models for social entrepreneurship that is based on local human resource and material produce.

The participatory exercises were received very well by the villagers who had grown used to researchers visiting them on fact finding missions and reporting back to the government in order to produce one-size-fits-all policy interventions and initiatives that are agnostic of local voices and concerns. Sitting on a literal and figurative common ground with the researchers, the villagers were able to look at their issues and the opportunities that lay within with new eyes. They already supply raw bhimal to large city-based processing companies but the profit margins are so low that most find it easier to take small service jobs in the capital city than carry out the hard task of farming terraced fields. Setting up a bhimal processing plant and creating original, marketable designs opens up a route of social entrepreneurship which will create many employ-

ment opportunities, while ensuring the best possible returns for their produce. It is possible if a government or non-government organisation was to give them this solution, they may meet with resistance. But the participatory workshop gave the villagers, especially those who are keen to stay on in the village and thus more invested in the idea of finding opportunity within their environs, a logical path to creating a model for social entrepreneurship. The initial CBPR exercises built a rapport between the researchers and the villagers. The researchers felt more of a connection after living amongst the people they were working for and the villagers themselves found it easier to trust them when they saw that they were interested beyond the usual fact and figure finding.

This study was part of our ongoing exploration of Community-Based Participatory Rural Research as a research method for design students. While the first one had concentrated on the participatory methodologies and identification of opportunities, in this one we took a step further to explore solutions as well. We have found CBPR to be a very useful tool for design research. Future areas of exploration could include service based solutions that are not dependent on seasons and yield. It would also be worth exploring if the participation of experienced social entrepreneurs from outside the community can help make the entrepreneurial model more robust.

References

- Armstrong, L., Bailey, J., Julier, G., & Kimbell, L. (2014). *Social Design Futures: HEI Research and the AHRC*. Retrieved from <https://research.brighton.ac.uk/en/publications/social-design-futures-hei-research-and-the-ahrc>
- Aryana, Bijan. Ozgur Deniz, C. (2015). an Analysis of the Influence of Design Activism and Socially Responsible Design Approaches. *11th European Academy of Design Conference*, 1–11.
- Brydon-Miller, M. (2001). Education, research, action: Theory and methods in participatory action research. *From Subjects to Subjectivities: A Handbook of Interpretive and Participatory Methods*, New York, 77–89.
- Buchanan, R. (2001). The Problem of Character in Design Education: Liberal Arts and Professional Specialization. *International Journal of Technology and Design Education*, 11.1, pgs. 13–26.
- Buchanan, Richard. (1992). Wicked Problems Thinking in Design. *Design Issues*, 8(2), 5–21.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education*. London: Routledge.
- Dees J. G. and Anderson B. (2003). For-Profit Social Ventures. In *Social Entrepreneurship*, Eds. M. L. Kourilsky and W. B. Walstad. Birmingham, UK: Senate Hall Academic Publishing.
- Dhaundiyal, D., & Pant, R. (2020). It takes a village: Community based participatory research as a design research tool. *Discern: International Journal of Design for Social Change, Sustainable Innovation and Entrepreneurship*, 1(1), 12–26.
- Dubberly, H., & Sanders, L. (2006). *An Evolving Map of Design Practice and Design Research*. (1), 13–17.
- Fuad-Luke, A. (2009). Design activism: beautiful strangeness for a sustainable world. *Earthscan: London*.
- Haugh, H. (2005). A research agenda for social entrepreneurship. *Social Enterprise Journal*, 1 (1)(1750–8614).
- Israel, B.A., Schulz, A.J., Parker, E.A., & Becker, A. . (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173-202.
- Johnson, S. (2000). *Literature review on social entrepreneurship*.
- Khwaja, A. I. (2001). *Can good projects succeed in bad communities?*
- Leadbeater, C. (1997). *The Rise of the Social Entrepreneur*. Demos, London.
- Meissner, F., Blake, E., Rittel, H. W. ., Gonzalez-Cabrero, D., Kapuire, G. K., Winschiers-Theophilus, H., ... Pearce, J. M. (2015). The democratisation of design and design learning: how do we educate the next generation designer. *International Journal of Arts and Sciences*, 20(2), 101–108. <https://doi.org/10.1016/j.mechatronics.2013.06.002>
- Mulgan, G. and Landry, L. (1995). *The Other Invisible Hand: Remaking Charity for the 21st Century*. Demos/Comedia, London.
- Narayanasamy (2009). *Participatory Rural Appraisal - Principles, Methods and Application*. Sage Publications.
- Peredo, A. M., & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business*, 41(1), 56–65. <https://doi.org/10.1016/j.jwb.2005.10.007>
- Pottier, J. (1997). Towards an ethnography of participatory appraisal and research. In: Discourses of development: Anthropological perspectives. Grillo, R.D. and Stirrat, R.L. (Eds). *Berg, Oxford and New York*, 203–227.
- Reis, T. (1999). *Unleashing the new resources and entrepreneurship for the common good: A scan, synthesis and scenario for action*.
- Shaw, E., & Carter, S. (2007). Social entrepreneurship: Theoretical antecedents and empirical analysis of entrepreneurial processes and outcomes. *Journal of Small Business and Enterprise Development*, 14(3), 418–434. <https://doi.org/10.1108/14626000710773529>
- Singh, Sapna; Lotz, Nicole and Sanders, E. B.-N. (2018). Envisioning Futures of Design Education: An Exploratory Workshop with Design Educator. . . *Dialectic*, 2(1), 15–42.
- Souleles N., Ferreira A.M., S. S. (2020). Threshold Concepts and Design for Social Change. In: *Goossens R., Murata A. (Eds) Advances in Social and Occupational Ergonomics. AHFE 2019. Advances in Intelligent Systems and Computing*, 970.
- Souleles, N. (2017). Design for social change and design education: Social challenges versus teacher-centred pedagogies. *The Design Journal*, 20(sup1), S927–S936. <https://doi.org/10.1080/14606925.2017.1353037>
- Wallace S. L. (1999). Social Entrepreneurship: The role of social purpose enterprises in facilitating community economic development. *Journal of Developmental Entrepreneurship*, 4 (2), pp.153-174.

Acknowledgements

We would like to thank Doon University for facilitating this course and case study. We also acknowledge the students of 2016 batch for their participation in the research. We are also grateful to the residents and local authorities of Sangaon village for their cooperation.

Design for and From the Community: A Review of Social Design in Egypt

Keywords: Social Design, SDG, Sustainability, Social Innovation.

Sherin Helmy*

*helmysherin4@gmail.com

In this paper, the field of contemporary design is explored and its development moving towards more recent discourses such as transition design, relation to craft and where designers fit in this image while considering external forces and how they influence the playing field. This brings to our attention the current movement of social design, how it came to be, why is it needed and what are the local examples showcasing it.

Moreover, the business side is discussed and its relation to social innovation and entrepreneurship. This paved the way in the past few years, to the rise of a number of start-ups or enterprises and initiatives examples in Egypt that tackle the social aspect one way or another, particularly crafts and craftsmanship combined with the founders' expertise in design. The examples discussed are the Nilfurat project, Up-fuse, Kiliim, the doodle factory and reform studio.

The initiatives in question are part of a movement still in its infancy phase, depending mainly on expensive products to a limited target group. Having said that, those initiatives seem to be a good starting point in the direction of social and economic reform that is gaining momentum..

1 Introduction

This paper aims to review what constitutes 'Social Design' in relation to other and often connected terminology, offering some clarity to the growing movement in contemporary design. Subsequently, highlight how that is reflected in the Egyptian community in the form of the different startups and initiatives, in accordance with the global 'trend' of moving towards more sustainable environments and societies. The paper aims to bring to light why such a movement is urgently needed and how it is gaining momentum globally and in the Egyptian Scene.

The methods used in this paper are reviewing of the available literature and public sources coupled with discussion through the author's opinion. In the case of Up-fuse, 'general' observations were used to further support the argument stemming from the authors work with them.

2 Design and Social Design

"Design must be meaningful" Victor Papanek states in his introductory paragraph attempting to elaborate on what is design and the nature of this discipline that always posed to be difficult to define. He goes on to further discuss that design is not a foreign or a stand-alone discipline, it is integrated with our normal daily activities and performed by everyone.

"All men are designers. [...] Any attempt to separate design, to make it a thing-by-itself, works counter to the fact that design is the primary underlying matrix of life".

There has always been a 'struggle' to define what Design actually means. Is it art? Is it a middle ground between art and science? What is it useful for?

"No single definition of design, or branches of professionalized practice such as industrial or graphic design, adequately covers the diversity of ideas and methods gathered together under the label" (Buchanan, 1992)

While it has always been difficult to define what design really means or when did such a practice come to existence, for the sake of this paper, design will refer to the contemporary understanding of it as 'contemporary design'. More specifically, referring to the rise of design as a field following the industrial revolution.

A strong relationship between design and wicked problems has been established in the way that the nature of how design approaches problems; a problem-solving and iterative approach. Wicked problems as opposite to tame problems are characterised by being complex and "no single answer" verses tame problems which have a definitive answer, solved by mathematicians and scientists (Cross, 2006).

Being exposed to such complexity regularly has made designers accustomed to dealing with such problems through developing countless pragmatic strategies, methods, tools and processes (Dorst, 2019).

3 Powerplay

Consumerism and capitalism go hand in hand, both are essential for the existence of the other and in turn design has a big role in that. These notions have immense of the present world order.

“Design is a key cog in the wheel of consumerism, so it is no wonder that most designers have trouble conceiving of their work in any other form than commerce and consumerism” (Thorpe, 2010).

Contemporary design, design as we know it, emerged with the rise of mass production and so it became stuck in this endless loop of making to fulfil, becoming the fuel of consumerism and aiding the further flourish of the capitalist economy, where the more the merrier. Driven by the new technology at the time; the industrial revolution, the field of industrial design emerged. It aimed to accommodate to the wide demand for products enabled by the possibility of mass production (King & Chang, 2016).

By the 1980s, design has become fully integrated into the neo-liberal model of capitalism, making any other perspectives of design of design irrelevant. This hyper-commercialisation of design made socially-oriented designers such as Victor Papanek in the 70s to be viewed as no longer relevant as they don't fit in the new world order which is concerned with design's glamour and the potential to generate wealth (Dunne & Raby, 2013).

Dune and Raby while they distinguish their approach; speculative design, which is more on the radical side, they describe as once the designer steps out of the traditional sense of industrial production and conceptual design (Dunne & Raby, 2013).

Escobar discusses how design is such an important pillar of our modern life. Whether you consider the birth of design with the first use of tools by early humans, technological aspirations of the Renaissance, the Industrial Revolution, or nineteenth-century modernism. That resorts to the fact that only with the rise of modernity did societies become affected by expert knowledges and discourses and changed by them (Escobar, 2017).

Ann Thorpe discusses in her paper 'Design's role in Sustainable consumption' co-design and co-creation as part of the solution. It guides the movement toward democratic, representative, or user-enabled design. She then taps on Kate Fletcher's example from the sustainable fashion context where the consumers are involved as co-designers by for example cutting garments or drawing with fabric pens (Thorpe, 2010).

4 The Role and Responsibility of Design and Designers

“With great power comes great responsibility”, not to say that designers are superheroes, but to illustrate that within their hands lies a good amount of power to create, which is often misused, whether intentionally or unintentionally. Designers have a great responsibility towards the world. They act as creators in the modern society; they bring all kinds of ideas into existence; giving form to those ideas, which can either lead to good or destruction. Anne-Marie Willis discusses the notion of design’s responsibility from the lens/perspective of ontological design. She refers to Tony Fry’s statement of “Design designs” and further discusses to mention “Design designs’ also includes the designing effects of that which designers design (objects, spaces, systems, infrastructures)” (Willis, 2006).

Furthermore, Papanek describes the act of design as the act of planning. The designer in this context is the planner and therefore he holds them responsible for the creation of all tools and products and almost all the environmental mistakes. They are responsible either through “bad” design or by throwing away their creative abilities and not getting involved enough (Papanek, 2006). He then also gives the designer another role which is the interpreter. Because of his education, he is able to navigate various technical spheres and able to communicate with many disciplines (Papanek, 2006).

One of the interesting updates that came to light very recently is ‘The Designers’ Pledge’ posted December 16th this year, to *LinkedIn*. It’s a pledge, consisting of ten points, that urges designers to willingly uphold themselves to higher standards, trying to include the greater good and the wellbeing of the world into their work.

“Let’s face it, design has too often failed to live up to its claims to make the world a better place. Where we seek to design for all, we too often design for some” (Brown, 2020).

5 The Social in Social Design, and Other Discourses

Kees Dorst guides us as to why we need social design and how it’s different from “normal design” in her paper “Design beyond Design”. She starts by explaining how design as a field developed, then she elaborates why the shift to social design is needed. It is because the world we are currently in has become far more complex requiring a paradigm shift in how those problems are tackled. It is no longer enough to apply simplistic design methodology to the present problems, doing that often results in simplistic fragmented solutions (Dorst, 2019).

Moreover, she elaborates on the fact that social design entails managing numerous stakeholders from both the problem and the solution perspectives. In addition, it requires the integration of multiple disciplines into what typically becomes very complex product-service combinations (Dorst, 2019).

Moving on to the notion of 'Transition Design' which comes in direct contact with social design. A lot of what transition design means can be inferred from the word "transition".

It is a proposal to push design into a new age of sustainable future led by societal transitions. Solutions emerging from this new approach of design are place based, life-style oriented and originate from long-term thinking (Irwin, 2015).

In addition to Terry Irwin, Arturo Escobar is among the most important writers on this topic. Irwin illustrates the different discourses around the more "socially-oriented" design disciplines (Design for Service, Design for Social Innovation and Transition Design) in Figure 1 in relation to the current scene of where generally design as a field currently lies. In addition, Escobar further expands on the notion of transition design and how essential it is in the transition times we are currently living, pushing societies towards more sustainable futures while believing in design and its role towards such changes. (Irwin, 2015; Escobar, 2017).

Fig. 1: A continuum of Design approaches (Irwin, 2015).

A Continuum of Design Approaches

Mature discipline

Design for Service

Design within existing socio-economic & political paradigms

Solutions reach users through many 'touch points' over time through the **design of experiences**. Solutions are based upon the observation and interpretation of users' behavior and needs within particular contexts. Service design solutions aim to provide profit and benefits for the service provider and useful and desirable services for the user (consumer). Solutions are usually **based within the business arena and existing, dominant economic paradigm**.

Developing discipline

Design for Social Innovation

Design that challenges existing socio-economic & political paradigms

Design that **meets a social need more effectively than existing solutions**. Solutions often leverage or 'amplify' existing, under-utilized resources. Social innovation is a 'co-design' process in which **designers work as facilitators and catalysts** within transdisciplinary teams. Solutions benefit multiple stakeholders and empower communities to act in the public, private, commercial and non-profit sectors. **Design for social innovation represents design for emerging paradigms and alternative economic models, and leads to significant positive social change**.

Emergent discipline

Transition Design

Design within radically new socio-economic & political paradigms

Refers to design-led societal transition toward more sustainable futures and the reconception of entire lifestyles. It is based upon an understanding of the **interconnectedness and inter-dependency of social, economic, political and natural systems**. Transition design focuses on the need for '**cosmopolitan localism**', a place-based lifestyle in which solutions to global problems are designed to be appropriate for local social and environmental conditions. **Transition design challenges existing paradigms, envisions new ones, and leads to radical, positive social and environmental change**.

Scale of time, depth of engagement, and context expand to include social & environmental concerns

This brings us to the fair assumption that social design is a general theme aiming towards further highlighting and emphasising the social aspect, as part of sustainability, of anything that is brought into existence. Adding to this, sustainability in this context encompasses both societal and environmental factors; a sustainable society.

It is a design movement that we, globally, are in dire need of as an important pillar of our coexistence as humans within the natural world in peace. This general concept is wide enough to encompass different discourses under it, lying on a scale which starts from incremental considerations of the society and the environment into the more critical side reaching transformative and transition design driving significant change.

6 Relationship between Design and Craft

One cannot miss the role craft plays in the social design discussion. It has always been a part of where it lies in relation to design and vice versa, what kind of relationship does the designer and the craftsman have or ought to have, the role of the global political and economic play in that and how all of this influences history. This interesting dynamic, in my opinion, sparks an interesting discussion and helps us understand 'craft' and 'design' better as well as their surrounding 'factors'.

The book "Critical Craft; Technology, Globalization, and Capitalism" offers a wide review of essays discussing design in relation to craft, presented through some examples along time in addition to the influencing factors such as the power exerted by capitalism and consumerism.

Just as it's difficult to define what exactly is design, the same goes for "Craft". Alicia Ory DeNicola and Clare M. Wilkinson-Weber in their introduction to the book state that craft is to be studied through anthropology and social sciences as it is an integral means of understanding relationships between places, people, and time (DeNicola & Wilkinson-Weber, 2016).

They later expand that craft refers to the skilled production of what could be considered as complex artefacts which then left its place for the industrial production which came with the rise of capitalism (DeNicola & Wilkinson-Weber, 2016).

They have a negative view of where design lies and what is the role of the designer. They see designers as elite people, "cultural brokers" enforcing their knowledge and expertise upon the craftsmen. As if designers are the owners of value; determining what should be published into the world and what shouldn't (DeNicola & Wilkinson-Weber, 2016).

But the either or stance is not the answer. Escobar highlights the role of the designer as a facilitator and mediator more than being an expert; considering design as highly user-centric participatory, collaborative, and radically contextual (Escobar, 2017).

Adding to that, this paper takes the same stance as the one elaborated by stating that anything that lies of out of the strict consumerist market model Margolin and Margolin which states that the market model is not to be considered as opposing to the social model, but rather they should be considered as two poles of a continuum (Margolin & Margolin, 2002).

In 2015 world leaders met and agreed on behalf of the nations they serve on the global goals that needs to be achieved by 2030. These 17 SDGs with the 169 targets under them are an urgent call for action, requiring global partnerships.

After reviewing and discussing the past literature, it is my view that the following goals are closely related to the concepts discussed in this paper.

- Goal 1. End poverty in all its forms everywhere.
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
- Goal 12. Ensure sustainable consumption and production patterns.
- Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

7 Sustainable Development Goals (SDGs), a Global Direction



Fig. 2: Relevant SDGs (United Nations, n.d.).

The targets under these goals could be further explored through the resources provided by the UN as they act as the manual to achieving those bigger goals (n.d., 2015).

On the entrepreneur level, it provides clear insight to the global needs, aiding the reflection on the local scene to drive change and improvement through social innovation.

As for the national level, it also provides the policy makers insight to the global direction. It should guide policy making and make the national environment one that is equipped to nurture and attract social innovation and societal improvement.

8 The Business Side: Relation to Social Innovation and Entrepreneurship

Discussing how the social impact translates into the business side, we will look at terms and tools used in that domain such as social entrepreneurship and The Triple Layer Business Model Canvas (TLBMC).

Fakoussa, O'leary and Salem discuss through various sources of literature what social entrepreneurship and enterprises entail, relating the findings to their research of the Egyptian Scene. They refer to social startups as the startups that aim to help in alleviating some social challenges and creating social return on investment (SROI) while still generating satisfactory traditional return on investment. In addition, social entrepreneurship could be used to describe organisations that look to have social and environmental impact alongside the economic (Fakoussa, O'leary, & Salem, 2018). While the Egyptian Economy could be described as an emerging, buoyant economy, it's still very much suffering. In spite Egypt ranking first in terms of population in the MENA region, it ranks only fourth in GDP and in turn 15th in terms of GDP per capita (Fakoussa, O'leary, & Salem, 2018).

Another interesting aspect in the integration of sustainability values into business is the business generation tool: The TLBMC. It is a practical tool that coherently integrates the economic and social concerns along with the economic for a holistic view of an organisation's business model. It was developed by Joyce and Paquin as an extension Osterwalder and Pigneur original business model with its entirely economic orientation. Since it was proven in our modern age that focusing on economic profit alone is not enough, they integrated the triple bottom line as an underlying methodology. Consequently, each layer represents one dimension which requires horizontal coherence between its nine components as well as vertical coherence across the three layers for an overall comprehensive image of business (Joyce & Paquin, 2016).

9 Examples with an Egyptian Flavour

The following are some highlighted examples from the current Egyptian market. For the sake of this paper, I will focus on the 'design-led, socially-oriented enterprises and initiatives'. They are defined in this context as: startups or initiatives with at least one designer as a founder, or utilising evident design involvement in addition to having some kind of 'consideration' for societal improvement.

An example of such an initiative is the Nilfurat project. The Nilfurat project is a project created to support Syrian and African refugees in Egypt as well as internally displaced women, created in 2015 with the support of Yadawee and UNHCR and in collaboration with a number of designers. It aims at providing economic engagement for the participants as well as cultivating cultural diversity through teaching them about certain crafts as well as providing sessions in design and marketing to help them come up with different products to be sold in the local market (Nilfurat Project, 2018; Nilfurat Project, 2016).

There are many positive concepts that can be inferred from this example. One of them is Co-Design seems to be a concept utilised here by empowering the women to invite their creativity and skill into the process.



Fig. 3: Examples of Nilfurat Project's Products.

There are numerous examples of start-ups or enterprises arising in Egypt that tackle social aspect one way or another, particularly crafts and craftsmanship combined with the founders' expertise in design. A good example of a start-up with a social cause would be Kiliim. They describe themselves as "Egyptian social enterprise/lifestyle brand that aims to revive & sustain the art of handwoven kilim by introducing modern designs to a time-honored technique." (Kiliim, n.d.). Founded by Noha El Taher German University in Cairo (GUC), Graphic Design graduate and Ibrahim Shams in 2016, after

noticing how the design aspect is severely lacking in the kilim industry, driven by a personal need for high quality kilim. They introduced the design aspect into the process and started working with craftsmen from Fowwa, a small town in the governate of Kafr El-Shaikh which is considered the hub of the craft of kilim-making. They aim to provide high quality products to their customers while trying to save this dying craft and providing a better livelihood for the craftsmen (Kiliim, 2018).

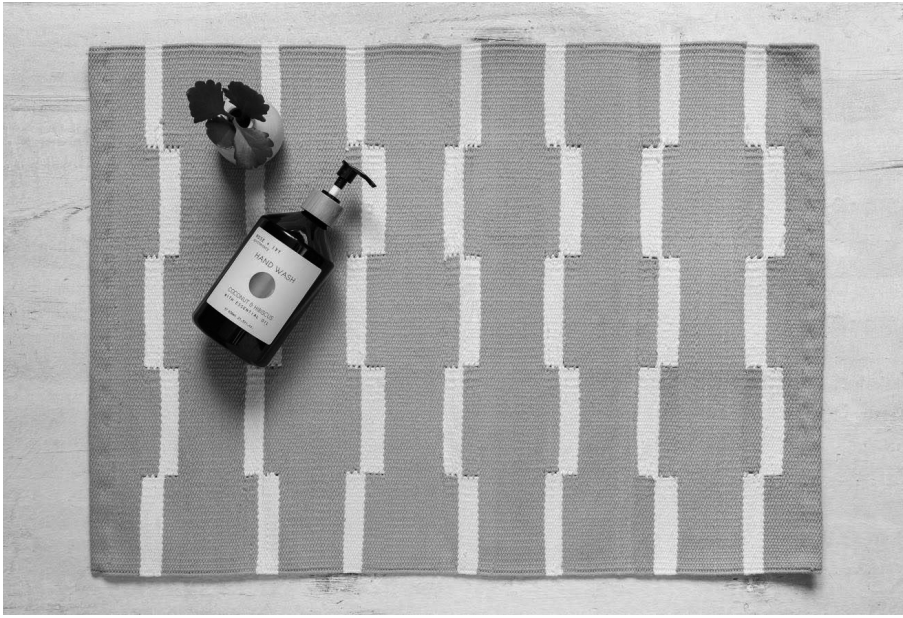


Fig. 4: An Example of Kiliim Products.

Another example of a social start-up is Up-fuse. I have worked for Up-fuse since 2016 as an intern with a variety of task then periodically as a freelance product photographer. This allowed me to witness their development since that stage until now. They describe themselves as “a fully-fledged Cairo-based cult brand and social enterprise created in celebration of You and this beautiful planet – Earth”.

Founded by Yara Yassin and Rania Rafie in 2013 and Lama El Khawanky later joined the team, all GUC, Product Design graduates. The startup has been nationally and internationally recognised on many occasions.

Fig. 5: An Example of an Up-fuse Product (Helmy).



They collect plastic bags from various sources. Then, these bags are sanitised and pressed into sheets with the help of the workers in collaboration with Roh I Shabab NGO based in Cairo's garbage city (Manshyet Naser) as one of the entities they collaborate with.

They use the plastic material as the hero, combined with other materials such as fabric depending on the kind of product, combined together with the hands of Egyptian artisans. The main products they offer revolve around fashion accessories such as backpacks with different kinds, aiming to provide durable, bold and fashionable products for the stylish, responsible individuals.

Further analysing this example, it is evident that they work with important concept such as valuing the artisans and handmade work while, locally-made products, slow fashion and empowering women. In addition, they integrate the concept in co-design in their work, by including the workers in the process of the selection of the colour scheme of the plastic bags to be pressed into sheets as well as including the knowledge of the artisans in the overall making process.

Furthermore, they value the notion of collaboration as they collaborate with multiple NGOs as previously mentioned, one of those also is the Nilfurat initiative previous discussed. They have also many artists on numerous projects. On example is collaboration with the Egyptian fashion designer Esmeralda Radwan and worn by the Egyptian actress Sarrah Abdelrahman to El-Gouna Film festival in 2018 (Up-fuse, 2018).



Fig. 6: Actress Sarrah AbdelRahman wearing top designed by the collaboration between Up-fuse and Esmeralda Radwan (sarrahsworld, 2018).

10 Conclusion

Other examples worth mentioning are 'The Doodle Factory' and 'Reform Studio'. The doodle factory empowers vulnerable children by allowing them to unleash their creativity on a canvas and the implementing them in fashion and lifestyle products. The products are sold to be able to the medical, educational and survival needs of the children. (Doodle Factory, n.d.) (West, n.d.)

Reform Studio also works with plastic bags, but utilising weaving techniques to create a range of products that includes fashion accessories, furniture and home accessories. (Reform Studio, n.d.)

Social Design is a general design movement aiming towards further highlighting and emphasising the social aspect, as part of sustainability, of anything that is brought into existence. It is a design movement that we, globally, are in dire need of as in important pillar of our coexistence as humans within the natural world in peace. This further highlights the pressing need of the designer, not as an elite expert but rather as a facilitator and collaborator in the process.

Moreover, design as field in Egypt still has a long way to go, according to general observations, it still to a great degree still viewed in a shallow manner, with more focus on the aesthetical aspect than anything else. Margolin and Margolin tap on the notion of the shallow perception of design, stating that design is often publicly understood and generally framed as artistic manifested in different kinds of products (Margolin & Margolin, 2002).

The initiatives in question are part of a movement still in its infancy phase, depending mainly on expensive products to a limited target group. Having said that, those initiatives seem to be a good starting point in the direction of social and economic reform that is gaining momentum.

References

- (n.d.). Retrieved December, 2020, from <https://www.facebook.com/Kiliimegypt/photos/3291011344301336>
- (n.d.). Retrieved December, 2020, from www.facebook.com/nilfurat/photos/a.1724841487754917/1918027588436305
- #Envision2030: 17 goals to transform the world for persons with disabilities Enable. (n.d.). Retrieved July 30, 2020, from <https://www.un.org/development/desa/disabilities/envision2030.html>
- Admin, P., & Admin. (2018, October 04). El Gouna Film Festival, Sarah Abdelrahman And Up-fuse: Up-fuse. Retrieved December, 2020, from <https://up-fuse.com/gff-conscious-expression/>
- Anne-Marie Willis (2006) Ontological Designing, *Design Philosophy Papers*, 4:2, 69-92
- Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues*, 8(2). doi:10.2307/1511637
- Clarke, A. J. (2018). 14 Stirring the Anthropological Imagination: Ontological Design in Spaces of Transition • Arturo Escobar. In *Design anthropology: Object cultures in transition*. London: Bloomsbury Academic.
- Communications materials – United Nations Sustainable Development. (n.d.). Retrieved December, 2020, from <https://www.un.org/sustainabledevelopment/news/communications-material/>
- Cross, N. (2006). *Designerly ways of knowing*. Springer London.
- Doodle Factory: Children Creativity Matters. (n.d.). Retrieved December, 2020, from <https://doodlefactory.co/>
- Dorst, K. (2019). Design beyond Design. *She Ji: The Journal of Design, Economics, and Innovation*, 5(2), 117-127. doi:10.1016/j.sheji.2019.05.001
- Dunne, A., & Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming*. MIT Press.
- Escobar, A. (2017). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*. Durham: Duke University Press.
- Fakoussa, R., O'leary, S., & Salem, S. (2018). An exploratory study on social entrepreneurship in Egypt. *Journal of Islamic Accounting and Business Research*, 11(3), 694-707. doi:10.1108/jiabr-02-2017-0023
- Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture*, 7(2), 229-246. doi:10.1080/17547075.2015.1051829
- Joyce, A., Paquin, R.L. (2016) The triple layered business model canvas: A tool to design more sustainable business models, *Journal of Cleaner Production*, <http://dx.doi.org/10.1016/j.jclepro.2016.06.067>
- Kiliim is reviving the Egyptian craft of kilim-weaving: Noha El Taher | Bossladies | womena@. (2018, August 8). Retrieved July 30, 2020, from <https://www.youtube.com/watch?v=BKCYRin-PXA>
- Kiliim: About | LinkedIn. (n.d.). Retrieved July 23, 2020, from <https://www.linkedin.com/company/kiliim/about/>
- Margolin, V., & Margolin, S. (2002). A "Social Model" of Design: Issues of Practice and Research. *Design Issues*, 18, 24-30.
- Nilfurat Project (Short Documentary). (2016, February 26). Retrieved July 13, 2020, from <https://www.youtube.com/watch?v=wZJ5Fo-1cXLs>
- Nilfurat: A happy family. (2018, August 06). Retrieved July 13, 2020, from <https://www.facebook.com/nilfurat/videos/2129296750642720>
- Our Story. (n.d.). Retrieved December, 2020, from <https://reformstudio.net/our-story/>
- Papanek, V. (2006). *Design for the real world*. London: Thames & Hudson.
- Sarrahsworld. (2018, September 28). Retrieved December, 2020, from www.facebook.com/sarrahsworld/posts/2058665200860646
- The Story of Kiliim. (2016, November 7). Retrieved July 23, 2020, from https://www.youtube.com/watch?time_continue=216&v=zOmeqB-wHSnE&feature=emb_logo
- Thorpe, A. (2010). Design's Role in Sustainable Consumption. *Design Issues*, 26(2), 3-16. doi:10.1162/desi_a_00001
- Transforming our world: The 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs. (2015). Retrieved December, 2020, from <https://sdgs.un.org/2030agenda>
- West, C. (2019, October 22). The Doodle Factory. Retrieved December, 2020, from <http://cairpulse.net/the-doodle-factory/>
- YADAWEE: About | LinkedIn. (n.d.). Retrieved July 31, 2020, from www.linkedin.com/company/yadawee/about/

Acknowledgements

I would like to thank Prof. Dr. Brigitte Wolf and Gwendolyn Kücklich for always being great teachers and supporters of mine. Also, I'd like to thank my teammates at The Clinical Innovation Fellowship for always having interesting discussions.

Designer Involved in Communities' Projects: Her Place and Tools to Support Collaboration

Alice Martin, Manon Ménard

Expanding the Common Good

Lisa M. Abendroth, Jane Anderson,
Bryan Bell, Simon Colwill,
Peter Fattinger, Ursula Hartig,
Jeffrey Hou, Sergio Palleroni,
Nina Pawlicki, Colin Priest

Designer Involved in Communities' Projects: Her Place and Tools to Support Collaboration

Keywords: Community, Collaboration, Design Tools, Common Language.

Alice Martin^{a*},
Manon Ménard^{a*}

^aPROJEKT laboratory, University of Nîmes

*alif.martin@gmail.com

**manon.menard13@gmail.com

Both PhD students in design, the authors are involved in design projects with several communities, to conceive solutions to existing needs collectively. This article reviews their interactions with participants and reflects on the role of the designer in community projects. Authors collect data from their research-fields to document and illustrate their thoughts, thanks to observation and interviews. After the presentation of the fields and methods, this article develops the place of the designer, in the intersection of a *community of purpose* and a *community of interest*. It then presents how the designer triggers and supports collaboration by conceiving a *favourable environment*, *boundary objects* and *enabling solutions*. Finally, the authors question the notion of common language and its materiality.

1 Introduction

By questioning links between common and design we wish to focus on the community's concept. Common good is composed of a resource, managed by a community, using shared rules (Nicolas Le-Strat, 2016). Nevertheless, the existence of those three components does not guarantee an assured common. It exists and is constantly experimented through actions of the community (Nicolas Le-Strat, 2016). To act in common, individuals of this community must collaborate; that is to say, engage personally and share their capacities to fulfil a collective project and the designer has a role to play in this collaborative process. Based on design projects, we will discuss several questions: What is the role of the designer regarding communities? Which tools does she use to create favourable conditions?

After the presentation of our respective research fields and methods, in the second part, we develop the concept of community. More precisely, we question its origin, as a *top-down* or *bottom-up process*, and the role of designer. The third section outlines the contribution of designers to trigger and support collaboration between members of communities. Based on specific examples, we develop notions of *favourable environment*, *boundary object* and *enabling solution*. We conclude with an open question about forms as a required common language.

2 Fields and Research Methods

First, we want to introduce our own research fields, support of information and thoughts for this article. As doctoral students in design, we utilize project-research methodology (Findeli, 2005; 2015), in relation with collaborative design projects. Here, our specific fields will be used to illustrate and explain the concepts and notions that we develop about community and collaboration. We both use grounded theory (Strauss & Corbin, 1998), and empirical data, in dialogue with a literature review, to develop theories. In this situation, our research progresses with the collection and interpretation of data from our research ground. This qualitative and iterative methodology adapts to design thanks to project-research benefit (Findeli, 2005; 2015). That is to say, design questions we work on as designers feed the research question we develop as PhD students. Regarding the question of common, seen from the perspective of the community outcome, in this section we provide background about the sites where we collected our data.

One of the fields concerns a design project with a larger research project, "*Aspie-friendly, construire une université inclusive*" [*Aspie-friendly, build an inclusive university*]. The *Aspie-Friendly* project began in 2018 with funding from the National Agency of Research's (ANR) call for projects. The project aims to bring together 21 universities to render them adaptable for people with autism spectrum disorder (ASD) and be able to offer them individual support. In this frame, the PhD student questions the inclusive perspective in university through the prism of ableism and its representations. For

that, it is necessary to allow ASD students to be able to express themselves on their own standpoints, promote the experience of otherness and the culture of singularities.

The other author's field takes place in a public innovation laboratory, within a French local authority. As a PhD student and designer, she is involved in multiple public policy codesign projects, integrated in the unit "innovation dans les politiques publiques" [public policy innovation]. This team brings methodological support, based on the service design process, to conceive or adjust public policies with local servants. The main objectives of these design supported projects is to put users in the center and collaborate with multiple stakeholders to conceive adequate public services. Involvement of public servants at each step of the process is a key for its success, from questioning the problem to test solutions, via investigation, co-creation and prototyping. In this process, we question notions of community, collaboration and common. Moreover, the research focuses on public servants' experiences of design and changes in their professional practices.

For both, multiple research methods are used to observe, question and analyse the codesign process and its consequences. Relying on grounded theory (Strauss & Corbin, 1998), we use qualitative methods to collect empirical data from the field to develop theory: participant observation (Benson & Hughes, 1983; Lapsade, 2016) during co-conception projects, for example on public policies on various subjects; interviews (Olivier de Sardan, 2014) of various participants, depending of our subjects researches; project-research (Findeli, 2005; 2015) in design to experiment design tools to trigger and support collaboration, from creation of the community to common actions. All the data we collect from the past two years gives new perspectives to existing concepts we develop underneath.

3 Origins of Communities

First, we want to be precise when we use the term community. A community which works for the good common can develop a political commitment in opposition with the dominant political and economic system. The common commitment is *against* a system and stands *for* a new way to consider the collective organization (Nicolas-Le Strat, 2016). Creative capacity is important for communities to avoid sterile opposition. They must become sources of alternative worlds' representations and possible imaginations. From this point of view, their organization and purpose must be in a relational system where collaboration between each person is primordial. It participates to create *new social forms* (Manzini, 2015) in which outcome happens, thanks to this collaboration: "These social forms (these collaborative organizations) appear with widely differing characters and purposes, but they have one clear characteristic in common: their existence requires the active, collaborative participation of all interested parties" (Manzini, 2015, p.77).

Therefore, communities federated by commons are based on a democratic system. Its members aspire to be emancipated and autonomous in individual and collective participations perspectives, between *singularities expression* and *community expression* (Nicolas-Le Strat, 2016). Communities are not simply the result of a recipe followed by people who want to act and create together for a precise outcome. Usually, at the community's origin, the purpose is not yet clear or explicit, and its organization is still in process; Nicolas-Le Strat raises a gradual emergence of common interest: "It isn't neither an acquired, nor a prerequisite but a built" (2016, p.57). Community's purpose depends widely on its origin context and the entity of people who compose it.

From our project-research contexts, we want to explain how it's possible to consider a community since its origin and its starting point can influence the designer's role in the community itself. Based on Manzini's publications, enriched with other authors opinions and our own collected data, we consider two kinds of origin contexts and ways to be a community: the built communities, as *top-down processes*, and the emerging communities, as *bottom-up processes* (Manzini, 2014b; 2015, p.82). Moreover, we observe that social change for the common good depends on hybrid interaction between these processes - *hybrid processes* (Manzini, 2014b). In practice, this is not a binary process. Consequently, we will question the position of the designer who works for and with these communities.

3.1 Built Communities - Top-Down Process

Expressed by Manzini, the origin of community depends on who are its drivers: "If they are experts, decision makers or political activists, the innovation will be largely top-down." (2014b, p.57). In this case, the community is built according to a common project. It is the center of an ecosystem in which groups of people organize themselves, collaborate and act for the common good. The project puts in relation and allows the community to exist and be recognized as such. We can refer to this community's typology as a *community of purpose* (Manzini, 2019; Deni, in press). This approach is what Manzini calls a *collaborating by choice* in which its members have the possibility to choose what they can do, how they do or when they want to leave it (Manzini, 2015). Therefore, we can consider this type of organization as a managed organization.

According to Manzini's framework then, the *Aspie-friendly* project represents a community of purpose. The project was built in consortium with various representatives of universities and the general directorate of higher education and professional integration. It has formed a network of French universities who have written specifications and proposed it for a call for projects in continuity with plans of national strategy for autism engaged by French government. Therefore, members of this network were gathered together around a common project, to improve the inclusion of au-

tistic students in university. These project's values gathered together persons like university's decision makers, autism's experts, teacher-researchers, or administrative officers. In this way, we can talk about a *top-down process*. In addition, the *Aspie-friendly* project is part of the logical continuation of initiatives for inclusiveness and innovation at the university carried out by French investment programs. In this case, as an expert actor of the university, the *Aspie-friendly* network must drive the dynamic in each university who is concerned by the project. It is a network scattered which functions through the principle of distributed agency. (Bennett, 2011 cited by Escobar, 2018). However, one of the challenges of the project is to include, in the building process, those first concerned, i.e., the autistic student, because it is a project principally for them. Therefore, it seems primordial to build this project with autistic persons, who as students in university represents a *community of interest*.

In the second author's context - codesign of public policies in local authority - most of the project teams result from the assembly of public servants working on the subject with members of the design unit. Occasionally, working groups gather professionals of various institutions together. These communities exist around a common project, even if people have various interests or individual objectives. As the project progresses, more participants are incorporated into the community to codesign solutions relevant for all, and suitable for each. For example, a project about sustainable agriculture groups together public servants, farmers, farmer advisers, cooperatives members, and elected representatives.

3.2 Emerged Communities - Bottom-Up Process

Now that we have seen how *communities of purpose* can be created and organized, we propose another way to consider communities, still according to Manzini's standpoint. When he mentions *grassroots organizations* in which members are experts of their own lives and are able to resolve problems of ordinary life, he points to the people's possibility to meet around common interests in a particular context (Seyfang & Smith, 2007 cited in Manzini 2015). Therefore, this organization is a *bottom-up process* as a spontaneous and natural organisation where the origin is located in the members' values and interests: "If they are (mainly) the people and communities directly involved, then the innovation is (mainly) bottom-up" (Manzini, 2014b, p.57). Manzini designates them as *communities of interest* (Manzini 2018). They can design, explicitly or implicitly, their own rules, and the social dynamic and the protection of common good can emerge simultaneously and spontaneously (Manzini 2018; Deni in press).

In the *Aspie-friendly* project, born of community of purpose, a major part of the project is focused on the autistic students' experiences. That's why it was essential to include the students' voices and their situated knowledge (Haraway 1988; Costanza-Chock 2020). To promote this students' participation and create a com-

mon entity, the autistic students who were in contact with *Aspie-friendly* programs in the network of Toulouse's universities have created an association called *La Bulle!* Each student is free to join the association, which has for the first engagement to defend the autistic students' rights in the university, as a *community of interest*. However, this situation is rather specific because *La Bulle!* association is not a spontaneous students initiative, it was a proposition from the *Aspie-friendly* project. Nevertheless, the community is now a distinct association and is free to pursue their own values and interests, independently of the *Aspie-friendly project*. The students make it heard in their own voices. They exist beyond the project, with their common values and social convictions, as a *community of interest*.

Considering public policy projects accompanied by the design unit, communities are created for the project purpose. But at different steps they refer to existing communities on the local authority land to make the solutions feasible, adapted and accepted by their final users. To clarify the example of the agriculture project, the project team relies on multiple farmers communities or consumers associations to understand their needs, codesign solutions with them and test results in concrete terms. They are involved at multiple times during the process, for different goals.

According to two different researches' situations, it seems important to us that the designer can take place between these two communities, *purpose* (*Aspie-friendly* project and public policy project team) and *interest* (*La Bulle!* association and existing communities on the local authority land). She can guarantee the collaboration for the same good common and enable social change (Manzini, 2015; Escobar, 2018).

3.3 Designer's Place and Role within Communities

According to Manzini (2015; 2019), the members of these communities are yet in the design process, they design initiatives, organize their own social change with their own knowledge and expertise. He talks about *diffuse design*, as a design by *nonexperts*. However, we can see with our research project it is usual that *communities of purpose* and *communities of interest* meet them, between associations, institutions, or public politics. If their purposes are similar and take the same direction, their culture, vision or way to act can be literally different and generate tension or confusion. Creating the condition for a favourable collaborative encounter for social change seems paramount. It is in this frame that design experts can take place, to design for a social innovation: "Design for social innovation is everything that expert design can do to activate, sustain, and orient processes of social change toward sustainability" (Manzini, 2015, p.62). In this case the designer is inside interactions, he can participate in the conversation, but he is a mediator with a specific language (we will see how). Escobar talks about the *design of coalitions*, where diffuse design and expert

design are in constant relation, all interwoven, and where expert designer take a particular role: “[...] designer playing the role of facilitator, activist, strategist, or cultural promoter, depending on the circumstances and the character of coalition at play” (Escobar, 2018, p.161). This kind of encounter is a source to production of senses and problem-solving in an interconnected world (Manzini, 2015), where the designer creates conditions of mutual vulnerability in safe places (Manzini, 2019).

In this perspective, we propose to observe what types of initiatives an expert designer can take when working with communities and how to create a favourable condition for their collaborative meetings. We will illustrate our words with our own research fields to explicate each process, especially co-design processes.

4 Design Initiatives to Enables Collaboration

Community common must be made by its members. Nicolas-Le Strat (2016) always associates the common with the collective practices that establish it. To fulfil this objective, people decide to “collaborate in order to achieve results, together, that have value for each of them and for everybody.” (Manzini, 2019, p.9) In this process of creation, as we saw before, members of communities can act by themselves. Nevertheless, designers can assume a role of intermediary, coordinator or skills connector (Deni, 2014). They work with communities to develop “specific tools to enable them to co-design solutions to their own needs” (Cantù & Selloni, 2013, p.3). Creating conditions of collaboration between members of the community (Sanders & Stappers, 2008) can take multiple forms, at different steps of collaborative process, from involving stakeholders (Ansell & Torfing, 2014) to concretising ideas and implementing solutions.

This section will develop those design initiatives and tools, made by designers, to trigger and support conception (Cantù & Selloni, 2013; Manzini, 2014a, 2015; Manzini & Rizzo, 2011) through stakeholders’ capabilities and collaboration. We divide them in three categories: *favourable environments* made to trigger or encourage collaboration; *boundary objects* used at multiple steps between participants, to make collaboration easier; *enabling solutions* produced as communication medium, reaction product or shared vision. As in the previous section, we rely on our own experiences in relation to existing literature.

4.1 Favourable Environment

To make collaboration happen and also to trigger creation of the community, Manzini (2014a; 2015) suggests creating a *favourable environment*. He develops this concept through three qualities: *tolerance*, *openness* and *learning capacity*. First, *tolerance* refers to the ability to accept the existence and development of “the new” (Manzini, 2015). Then, *openness* means that “ideas are free to circulate, unforeseen interactions happen, disciplinary boundaries break, and different people meet and exchange experiences and

knowledge” (Manzini, 2015, p.161). Considering these objectives, involvement of a variety of actors and points of view is necessary to have a constructive exchange (Sørensen & Torfing, 2011) and legitimate solutions. Finally, *learning capacity* implies that experience is not lost. Hatchuel (1996) develops the idea of *crossed learning*, that is to say, each actor’s learning is stimulated, disturbed and fed by other participants’ learning. We add to those components the need of reciprocal trust between communities’ members engaged in the collaborative project (Manzini, 2015).

In several projects, we lead in the local authority, about policy making with public servants, two days of *creative sprint* were organised. The goal of these collective workshops was to codesign solutions to identified needs (in previous steps), with various stakeholders, from users to territory actors and public partners, including elected members. To make this collaboration work, the design team prepares a number of conditions of success:

- neutral and creative space, outside the participant's building, to avoid influence of one of the members among others. Manzini (2014a) uses the term “experimental space”;
- golden rules to enable participation of all as equals. Among others, it indicates that all voices are equal, every idea must be said, or it is allowed to make mistakes;
- workshop facilitators to guarantee the schedule, explain the instructions and guide participants in this collaborative process;
- various steps and work practices (alone, duo, groups; written, drawn, speaking, etc.) to allow every participant to feel at ease, if not on every step, at least on some of them.

4.2 Boundary Objects

A multiplicity of tools, created by designers, exist for various goals and differentiated uses at every step in the codesign process (Cantù & Selloni, 2013; Jeantet, 1998; Manzini & Rizzo, 2011). Depending on the situation, these objects generate either debate - when they are not understood in the same way by all - or dialogue and shared understanding (Montin et al., 2014). Our objective is to underline their role in the collaborative process, not to present an exhaustive list, especially as there is no consensual classification between authors, at this time. Jeantet (1998) develops the notion of *boundary objects*, as mediators, in a conception process. He presents a classification of objects’ goals linked to the phases of the project: *translation*, to associate disparate components; *mediation*, as a common language between actors; and *representation* to show a product that does not exist yet. On the side of Manzini and Rizzo (2011), they classify design devices in three kinds, also in a chronological order: *subjects of conversation*, ideas or scenarios to stimulate reactions and create a common vision; *tools for conversation* to facilitate interaction; and *enablers of experience*, like small-scale experiment and prototype.

When objects are used during translation operations (Akrich & al., 2006) between individuals in the collective, they facilitate dialogue and work on a common subject. For example, on a given theme, a public servant will use an administrative vocabulary, an elected official will share his political vision and a user will present his personal experience. The words are not the same, but these actors speak about a common subject. To make the collaboration effective between those individuals (and more) we, as the designer, conceive multiple tools. On the local authority projects, to go on with the example of the *creative sprint*, we develop several tools: post-it notes to write individual ideas; "constraint" cards to force participants to think about incongruous ideas; markers to visually group ideas into categories; "idea paper" to formalize possible solutions; stickers to vote; "solution" templates to concretely develop the selected solutions; blank use case to illustrate the final proposal; and various materials to build a rapid prototype. All these elements are used at specific moments to help participants express themselves, build together or represent their ideas.

As another example, after multiple interviews with stakeholders of *Aspie-friendly*, university personnel and autistic students, we have created a cartography of service and actors in the university. It underlines what the *Aspie-friendly* project offers to students with disabilities, compared to the existing services. When we manipulated this cartography (realized with movable cards) during an encounter with members of *Aspie-friendly* and the students, we were able to see where there was duplicated service and where the project was specifically relevant for the students. It was a way of representing a system in a concrete, visible and legible way. The actors could grasp by moving the cards and exchanging collectively.

4.3 Enabling Solutions

Our role as designer, in every project we work on, is to relay the process of codesign and collaboration to the participants (Manzini, 2014a) to empower them to do it again, with the same tools or others they create. To complete influence of the designer on environment and tools, we want to develop the idea of the *enabling solution*, as a "product-service systems providing cognitive, technical and organizational instruments so as to enable individuals and/or communities to achieve a result, using their skills and abilities to the best advantage" (Manzini, 2014a, p.108). To go further than the intermediate tools presented above, *enabling solutions* create meaningful narratives to stimulate reactions and interactions and build a shared vision (Manzini & Rizzo, 2011). Those objects are developed at the end of the project (or at specific steps) to "give substance to ideas by visualizing and prototyping them" (Cantù & Selloni, 2013, p.14). From this perspective, we consider, in this category, prototypes of solutions and deliverables.

Considering our projects on public policy in the local authority, prototypes could take multiple forms. As an example, we designed a briefcase to carry easily the prototype of the future public service on energy renovation of housing. Every component of this service was conceived with a specific medium to facilitate understanding, appropriation and interactions: a drawn process of the service, based on the user's journey, including all the proposals; a video detailing the operation of the regulatory committee based on drawings; a brochure to show how the funding works, supported by diagrams; printed examples of possible communication tools; several use case, centered on each of the actors involved; reaction cards on specific ideas; a fiction video, three years later, in which interviewed actors share their experience. Moreover, on every public policy we work, with the design team, we produce printed deliverables, transmitted to every member of the project team and each participant involved at one step or another.

As we saw in this section, at every stage of the collaborative process, the designer creates multiple initiatives to trigger and support collaboration. What do these tools have in common? Several authors point that designer “build, share and maintain a common language” (Bason, 2010, p.24). Sanders and Stappers discuss the notion of “co-design languages that support and facilitate the many varieties of cross-cultural communication” (2008, p.16) in the future of collaborative projects. In conclusion, we want to question this common language and its materiality, as an inevitable component of a successful collaborative conception process.

5 Conclusion: Forms as a Common Language?

We have seen in part 2 how a designer can take place between different communities. She plays an important role in collaborative organization and dialogue which can enable social change. Her own *savoir-faire*, her methodology and her specific technical practices are appreciated to raise issues and perspectives that are not visible, and allow multiple stakeholders to understand them from different points of view. We developed in part 3 how the designer takes part in the construction of meaning and allows the dialogue and collaboration to create new ideas (Lécho Hirt & al., 2015; Manzini, 2019). Her initiatives vary from construction of a *favourable environment* to the conception and use of different tools, *boundary objects*, and *enabling solutions*. It seems necessary that designers propose a grammar of tools and objects who are accessible for everyone: members of *community of purpose* and *community of interest*, all contributing to the hybrid process.

Therefore, we think that specific values of design can be found in its capacity to create new common forms in which each member of a community is able to recognize himself. Ruedi Baur (2009) talks about the importance of creating, in the public field, a system of visual language which allows, at the same time, the identification, free expression and appropriation for each stakeholder. To go further with the idea of common language (Bason, 2010; Sanders and Stappers, 2008), we question the role of forms, as a recognized design's *savoir-faire*. Before questioning form as a common language, several attention points have to be considered: form is not universal, and the designer must pay attention to her own subjectivity when she is creating tools or objects for or with communities. Nevertheless, forms offer concrete models of perception which, without systematically reaching a consensus, allow the different actors of a community to be able to react without remaining on a model of transmission that is only discursive. People are allowed to express themselves differently. These forms bring *potential for expression* (Baur, 2009), which can emphasize new forms of language for communities. This thought on the potential of forms contributes to specify the role and contribution of designers within communities, to trigger and support collaboration for a common good.

References

- Akrich, M., Callon, M., & Latour, B. (2006). *Sociologie de la traduction: Textes fondateurs* [Sociology of translation theory: Founding texts]. Paris: Presses des Mines.
- Ansell, C., & Torfing, J. (2014). Collaboration and design : New tools for public innovation. In C. Ansell & J. Torfing, *Public Innovation through Collaboration and Design* (p.1-18). London: Routledge.
- Bason, C. (2010). *Leading public sector innovation : Co-creating for a better society*. Oxford: Oxford University Press.
- Baur, R. (2010). *Intégral, Anticiper, Questionner, Traduire, Irriter, Distinguer, Orienter, Inscrire* [Integral, Anticipate, Question, Translate, Irritate, Distinguish, Guide, Register]. Baden: Lars Müller Publishers.
- Benson, D., & Hughes, J. A. (1983). *The Perspective of Ethnomethodology*. Harlow: Longman.
- Cantù, D., & Selloni, D. (2013, novembre 14). *From engaging to empowering people, a set of co-design experiments with a service design perspective*. Conference Social Frontiers: the next edge of social innovation research, London, NESTA.
- Costanza-Chock, S. (2020) *Design Justice*. Cambridge, Massachusetts: The MIT Press.
- Deni, M. (2014). Le design de services : Projeter le bien-être [Service design: Well-being plan]. *Communication et organisation*, 46, 129-142.
- Deni, M. (in press). La construction de l'actant collectif par le design [collective agent construction by design]. In P. Basso Fossali, *Créativité sémiotique et institutions du sens : Dans la dialectique entre l'individuel et le collectif*. Limoges: Lambert-Lucas.
- Escobar, A (2018). *Design for the pluriverse: Radical Interdependence, autonomy, and the making of worlds*. Durham: Duke University Press.
- Findeli, A. (2005). La recherche-projet : Une méthode pour la recherche en design [project-research: a method for design research]. *Symposium de recherche sur le design*, (p.40-51) Zurich: Swiss-DesignNetwork.
- Findeli, A. (2015). La recherche-projet en design et la question de la question de recherche : Essai de clarification conceptuelle [project-research in design and the research question: Conceptual clarification adempt]. *Sciences du Design*, 1(1), 45-57.
- Haraway, D. (1988). Situated Knowledge: The Science Question in Feminim as a Site of Discourse on the Privilege of Partial Perspective. *Feminist Studies*, 14(3), 575-599.
- Hatchuel, A. (1996). Coopération et conception collective : Variété et crises des rapports de prescription [Cooperation and collective conception: Variety and crises of prescription reports]. In G. De Terssac & E. Friedberg, *Coopération et conception* (p.101-122). Toulouse: Octarès Editions.
- Jeantet, A. (1998). Les objets intermédiaires dans la conception: Éléments pour une sociologie des processus de conception [Intermediate objects in conception process: Elements for a sociology of design processes]. *Sociologie du travail*, 40(3), 291-316.
- Lapassade, G. (2016). Observation participante [Participant observation]. In J. Barus-Michel, E. Enriquez, & A. Lévy, *Vocabulaire de psychosociologie* (p.392-407). Toulouse: ERES.
- Léchat Hirt, L., Nova, N., Kilchör, F., & Fasel, S. (2015). Design et ethnographie: Comment les designers pratiquent les études de terrain. [Design and ethnography: How designers practice field studies]. *Techniques & Culture*, 64, 64-77.
- Manzini, E. (2014a). *Design and policies for collaborative services*. In C. Bason, *Design for policy, design for social responsibility* (p.103-112). Farnham: Gower Publishing Limited.
- Manzini, E (2014b). Making Things Happen: Social Innovation and Design. In *Design Issues*, 30(1), 57-66.
- Manzini, E. (2015). *Design, when everybody designs: An introduction to design for social innovation* (R. Coad, Trad.). London: MIT Press.
- Manzini, E. (2019). *Politics of the everyday* (R. Coad, Trad.). London: Bloomsbury.
- Manzini, E., & Rizzo, F. (2011). Small projects/large changes: Participatory design as an open participated process. *CoDesign*, 7, 199-215.
- Montin, S., Johansson, M., & Forsemalm, J. (2014). Understanding innovative regional collaboration : Metagovernance and boundary objects as mechanisms. In C. Ansell & J. Torfing, *Public Innovation through Collaboration and Design* (p.106-124). London: Routledge.
- Nicolas-Le Strat, P. (2016). *Le travail du commun* [Work on the common]. Rennes: Éditions du commun.
- Olivier de Sardan, J.-P. (2014). L'enquête de terrain socio-anthropologique [Socio-anthropological field investigation]. In J. Boutier, J.-L. Fabiani, & J.-P. Olivier de Sardan, *Corpus, sources et archives* (pp.63-81). Tunis: Institut de recherche sur le Maghreb contemporain.
- Sanders, E. & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*, 4(1), 5-18.
- Sørensen, E., & Torfing, J. (2011). Enhancing collaborative innovation in the public sector. *Administration & Society*, 43(8), 842-868.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*, 2nd ed. Thousand Oaks: Sage Publications.

Expanding the Common Good

Keywords: Networks, Community Design, Public Interest Design, Academic Designbuild, Live Project Education.

Lisa M. Abendroth^a,
Jane Anderson^{b*},
Bryan Bell^c,
Simon Colwill^d,
Peter Fattinger^e,
Ursula Hartig^f,
Jeffrey Hou^g,
Sergio Palleroni^h,
Nina Pawlickiⁱ,
Colin Priest^j

^aMetropolitan State University of Denver

^bOxford Brookes University

^cNorth Carolina State University

^dTechnische Universität Berlin
and Brandenburg University
of Technology

^eTechnical University of Vienna

^fUniversity of Applied Sciences München
and Technische Universität Berlin

^gUniversity of Washington, Seattle

^hCenter for Public Interest Design,
Portland State University

ⁱTechnische Universität Berlin

^jCamberwell College of Arts,
University of the Arts London

*j.anderson@brookes.ac.uk

Design for the Common Good is a network of networks formed in accordance with the principles of design for the common good. Also, the design work that the platform disseminates and promotes uses methods, processes and practices that are consistent with design for the common good. Structural and systemic barriers are identified that must be overcome in order to make *Design for the Common Good* sufficiently inclusive, global and accessible. Global opportunities and threats relating to the environment, economy, technology and social progress contain both the problem and solution. Digital advances have the potential to overcome previously insurmountable economic, environmental, social and technological challenges, both to the creation of the platform and the activities of the actors in its networks. However, this must be balanced by a recognition that collaborative community design stems from potent local group actions and that ethical physical and inter-personal experience is fundamental to these endeavours.

1 Introduction

Design for the Common Good (DCG) is a global network of networks that work together to pool resources and expertise relating to the practice of design for the common good. Each network was established independently but has been providing mutual support internally for several years. DCG was established in 2017 as an externally focused international resource to connect and reach beyond the individual networks.

There are two aspects to this paper. Firstly, DCG has been formed as an entity using principles consistent with designing for the common good. This paper reflects on this ongoing process and analyses the challenges that this presents and the structural systems that need to be negotiated when working in this manner.

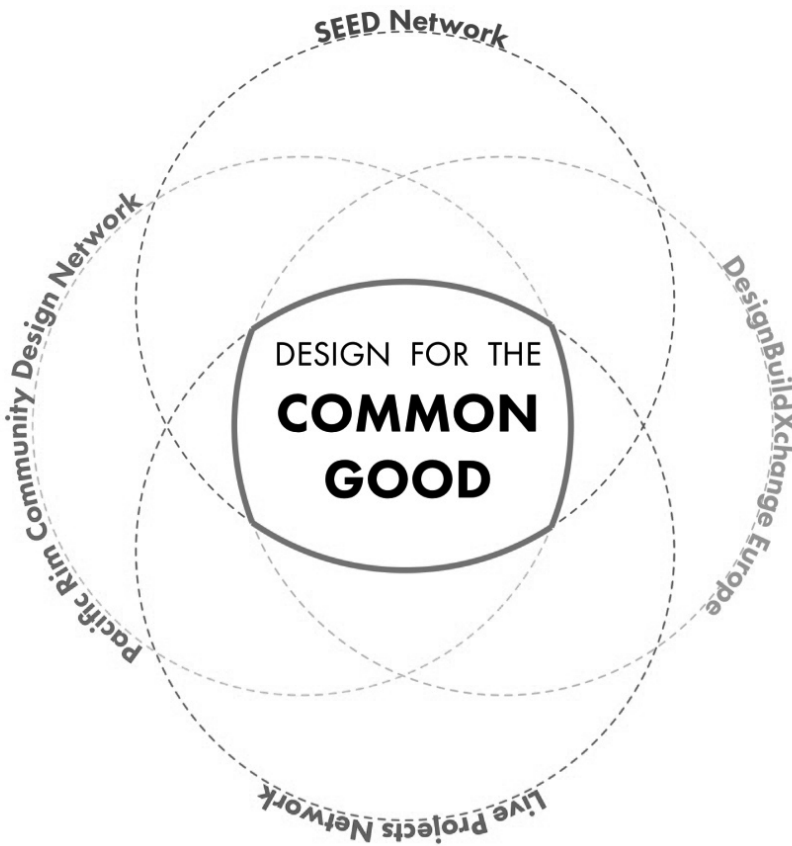
Secondly, the design work that is represented and promoted by the *Design for the Common Good* network has been undertaken using methods, processes and practices that are consistent with designing for the common good such as public Interest design, participatory design, co-design, community design, service learning, design-build education, live project education etc. This paper reflects on these approaches, both professional and pedagogical, and considers how the DCG aims to be a resource that supports them and promotes best practice in these methods, processes and practices.

2 Expanding the Common Good

2.1 Design for the Common Good as a Network of Networks

Launched in 2017 at the Architecture Connects conference at Oxford Brookes University, UK, the *Design for the Common Good* (2017) network is currently composed of four independent networks: *Social Economic Environmental Design Network* (2005), *Design-BuildXchange Network* (2013), *Live Projects Network* (2012), and *Pacific Rim Community Design Network* (1998). The following is a summary of the aims, constituency, methodology and activity of each network in relation to design as a common good.

Fig. 1: . Diagram showing Design for the Common Good as a network of networks. Image credit: Bryan Bell, North Carolina State University and Todd Ferry, Portland State University.



The *Social Economic Environmental Design Network* (SEED) was established in 2005. It is an organisation dedicated to building and supporting a culture of civic responsibility and engagement in the built environment and the public realm. By sharing best practices and ideas, network member organisations and individuals create a community of knowledge for professionals and the public based on a shared mission and principles:

SEED Mission:

“To advance the right of every person to live in a socially, economically, and environmentally healthy community.

SEED Principles:

Advocate with those who have a limited voice in public life.

Build structures for inclusion that engage stakeholders and allow communities to make decisions.

Promote social equality through discourse that reflects a range of values and social identities.

Generate ideas that grow from place and build local capacity.

Design to help conserve resources and minimize waste” (Cox, Goldsmith, Bell, and Dorgan, et al., 2005; Feldman, Palleroni, Perkes and Bell, 2013, p.3; Bell, 2015, pp.13-14).

SEED connects similarly minded members of the public with designers from the fields of architecture, industrial design, graphic design, landscape architecture and urban planning. SEED members are part of a global movement that believes design can support a community from the ground up. SEED facilitates action by providing tools such as the *SEED Evaluator*, which provides guidelines for pursuing a design process informed by inclusivity and participation.

The *DesignBuildXchange Network* was established in 2013 to encourage international exchange of knowledge in academic design-build. Academic designbuild takes students from their studio desks into the physical world of human interactions and allows them to be physically involved in the materialisation of their designs. The projects connect professional education with practice, scientific research and social engagement (DesignBuildXchange Network, 2013). The network includes the open access platform, design-buildXchange web, providing tools for communication, collaboration and the exchange of scientific, practice related, sustainable and interdisciplinary knowledge. It is open to individuals and organisations involved in academic designbuild as students, teachers, researchers, planners as well as clients and users, politicians, donors, craftspeople and other supporters. Currently it features 250 projects, 85 organisations and 160 expert users. The web platform was developed from 2013-2016 within the framework of the research project ‘European DesignBuild Knowledge Network’ (EDB-KN) by an international consortium of academic partners. Today, DesignBuildXchange Network is managed by dbXchange.e.V., a non-profit association that promotes the implementation, distribution, and sustainability of the designbuild methodology.

Live Projects Network (LPN) was established in 2012 as an international online resource for students, teachers, researchers, practitioners and local communities engaged in live projects. LPN defines live projects as follows:

“A live project comprises the negotiation of a brief, timescale, budget and product between an educational organisation and an external collaborator for their mutual benefit. The project must be structured to ensure that students gain learning that is relevant to their educational development.” (Anderson & Priest, 2014).

The purpose of the network is to disseminate the work of those engaged in live projects and to share best practice. LPN currently comprises 243 case studies from 85 different educational organisations in 35 different countries. All of the case studies are projects that have been undertaken by students, normally with the support of educators or practitioners and in collaboration with local communities or community organisations. Most of the contributors stem from design disciplines, particularly those in the built environment, but many of the projects involve collaboration with other disciplines such as science, art and sociology. The principle of mutual benefit through collaboration is central to live projects and is equivalent in intent to the concept of design for common good.

The *Pacific Rim Community Design Network* is a network of community design educators and practitioners in the Pacific Rim region. It began with a working conference organised at the University of California, Berkeley in 1998, joined by members from Japan, Taiwan, and the United States. The network has grown over the years to include those from Australia, Canada, Mainland China, Hong Kong, Indonesia, Korea, New Zealand, the Philippines, Singapore, and Thailand. Without a formal organisational structure, the main vehicle of the network is a series of working conferences that occur every two to three years hosted by members and partners in different countries in the region. The purpose of the conferences is to provide the practitioners and scholars across the Pacific Rim region with an opportunity to share and compare experience and advance practice, research, and teaching in the field of community design. Through conferences and joint projects, the network has served as a platform for collaboration and mutual support, as well as a forum for a comparative understanding of community design in the fast-changing political and social context of the Pacific Rim.

2.2 Design for the Common Good: Current and Planned Actions

The current composition that comprises these four networks is not seen as finite, simply a starting point: a group working together for mutual support and to establish an international and open source online resource for others working in the field of design for the common good.

In choosing to create a combined network of networks these four international networks acknowledge the growing global need for systemic change in the practices and processes of design and an intent to build on the common ground they share. While each network has a unique focus, their mutuality supports the advancement of best practice in design for the common good, here understood to be practices such as public interest design that are characterised by inclusive practices, ethical approaches, and sustainable methods.



Fig. 2: Interactive online map of case study projects on the Design for the Common Good website. Image credit: Eric Field, University of Virginia.

Currently the *Design for the Common Good* website includes an interactive online map of case study projects that demonstrate best practice in the field. These case studies have been compiled through the activity of each individual network and are hosted on their own websites. The longer term intention is to become a shared platform for resource sharing and to enable dialogue between networks, network members and others in the field. Vehicles for this dialogue will be:

- Visual global network map: projects, organisations, members.
- Journal: peer review for academics.
- News and Events: conference calls, awards, exhibitions, new publications etc.
- Resources: library / bibliography, methods, tools, teaching materials.
- Exhibitions: online / offline .
- Exchange: communication channels between members of networks.

The Networks within *Design for the Common Good* each have their own particular expertise. Below is a summary of the methods and theoretical basis for design as common good that are employed by, or have been developed by each network.

In 2008, SEED developed the *SEED Evaluator*, an online tool that provides guidelines for a public interest design process that directs democratic decision-making through community engagement, uses a triple bottom line issue-based approach to problem identification, and incorporates evaluation of design results (Abendroth and Bell, 2015, p.308). Using a guided approach broken down into understandable and manageable steps, the *SEED Evaluator* creates a platform for collaboration and consensus building. The *SEED Evaluator* can assist individuals, groups, designers, communities, project planners and participants achieve like-minded goals that are focused on the triple-bottom line of social justice, economic development and environmental conservation. SEED also initiated the SEED Awards, an international juried competition to showcase the best projects and practices of public interest design. The SEED Network and SEED Awards are administered by Design Corps.

The open access *designbuildXchange* web platform provides tools for communication, collaboration and the exchange of knowledge offered by its members. The overall mission of the platform is the education of highly aware decision-makers who are conscious about the urgent need to construct balanced social, cultural and ecological living environments. Requirements for projects to be presented on the *DesignBuildXchange Network* platform are that they:

- are based in higher education;
- have a client, a brief, budget and timeframe;
- are built;
- have students involved in the design AND construction of the project;
- are of architectural, social, cultural, scientific, technical or artistic relevance.

These preconditions result in the majority of the projects engaging in public interest design, seeking to serve communities and users who are not able to access design services and implement infrastructure such as buildings, outdoor facilities or interiors. Most projects are not carried out in the context of a conventional relationship between client (who defines the task) and designer/build-er (who provides a service), but are projects that are co-designed and co-funded by many parties, including clients and academic organisations (Pawlicki, 2020).

LPN is a searchable online database, classifying educational live projects by factors found to be common to all live projects (Anderson & Priest, 2014). It seeks to provide accessible information in order to disseminate knowledge and encourage best practice. An important part of that mission is to encourage excellence in live project education. Live projects involve collaborations between students, teachers, practitioners, local communities and organisations in a process of mutual exchange and learning (Dodd, Harrison & Charlesworth, 2012). Design methods and processes that are frequently cited by contributors to LPN include participatory design, community design and co-design. The intention is that students with experience of live projects while in education can employ these methods in professional practice (Delpont, 2016), diversifying and evolving professional practice towards the benefit of the common good.

The main methodological focus of the *Pacific Rim Community Design Network* is democratic design, which aims at the democratisation of planning and design processes that shape communities and the built environment. In countries and regions across the Pacific Rim, citizen and community participation has become an increasingly important component of the local planning and design process. From advocacy planning and models of citizen participation developed in the United States, practices of participatory community design have been steadily expanding across the region, specifically through the Machizukuri Movement in Japan, the Community Building Movement in Taiwan, and ongoing challenges to the top-down urban planning and redevelopment process in Hong Kong (Hou, et al, 2005). Network members have focused on these challenges plus issues such as post-disaster rebuilding and recovery; heritage conservation and urban regeneration; neighbourhood and community planning; and advocacy and activism. These have served as topics of collaboration among self-organized groups within the network. Over the years, in addition to conference proceedings, members have produced several notable, collaborative publications including *Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities* (Hou, 2010), *Messy Urbanism: Understanding the “Other” Cities of Asia* (Chalana and Hou, 2016), and *Design as Democracy: Techniques for Collective Creativity* (de la Peña, et al. 2017).

2.4 Using Principles of Design as a Common Good to Form the Design for the Common Good Network

In keeping with the principles of collaborative and public interest design methods practiced by its constituent networks and network members, *Design for the Common Good* aims to create a platform that promotes and perpetuates these principles. Accordingly, the development of the platform, as an entity in itself, requires the creation of structures and systems to enable this.

These include the use of open source and creative commons approaches to publication and dissemination of information; ethical consideration of what and how information will be published; acknowledgement of the importance of peer review as a means to test and reward quality and best practice; collaborative and inclusive approaches to the development of material and ideas, as well as decision-making; acknowledgement of the diversity of interest of different user groups and how they might seek to engage with the platform.

Although it is relatively straightforward to identify areas where methods of design for the common good are most pertinent to the development of the *Design for the Common Good* platform, establishing the means to do so is more complex. Our efforts to date have revealed some structural and systemic challenges that need creative thinking to overcome if they are to be addressed via methods that remain true to the principles of design for common good.

The *Design for the Common Good platform*, like design for the common good activity generally, is in itself a response to the key global opportunities and threats relating to environmental crisis, economic shocks, social progress and rapid technological development. All of this is to be considered in the context of the design of the built environment, the location of the vast majority of the work relevant to the DCG platform.

Using a digital platform to share information about the design of the built environment offers excellent opportunities, including the ability to create an open access global resource due to the non-linguistic and visual nature of much of the work and also the engaging nature of the subject matter: how we live across the world and positive solutions for how this can be enhanced through good design. However, potential pitfalls exist for designers such as those relevant to the DCG platform. This method of design involves a deep collaborative engagement with the communities where they work. As Bell (2010, p.76.) puts it, community designers “come early and leave late. They assume pre-form and post-form-making roles as well.” In this expanded view of the potential and value of design, the newly-completed designed object or product matters only as much as, or even less than the process of design and its subsequent occupation or use. This poses a dilemma for communicating via visual digital media, particularly in the discipline of architecture which

“tends to prioritise aspects associated with the static properties of objects [...] and with this the suppression of the more volatile aspects of buildings: the processes of their production, their occupation, their temporality, and their relations to society and nature.” (Awan, Schneider, Till, 2011, p.27).

2.5 Structural Challenges in Implementing a Network for Design for the Common Good

Once the collaborative nature of design has been acknowledged, there is a much wider story to be told beyond the idealised image of a “completed” building and this also challenges conventional notions of the designer as sole author. Perhaps the inclusion of narrative forms of media such as film will become important tools to tell this expanded story of collaborative design projects. In the field at present, there is a lack of skill, resources and accepted peer-approved methods to do this.

Community designers working in areas such as public interest design and live project / designbuild education are expert collaborators. They excel in methods of co-design, working collaboratively on site and establish inter-personal working relationships within complex communities. Advances in digital technology have enabled additional forms of collaboration via remote and digital means. The adoption and accessibility of remote collaboration methods has accelerated due to the need for social isolation during the COVID-19 pandemic. This can enable less costly, more sustainable and global ways of working and has certainly been of benefit to DCG as it moves from a planning and strategic phase towards implementation.

With this increased ability to communicate and work globally, comes the opportunity for networks such as DCG to disseminate knowledge and best practice internationally, with the intention of mitigating global north / south inequality by providing a level playing field for ready access to resources and an open outlet for communication for diverse voices and experiences. It is vital to redress global imbalances created by traditional models of communication such as academic publication, professional journals and journalism. Digital collaboration and dissemination aids inclusion of design activity in isolated or neglected areas where local solutions are already in progress and local experts are active. An analysis of the *Live Projects Network* revealed that collaborative community design activity is typically found in

“locations not usually associated with conventional development or design activity such as declining cities and rural areas with scarce economic resources [...] contexts in various types of crisis. These ranged from derelict historic fabric to informal settlements [...] contexts with significant levels of need (particularly economic, social justice and wellbeing [...] counter-examples of projects located in thriving places with plentiful resources. Low-cost projects in these locations offered a positive alternative to prevalent commercial activity [...]. Many of these projects responded to issues such as cultural identity, sense of place, equity and engagement, often in response to economic forces.” (Anderson, 2017, p.11).

One motivation for bringing four established networks together is to connect different parts of the world via networks who have already established trust within their particular locus of influence. It is notable that word of mouth, proximity and local action are still vitally important factors in the establishment and effectiveness of the networks comprising DCG and the importance of this cannot be ignored. Although DCG represents an already significant global coverage, we are conscious that it is not yet sufficiently representative of places where significant work is being carried out by local actors, such as America, Africa and Australasia.

Not only is design activity for the common good happening in a great diversity of places, but the actors undertaking it are equally diverse in their aspirations and expertise (Anderson, 2017, p.11-12). They include professionals such as architects; students and academics such as those engaged in designbuild / live project education; organisations such as Non-Profit Organisations (NPO); funding bodies such as charities; local actors such as craftspeople and local people, both expert and non-expert. Ideally, all actors engaged in design for the common good would have a voice on DCG and find it to be a useful resource. The reality of creating something that is useful to all of these parties is complex. Issues such as confidentiality must be considered when making decisions about how or even whether information about a project can be disseminated. Some actors, such as a participant in a consultation event may only have an interest in their own immediate project and only for its duration. Others who are immersed in the activity of design for the common good may expect a long-term engagement with DCG. This is why the DCG development strategy includes strategies to maintain currency and engagement, such as news articles and outreach activities such as exhibitions.

For those who engage with DCG for the longer-term, we recognise that this relationship needs to be reciprocal. It is not a profit-driven endeavour so there has to be mutual benefit to justify the effort that it requires to maintain DCG. The platform requires material to stay relevant so those who are active in the field need to contribute material. To achieve this, a system of peer review is needed. This not only promotes best practice and ensures the relevance and quality of the work included, it also provides contributors with recognition in return for their considerable efforts to create the work. This recognition via peer review and open source publication meets the needs of contributors by providing opportunities for information dissemination and continuing professional development as well as evidence of esteem needed by those seeking external promotion and funding. There are considerable challenges in creating a peer review system that is equitable and relevant to the diversity of DCG contributors. Although there is an established process for academic peer review, it struggles to frame design objects and processes as research. It is also rather unfamiliar to professionals who are

not immersed in academia. Additionally, the demands made by different research traditions and national systems of research excellence measurement do have a significant effect on the priorities and activities of academics. Systems of peer review for DCG would need to be sensitive to this, whilst remaining internationally accessible and inclusive to a constituency much broader than research-intensive academics. Students, teachers, practitioners and experts from disciplines beyond design are key contributors and stakeholders.

Precedents such as IDEO (n.d.), a human-centred design company focused on positive and ethical impact, show that although it is complex to achieve, it is possible to serve a broad range of stakeholders. Their web platform divides into three simple sections: work, journal and tools. DCG's strategy includes the provision of resources such as a bibliography, methods, tools and teaching materials; exhibitions both online to maximise global accessibility and offline to provide opportunities for interpersonal engagement; and means of exchange such as direct channels of communication between members and stakeholders from different networks, DCG seeks to provide additional benefits to those who engage with the platform in different ways. This draws on the idea of the common good by answering the needs of a diverse range of stakeholders.

3 Conclusion

Structural and systemic barriers have been identified that need to be overcome in order to make the *Design for the Common Good* platform sufficiently inclusive, global and accessible i.e. designed for the common good. Careful consideration of a diverse group of stakeholders is required to achieve this. Progress in digital communication is making it possible to overcome previously insurmountable economic, environmental, geographical and logistical challenges, both to the creation of the platform and the activities of the actors in its networks. There is also a recognition that collaborative community design stems from potent local group actions in the field and that physical and inter-personal experience is fundamental to these endeavours.

This network of networks is committed to design practice, education, and research that improves social, economic, and environmental outcomes for its users. DCG connects designers, students, researchers, collaborators, and end-users by sharing best practices, stimulating and promoting a global dialogue. These organisations, represent thousands of NPOs, practitioners, and educators on all continents with a common commitment to support and promote global change across the practices of design.

DCG seeks to strengthen the confluence of forces required to create truly healthy, resilient, and sustainable design that will positively impact communities globally. It is built from the best practices found within each individual network. It also underscores the importance of the very acts of exchanges of knowledge, collaboration, and communication inherent in the creation of the broader network, often built from collaboration in the field. Our proposal therefore showcases projects, efforts, and educational outcomes built from the intention and agency of individual practitioners, educators, community and concerned citizens, which offer the possibilities of effective action and reflect the progressive collaboration behind the *Design for the Common Good* platform.

References

- Abendroth, L. M. & Bell, B. (Eds.) (2015). *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues*. London: Routledge.
- Anderson, J. (2017). Devising an Inclusive and Flexible Taxonomy of International Live Projects. *ARENA Journal of Architectural Research*. Vol 2 (1): 3. doi: <https://doi.org/10.5334/ajar.5>
- Anderson, J. & Priest, C. (2014). Developing an inclusive definition, typological analysis and online resource for Live Projects. In H. Harriss & L. Widder (Eds.), *Architecture Live Projects. Pedagogy into Practice*. (pp.9-17). London and New York, NY: Routledge.
- Architecture Connects 2017 conference: Accessed December 4, 2020. <https://aaconference2017.wordpress.com>
- Nishat; A., Schneider, T., & Till, J. (2011). *Spatial Agency. Other Ways of Doing Architecture*. Abingdon and New York, NY: Routledge.
- Bell, B. (2010). Pre-form and Post-form Design Activism. In D. Cuff & J. Wreidt (Eds.), *Architecture from the Outside in. Selected Essays by Robert Gutman*. (pp.76-80). New York. NY: Princeton Architectural Press.
- Bell, B. (2015). The State of Public Interest Design. In L. M. Abendroth and B. Bell (Eds.), *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues* (pp.11-18). London: Routledge.
- Cox, M., Goldsmith, S., Bell, B., Dorgan, K., et al. (2005). SEED Network. Accessed December 4, 2020. <https://seednetwork.org>
- de la Peña, D., Diane Jones Allen, D., Hester, R., Hou, J., Lawson, L. & McNally, M. (Eds.) (2017). *Design as Democracy: Techniques for Collective Creativity*. Washington, DC: Island Press
- Delport, H. E. (2016). *Towards Design-Build Architectural Education and Practice. Exploring lessons from educational Design-Build projects*. PhD thesis. Cape Peninsula University of Technology. Accessed December 13, 2020. <http://etd.cput.ac.za/handle/20.500.11838/2393>
- DesignBuildXchange. Accessed December 4, 2020. <http://edbkn.service.tu-berlin.de>
- Design for the Common Good. Accessed December 4, 2020. <http://www.designforcommongood.net>
- Dodd, M., Harrisson, F. & Charlesworth, E. (2012). *Live Projects. Designing with People*. Melbourne: RMIT Press.
- Feldman, R., Palleroni, S., Perkes, D. & Bell, B. (2013). *Wisdom from the Field: A Guide to Public Interest Architecture in Practice*. Accessed December 14, 2020. www.publicinterestdesign.com/wp-content/uploads/2013/07/Wisdom-from-the-Field.pdf
- Hou, J. (Ed.) (2010). *Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities*. London and New York: Routledge.
- IDEO. Accessed December 6, 2020. <https://www.ideo.com/eu>
- Live Projects Network. Accessed December 4, 2020. <https://liveprojectsnetwork.org>
- Manish, C. & Hou, J. (Eds.) (2016). *Messy Urbanism: Understanding the 'Other' Cities of Asia*. Hong Kong: Hong Kong University Press.
- Pacific Rim Community Design Network. Accessed December 4, 2020. <http://prcdnet.org>
- Pawlicki, N. (2020). *Agency in DesignBuild: die Handlungsfähigkeit von DesignBuild im Spannungsfeld von Architekturausbildung, -praxis und Gesellschaft*. PhD thesis. Technische Universität Berlin. Accessed December 13, 2020. <http://dx.doi.org/10.14279/depositonce-9685>

Methodologies and Research Approaches

**Are Design Discourses Evolving
to Contribute to the Common Good,
Particularly in Germany?**

Michael Janzer

The Logics of Social Design

Lucy Kimbell

**Core Values Matter:
The Role of the People in Shaping
Corporate Responsibility**

Lilian Crum

**Designing New Solutions
During Covid-19 through Creativity**

Gianluca Carella, Mattia Italia,
Silvia D'Ambrosio, Francesco Zurlo

**The Genealogies of Social Design
and Claims to the Common Good**

Patrycja Kaszynska

Are Design Discourses Evolving to Contribute to the Common Good, Particularly in Germany?

Keywords: Discourse, Publications, Germany, History, Qualitative.

Michael Janzer^{a*}

^aUniversity of Wuppertal,
Faculty of Art and Design
^{*}michael.janzer@uni-wuppertal.de

This project investigates how socio-political issues have been and are being negotiated within the discipline of design in professional discourses. It discusses the question how these discourses have progressed in the Federal Republic of Germany. Many of the problems currently identified in design publications concerning social, economic and ecological challenges seem strongly reminiscent of the late 1960s. It can be observed that two periods, between the late 1960s to 1970s and the early 2000s to 2019, indicate a certain boom in the field of design – an orientation towards the *common good*. These periods are being compared by *situation analysis* from the social sciences. The initial corpus consists of articles from design journals. This project opens new perspectives e.g., which approaches are updated or no longer maintained. It will contribute to a comprehension of the development of moral concepts within the discipline. Currently, the project is in its initial phase.

1 Introduction

After spending over a decade in design departments of well-established brands, I was missing aspects of design that go beyond sales arguments. A design perspective on society as a whole was becoming more of an interest. Debates and practices published in professional design books and design journals that concern societal challenges have drawn my attention especially. Many of the current approaches to solving these issues, however, seem to be strongly reminiscent of the late 1960s. In fact, some design researchers see parallels between the design discourses of the 1960s to 1970s and those of recent years. In 2011, design researchers Fineder and Geisler noticed a "paradigm shift in design and design discourse" (p.2), which reminds them of the "counter-cultural design discourses of the 1960s and '70s" (ibid p.8-9). They argue that "the international design scene" has been increasingly dedicated to finding "solutions for social and ecological sustainability" since the beginning of the millennium (ibid p.4). For design educator Park, the socio-aesthetic and emancipatory nature of the design discourses towards the end of the 1960s and the early 1970s seem to be revived today in the guise of sustainability (2014, p.19). In 2016, the design historian Banz also acknowledges a refreshing period of design activism of the post-68 generation (p.15). Her article was published in parts again in 2018 by design historians Breuer and Eisele, in an anthology about important primary texts that have reportedly shaped the theoretical design discourse (p.9). In the same chapter, which bears the headline *criticism of consumption, environment and responsibility*, the editors only cite additional texts from the late 1960s to early 1970s, with exception of a text by Morris (ibid p.183).

In face of the striking similarities between the discourses then and now, a number of questions arise which have not yet been explored. Have certain design solutions come up again until today and how do they relate to each other? How was the *common good* actually *understood* then and how is it understood now within the discourses of the discipline? Are social aspects dealt with separately from related ones e.g., ecological aspects? What was/is considered being key in contributing to society in the field of design? Where are the *blind spots*? Are there any *conflicting intentions* to be found? What was/is seen as the root of the problem in tackling social issues? What is threatening design's contributions? Which *power structures* support or hinder the design discipline in contributing to the *common good*, what *can or cannot be said* in design discourses then as today? Of course, a socially critical motif and the immanent desire to contribute to change runs through the history of design. Along the way, societal challenges posed by market economy and environmental destruction, for example, remain up to date. By investigating similarities and differences between the previous and contemporary design discourses, however, new conclusions can be drawn. This regards the mindset within the discourses in the face of the mentioned ongoing challenges. It can show how the notion of contributing to the *common good* has

evolved in design, what kind of different positions and their relations can be traced. Thus, it opens a fresh perspective to develop further strategies for the design discipline. Since this project deals with the recent social history of design, it is located in the field of "research into art and design" (Frayling, 1993, p.5). The concept of *design* is used here in the sense of a *professional discipline*.

2 The Preceding and the Recent Boom of Socio-Political Discourses in the Field of Design

2.1 The Relevance of West Germany

The boom phases of social, economic and ecological issues in design discourses are certainly international phenomena. But the case of the Federal Republic of Germany appears to be significant for two reasons. First, in the 1970s a strong design culture prevailed in this country and the emerging break with the ideals of *Die gute Form* was particularly strong (Grillmayr, 2018). The socio-political topic was prominently contrasting the rather dogmatic position of these ideals (ibid). Therefore, the design debate and practices seem especially considerable here. Conflicts tend to reveal diverse positions or structures of power more clearly (Clarke, 2012, p.71). Incidentally, East Germany was heading in a different direction as functionalism did not create controversy in the socialist system, but was rather embraced and further developed (Selle, 2007, p.257). Secondly, at the time, West Germany saw an upheaval in its design field (Eisele, 2005, p.22-23). With the Ulm School, the country had a special position. This institution was an internationally best-known representative for design issues (Spitz, 2002, p.10). Its closing at the end of 1968 coincided with the founding of the International Design Center Berlin (IDZ) and other yet less dominant design institutions. Apparently, the IDZ marks the last design-institutional effort with a nationwide influence that was committed to the *common good*. For these reasons, this research project sets off at this point in time.

The zenith years of the debate did not last long though. In West Germany, according to design historian Grossmann, the second oil crisis of 1979/80, far more than the first, had given designers new tasks due to increased cost pressure e.g., on energy saving (2018, p.212). It led to a major shift in design discourses, towards economic concerns. Discussions on postmodern design at the end of the 1970s and the *Neues Deutsches Design* emerging at the beginning of the 1980s had a strong impact, too. The initial theoretical along with socio-political emphasis faded (ibid p.163-164). While in the 1970s an equal importance of design for the economy *and* for society was distinguished (ibid p.162), customer service became a main task by the early 1980s (ibid p.214). In the Federal Republic, the *design decade of the 80s* had concluded old design discourses and opened new ones (ibid p.17, 209). In conventional classifications of

design theories in Germany, the 1970s are assigned as the decade of social engagement (Jonas, 1994, p.41.) This was also the first time a crisis of overproduction became apparent (ibid p.64). In the same classification, the subsequent 80s were in turn seen as the decade of individual fulfilment (ibid p.41). While Grossman identifies new positions and perspectives in West German design by the 1980s (2019, p.81), design historian Madge sees the turning of the century as a "complex transitional period" in design from an international point of view (Madge, 1993, p.158).

2.2 The Recent International Boom

The current revival of socio-political design discourses is recognized by various experienced professionals. In 2019, for example, design researcher Bieling notices that in "recent years, the social and political dimensions of design have seemed to increasingly gain importance (again)" (p.10). It is becoming obvious, not only through the increased number of exhibitions and publications within the past decade, but also through the newly created degree programs at colleges and universities. Popular debates of the late 1960s and 1970s are returning to the professional discourse, such as the areas of responsibility of design and its expansion, criticism of economic constraints, the rationale behind designed products, the *do-it-yourself culture*, the list goes on. Grossmann finds a remarkably frequent quotation in contemporary as well as in the current design historiography – the famous first lines of Papanek's *Design for the Real World* in which the author denounces the harmfulness of the design profession (2018, p.169).

The balancing act between social and economic requirements still accompanies the design discipline today (Schweppenhäuser, 2016, p.4) as well as the challenges posed by market economy principles (Selle, 2007, p.267). In this regard, Germany does not seem to play a special role in the international boom phase of socio-political design debates. But for pragmatic reasons and the reasons mentioned above, the focus shall remain on the Federal Republic of Germany to stay within the limits of a dissertation project. This does not mean that international influences are neglected. Connections to international phenomena are certainly important to be able to understand relations or influences, and thus are included in the analysis.

3 Dissection of Design Publications

Design theorist Jonas had a point that still seems relevant today: Designers should clearly keep in mind the lack of methodological and theoretical tools for self-reflection within their own discipline (1994, p.35). So, how can designers themselves deliberate socio-political discourses in their own field in a scientific manner? In the present case of *research into design*, design researchers such as Wölfel and Krzywinski suggest that qualifications from other scientific disciplines are required (2010, p.133). This is being taken seriously and is part of my preparation for this project. In order to be able to carry out a comparison of the boom phases mentioned

above, a well-suited method can be found among the social sciences and cultural studies.

3.1 A Method Suiting the Situation

In general, this research could be addressed with both quantitative and qualitative methods. The former would be less suitable though. A quantitative method e.g., statistical evaluation of word frequencies and combinations, could be used to draw conclusions about the content. But it would be too imprecise about the meaning of statements within the discourses. The analysis, however, must be based on processes of understanding, otherwise the notions within the discourses would be hard to capture. Secondly, explicit definitions of terms necessary for a quantitative analysis would not be possible, since specific terms in discourses vary too much. Thus, a quantitative method could at best be used in a supportive way, for example, in order to just detect certain phenomena more easily. Thirdly, the primary literature would have to be processed in an error-free, machine-readable way, as existing digitised archives on the topic are not representative. This processing would go beyond the resources of this project. But most importantly, not only texts but images, artifacts, practices and design solutions should be subject to this investigation, too. In the end, a *qualitative* approach makes more sense, since the object of interest, the different positions, their relations and the structure of power they represent, should be examined. Accordingly, the method of *situation analysis* by sociologist Clarke seems best suitable (2012). It is based on an extended version of the Grounded Theory program by Strauss and combines it with Foucault's concepts of discourses (ibid p.15). The method provides vital tools to tackle the questions mentioned in the introduction, to comprehend systems of thinking and to be able to compare them. The following sums up the relevant principles from her work *Situation Analysis: Grounded Theory After the Postmodern Turn* (2005): First, the prospect of *social constructivism* facilitates a reconstruction of the whole variety of perspectives, positions and their relationships as their meaning is seen as constructed in the situation. Fluidness is embraced but also structuring aspects can be traced in an *inductive* research approach with the help of the Grounded Theory research program. Secondly, positions of power are implied in the analysis as they determine certain perspectives e.g., what *can or cannot be said* within the discourses. Thirdly, *human* and *non-human* actors are taken into account which gives the possibility to incorporate design solutions as well.

In a nutshell, situation analysis uses *mappings* to reconstruct a variety of positions, discourses and activities of humans and non-humans. Not by measures of quantity, but by positions and their distribution on topographic maps, to show their bandwidth, to understand and demonstrate relations and variety. Primary data is *opened* i.e., created by formulating codes and memos of phenomena that are discovered within the discourses. This is generated by coding articles and images on socio-political topics of the

identified time frames. The written data is collected and clustered into categories which structure the discovered concepts. These concepts are visualized in a cartographic way to capture the complexity of perspectives and their connections, preparing them for a well-informed discussion and further interpretation.

3.2 Corpus and Data Creation

A source that covers a great deal of the debate are design publications. Professional design journals provide an applicable field of study with regards to content and form. Concerning content, journals play an essential part in creating ongoing discourses within the discipline. They cover a wide range of notions the design world is engaged in and they are peer reviewed. But most importantly, not only texts but also images of design solutions are shared in form of articles. Here, relevant statements can be expected and found systematically, as well as important actors of the discipline. Concerning form, journals offer topical articles of similar types and in chronological order. For these reasons, design journals establish the initial data corpus. It consists of printed publications from the IDZ and of leading German design journals *form* and *Design Report*. Later on, it will be supplemented by popular magazine articles and exhibition catalogues. The time frames of the boom phases provide the foundation.

Starting off with the research, broader questions from the introduction are used to *code* and classify the material i.e., what can be discovered that could lead to an understanding or deeper questions, not by testing a hypothesis (Corbin & Strauss, 1996, p.23,43). Both details from the primary data as well as secondary literature give hints where the debate takes place next, a method called *theoretical sampling* (ibid p.35). After further steps, the coded material is visualized by maps about *situations*, *social arenas* and *positions* (Clarke, 2012). The process is completed when saturation is reached i.e., when more data does not bring any more findings (ibid.). From here, the different mappings are used to formulate the results of the comparison of the two periods.

4 Initial Findings

Since the project is still in its initial phase, two examples from the preliminary corpus will be used to illustrate how similar issues are implemented in the different periods. This is not a representation of the research data, but it reveals simply first findings that show interesting contrasts. The first example is about the *design of public space*, which is a part of the socio-political debate: a playground project. It is included in exhibitions at the IDZ in both 1972 and 2018. The differences appear when comparing the images and press release of the two exhibitions. In 1972, it is claimed that conventional playgrounds create clumsiness, make kids stupid, enforce calm, order and conformity, that children can only consume and not change them (IDZ, 1972, p.7). In the press release in 2018, the IDZ emphasizes that the exhibited playgrounds would be made of natural and recyclable materials and only rented tools (IDZ,

2018). Without exception, certified wood would be used for construction, easy-to-repair would be guaranteed, and the playground could be adapted to the brand and the wishes of customers (ibid).

Another example is a design competition for *environmental protection*. In 1971, the *form* magazine published an evaluation, describing an 'interesting' solution of a sturdy double erecting box as shipping and sales packaging, with rational production, space-saving storage, which is reusable as scrap material (Middelhauve, 1971, p.21). The IDZ exhibited a similar packaging concept in 2014 for the beverage industry. Its die-cut material would serve as a closure and, with up to 35% material savings, would offer improved joint stiffness due to bonded flaps (IDZ, 2014). Bottles, Tetra Pak, gable-top packs or cans could thus be packaged in a stable manner. Reduced material use would conserve raw materials and reduce emissions during transport by saving space. Corrugated board and adhesive would be purely vegetable-based and recyclable (ibid).

5 The First Hunch

5.1 Profound Debates vs. Sustainability

Let me stress the point that this project has only just started. For now, mere assumptions can be drawn from the initial project phase. Yet it seems that alternative design ideas were aimed to support human development as well in the late 1960s. Apparently, this is not the case in the current boom phase. Today, *sustainability* seems to be framed as the solution to all problems. Simultaneously, social progress was mostly understood as a *collective action* in the early 1970s, whereas nowadays, it is transformed into a matter of individual *consumer choices*. Even though it seems that we are moving towards a high point of the debate, this research might indicate that the previous boom phase was more potent of political power. Weak points of today's approach shall be demonstrated by further investigation. These insights can be used to work actively against an absorption into a corporate narrative of all aspects of design, which seems to be one of the main reasons why the discourse of design for *common good* fainted during the 1970s in West Germany.

5.2 The Contribution to Design History and Design Strategies

A comparison of the post-'68s and today's sustainability debates is unavailable up until now, at least on a larger scale. This project represents the first examination of how design discourses have changed since the beginnings of the environmental movement in the 1970s. Based on the striking similarities in the reading of earlier and current professional publications, this work examines formulations and representations of problem definitions, guidelines, and approaches to design solutions. The original contribution to research is the insight if, how and where socio-political discourses in design stagnate and where developments can be identified. The findings will reveal the dynamics of design discourses and will likely shed new light on them. They can expose the foundations that drive sustainable progression in design, where alter-

natives have been lost, and where innovative design for the *common good* is actually taking place. In particular, this research will contribute to the re-evaluation of developments of social, economic and ecological sustainability from a socially relevant perspective.

In addition, the project explores important primary sources of the past decade that have not yet been researched with regard to the social, economic and ecological concerns of the design discipline. The thematic and temporal focus allows to expect a high gain in knowledge for the understanding of historical as well as current developments in design. Not only can an important contribution to the history of design be anticipated, but it can offer a basis for reflection and theory formation of the discipline of design in times of climate change. Furthermore, this project makes disciplinary knowledge accessible for an interdisciplinary discourse and can be integrated into current debates on *transformation*.

References

- Banz, C. (2016). Zwischen Widerstand und Affirmation: Zur wachsenden Verzahnung von Design und Politik. In Banz, C. (Ed.), *Social Design: Gestalten für die Transformation der Gesellschaft* (pp.11–23). Bielefeld: transcript.
- Bieling, T. (Ed.), (2019). *Design (&) Activism: Perspectives on Design and Activism and Activism as Design*. Mimesis International.
- Breuer, G., Eisele P. (Eds.), (2018). *Design: Texte zur Geschichte und Theorie*. Ditzingen: Reclam.
- Clarke, A. E. (2005). *Situational Analysis: Grounded Theory After the Postmodern Turn*. London: SAGE.
- Clarke, A. E. (2012). *Situationsanalyse: Grounded Theory nach dem Postmodern Turn*. Translation by Sarnes, J. Wiesbaden: Springer VS.
- Corbin, J. & Strauss, A. (1996). *Grounded Theory: Grundlagen Qualitativer Sozialforschung*. Weinheim: Beltz.
- Eisele, P. (2005). *BRDesign: Deutsches Design als Experiment seit den 1960er Jahren*. Köln: Böhlau.
- Fineder, M., & Geisler, T. (2011). 'Design Clinic' Can Design Heal the World? Scrutinising Victor Papanek's Impact on Today's Design Agenda. *Design History Society Annual Conference: Design Activism and Social Change*. Retrieved December 1, 2020, from <http://www.historiadeldisseny.org/congres/pdf/> (No.31).
- Frayling, C. (1993). Research in Art and Design. *Royal College of Art Research Papers, Vol 1, Number 1, 1993/4*.
- Grillmayr, J. (2018). *Das Versprechen, eine bessere Welt zu gestalten*. Accessed December 10, 2020. <https://www.derstandard.at/story/2000071825051/das-versprechen-eine-bessere-welt-zu-gestalten>.
- Grossmann, Y. V. (2018). *Von der Berufung zum Beruf: Industriedesigner in Westdeutschland 1959–1990*. Bielefeld: transcript.
- Grossmann, Y. V. (2019). West German Industrial Design: Die Anfänge nach 1945, *form Design Magazine* N°282: 78–82.
- Middelhaue, F. (Ed.), (1971). Erstrangiges Beurteilungskriterium beim 9. Deutschen Verpackungswettbewerb: „Umweltschutz“. *form 55, Zeitschrift für Gestaltung*, III-1971: 21-22.
- IDZ (Internationales Design Zentrum Berlin), (Ed.) (1972). *Jahresbericht IDZ Berlin '72*. Berlin: IDZ.
- IDZ (2014). *Bundespreis Ecodesign: Spar-Schnitt*. Accessed December 10, 2020. <https://bundespreis-ecodesign.de/de/gewinner/projekte/spar-schnitt>.
- IDZ (2018). *Ecodesign Roadshow: Reconsider Design*, UNO Parks: Adventure Architects. Accessed December 10, 2020. <https://idz.de/de/projects/ecodesigncircle.html#1575>. (Learning & Playing)
- Jonas, W. (1994). *System – Design – Theorie: Überlegungen zu einem systemtheoretischen Modell von Design-Theorie*. Essen: Blaue Eule.
- Madge, P. (1993). Design, Ecology, Technology: A Historiographical Review. *Journal of Design History, Vol 6, No. 3*: 149–166.
- Park, J. H. (2014). Social Design: Entwurf ökonomischer und sozialer Artefakte. *Öffnungszeiten, Papiere zur Designwissenschaft 28/2014*: 18–24.
- Schweppenhäuser, G. (2016). *Designtheorie*. Wiesbaden: Springer VS.
- Selle, G. (2007). *Geschichte des Design in Deutschland*. Frankfurt/Main: Campus.
- Spitz, R. (2002). *hfg ulm – der blick hinter den vordergrund: die politische geschichte der hochschule für gestaltung 1953–1968*. Stuttgart: Menges.
- Wölfel, C., & Krzywinski, J. (2010). Designwissenschaften als akademische Disziplin. In Romero-Tejedor, F. & Jonas, W. (Eds.), *Positionen zur Designwissenschaft* (pp. 130-134), Kassel: University press.

Acknowledgements

I am grateful to Prof. Dr. Martina Fineder-Hochmayr (University of Wuppertal) and Prof. Dr. Elke Gaugele (Academy of Fine Arts Vienna) for supervising my dissertation. Heartfelt thanks to the University of Wuppertal for supporting me with a graduate scholarship.

The Logics of Social Design

Keywords: Social Design,
Institutional Logics, Common Good,
SDGs, Sustainable Development.

Lucy Kimbell^{a*}

^a*Social Design Institute,
University of the Arts London*
^{*}l.kimbell@arts.ac.uk

This paper examines how different institutional social design forms relate to achieving the common good. This paper attempts this using a form of analysis called institutional logics which sees organisational action as existing in a social and institutional context, which shapes organisational and individual behaviours. The paper distinguishes three social design logics embedded within contemporary design in western European and North American contexts: innovation-austerity, deliberation-pluralism and anticipation-utopia, each with a distinct mission, basis of legitimacy, professional identity, emblematic objects and practices, forms of organisation, socialisation mechanisms and strategies. It takes the UN Sustainable Development Goals, a definition of what the common good might look like, and outlines how the three logics play out in relation to them. By so doing, the paper shows there are varied instantiations of professional design acting towards the common good with distinct modes of operation, and sets out directions for future research.

1 Introduction

If we accept Simon's definition of design that it aims to change existing situations into preferred ones (1996: 111), then it has become clear in the 21st century that while extensive change is required in how societies, communities, businesses and governments are organised to address urgent social, health and environmental issues, the nature and consequences of these changes and the associated preferences are highly ambiguous, contested and complex. Design consultancies – the predominant way that designers are organised to deploy their expertise in the global North – are increasingly engaged to support and enable change, including in domains such as healthcare technologies, behaviours of citizens and customers, and the redesign of public services including through guides (e.g. Rockefeller Foundation, n.d.) and prizes (e.g. Currystone Foundation, 2020). In higher education, students, educators and researchers are invited to respond to briefs (e.g. Royal Society of Arts, 2020) and funding calls targeting sustainability, health and humanitarian issues. Design festivals, museums, exhibitions, events and digital platforms mix opportunities to enact a mode of design as tied up with innovation alongside performing responses to social and environmental issues (e.g. Broken Nature, 2019). Despite growing critical discussion of assumptions and bias built into the profession's practices, there is intensification of design expertise being reconstructed as 'social' including being directed towards the common good.

Such endeavours are hard to articulate, account for and assess, both in terms of process and outcome. If we turn to the UN Sustainable Development Goals (SDGs) (2020), on the one hand they can be seen as an emblematic example of commitments towards achieving a shared, or common, equitable, sustainable future. On the other there are inconsistencies and ambiguity in their expression, let alone their implementation (Hickel, 2019). Learning from studies of development, designers might note that projects aiming to address the needs of poor people, especially those in low income countries, often fail to achieve their objectives, may have negative outcomes, and are rooted in the racialised and gendered means of intervening into societies governed by colonial legacies in the global South (Kothari, 2005).

In short, while addressing the common good through design might now be the aspiration of professionals, educators and curators working within diverse institutional settings, their built-in values, practices and accountabilities are rarely examined. This paper attempts this re-examination, by articulating the institutional logics embedded within devices, practices and organisations of contemporary design in western European and North American contexts. By identifying these logics, I aim to distinguish between different forms of social designing, with distinct missions, forms of legitimacy and professional identities. Such analysis will help practitioners and educators locate the practices they are reproducing and be reflexive

about how these are negotiated. Second, it contributes to the literature by making distinctions between forms of social design.

To achieve this, the approach taken is a form of analysis called institutional logics. While studies of design culture (e.g. Julier, 2013) and design ethics (e.g. Fry, 2008) offered critical and contextual accounts of contemporary practice and modes of organisation, there have been few efforts to identify core logics inside design professions and organisations (e.g. Durand et al, 2013; Arico, 2018). The institutional logics approach highlights systems of beliefs and values constructed at the societal level, built into the material and symbolic arrangements of organisations and practices resulting in particular courses of action and forms of agency (Powell and DiMaggio, 1983; Thornton and Ocasio, 1999; Thornton and Ocasio, 2008). Such an approach recognises that action exists in a social and institutional context, which shapes professional identities, organisational behaviours and creates opportunities for stability and change.

The paper starts with a literature review of social design, which reveals there are as yet few critical and contextual discussions of this emerging phenomena. Adopting an institutional logics perspective, I delineate three ideal types of institutional logic within the western European and North American social design field. I then take the example of the SDGs as a pre-eminent definition of what the “common good” might look like, to which designers and design firms might address themselves. I outline the ways that the three logics play out differently in relation to the SDGs. By outlining these logics, I show there are varied instantiations of professional design acting towards the common good which have distinct modes of operation and implications. I conclude by identifying contributions to existing knowledge and suggest future research.

All designing is already “social” in the sense that it is informed by (mis)understandings of the concerns of the people targeted by designers, and of organisations and “society” as well as being carried out by groups of people (Tonkinwise, 2019). Armstrong et al. (2014) noted a social design “moment” emerging from the confluence of new forms of government, digitalisation, and growing urgent issues to which designers address themselves. Koskinen and Hush (2016) distinguished between molecular (small-scale), utopian and sociological forms. Chen et al. (2015) argued that social design works best at the scale of communities. Tonkinwise (2016) emphasised that even though social design emphasises social relations, it does this through having a focus on material objects such relations are organised through. Willis and Elbana (2016) pointed to the limitations of a problem-solving approach in social design and the need to better understand contexts and challenges. Tonkiss (2017) distinguished different forms of “social” in design and architecture including social as context, social as use, social as object and social as process. Arguing that designers should

recognise the affective character of their practice, Brassett (2018) noted that the ontological work of social designing reinforces or disavows the various agential possibilities of the types of existence that emerge. Growing concern about equalities (e.g. Sloane, 2019), Eurocentric thinking (e.g. Escobar, 2018) and (in)justice (e.g. Costanza-Chock, 2020) result in accounts of social designing that explicitly engage with political and ethical concerns. Julier and Kimbell (2019) argued that social design is doomed not to be effective until practitioners turn their attention to institutional factors. While such studies have offered perspectives on design towards social ends and via social means (e.g. Vink et al, 2017), they have not articulated underlying logics in social design.

2 Re-Assembling Social Design

To attempt this, this paper uses a variant of the neo-institutional approach known as institutional logics, developed to analyse organisations as well as at field level. This approach is selected because the aim is to understand the structuring effects of forms of social design in relation to an outcome – the common good – that is both political and social. March and Olsen (1983) proposed that institutions are relatively autonomous, rather than being aggregates of individual behaviours, in making decisions about allocating resources. Powell and DiMaggio (1983) offered an explanation as to why organizations tend to behave in similar ways. Thornton and Ocasio (1999: 804) defined institutional logics as “the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality”. Classic forms of analysis identified “the family”, “the market”, “the state” or “the profession” as institutions; others are empirically derived resulting in classifications across traditional social formations (Thornton et al., 2015).

Several researchers have described mechanisms that make organisations homogenous, while others have studied institutional divergence (Beckert, 2010). Individual organisations may have multiple logics operating concurrently (Besharov & Smith 2014). Other studies used the idea of competing logics to explain how change happens, with implications for how new practices form (e.g. Lounsbury, 2007). Studying French industrial design firms, Durand et al. (2013) showed they had awareness of multiple logics which the authors defined as modernism, formalism and managerialism. The authors showed that firms with different levels of status combined these logics in different ways to trigger institutional change.

There are few examples to date of design researchers using this approach, all within service design. Kurtmollaiev et al. (2018) argued that material practices associated with service design and ways of working disrupted the institutional logics in organisations it was deployed in. Arico (2018) used institutional logics approach to explain how service design entered client organisations through

emerging customer and digital logic. Vink et al. (2019) showed how service design practices alter mental models, which is required for the institutional change associated with service innovation. Sangiorgi et al. (2020) developed a tool for use in redesigning health services, which made different logics visible and negotiable.

In this study, the institutional logics perspective is used to examine social design fields, rather than focusing narrowly on the interactions of designers, or design firms, with clients or partners. Further, the approach used here acknowledges that institutional mechanisms have differential effects in relation to factors such as gender (e.g. Mackay et al., 2010). This approach will allow me to unpick the political consequences of social design fields aiming to achieve the common good. To create ideal types of institutional logics in social design, I draw on my situated knowledge of contemporary practice accessed through desk research and my participation in projects, events, interviews, and discussions with practitioners, educators and researchers^[1]. It requires me to attend to the activities through some voices and perspectives are brought into view while others are marginalised, and how some futures are opened up, while others are foreclosed.

3 Articulating Three Logics

This study distinguishes between three ideal types of institutional logic in social design understood as constructs to enable research rather than a description of the world (see Table 1). The characteristics of these logics draws on several sources in the literature (Thornton and Ocasio, 2008; Thornton, et al. 2012; Boitier and Rivière, 2016). As some researchers have done (e.g. Durand et al., 2013), this study generates novel terminology for logics that add nuance to the often-used abstractions of “market”, “state” or “profession”, recognising the encroachment of neo-liberalism into professional design practice (Julier, 2017). The framework used identifies core symbolism, mission, source of identity, source of legitimacy, emblematic practices and objects, means of socialisation, basis of strategy and focus of attention in each logic.

The first logic is *innovation-austerity*, in which social design is constructed as being essential to society solving its problems. For designers to be legitimatised to work towards this mission, they must be invited to the table and invested in by those with economic resources or symbolic power. Their identity is as enablers of others, helping them achieve their goals, in business, civil society or government including. Common organisational forms in this logic are consultancies serving clients or in-house teams inside organisations. The ways that designers are socialised into this logic include internships, the junior/senior hierarchy in design firms, conferenc-

[1] I was co-investigator of research in the UK commissioned by the AHRC which resulted in a report by Armstrong et al. (2014) and by Julier and Kimbell (2016). I am founding director of a new Social Design Institute at University of the Arts London.

es, and student projects with external partners in higher education. To achieve the mission of enabling clients (whether named as such or not) the strategy is to demonstrate people’s involvement in and buy in of the design process, and to provide evidence that the process has achieved the intended goals. In practice this results in evidencing the design process itself, for example by creating visualisations of people’s experiences of the context, as well as of the designing, and producing design toolkits to make design visible.

Characteristic	Innovation-austerity	Deliberation-pluralism	Anticipation-utopia
Symbolic analogy	Product launch team	Town meeting	Creative studio
Basis of mission	Develop new solutions for society	Hear/see what matters to people	Show what could be
Basis of legitimacy	Buy in and investment from those with resources	Connecting with and making visible people with lived experience of social issues	Imagining alternatives and futures beyond what currently exists
Basis of identity	Enabling organisations to achieve goals	Convening socio-material publics	Acting as visionaries outside of norms/frames
Emblematic practices/objects	Visualisations of user journeys, design toolkits	Co-creation workshops, manifestos	Speculative objects/media, visioning workshops
Organisational forms	Consultancies, in-house teams, design higher education	Project teams, activist and community groups, digital networks	Museums, design higher education, boutique consultancies
Socialisation mechanisms	Internships, conferences, projects with partners in higher education	Activist networks, hack days, sprints, occupations	Biennales, festivals, events, student degree shows, residencies
Basis of strategy	Demonstrating people’s involvement and buy in, providing evidence of impact	Demonstrating people’s participation, building relationships with communities	Curating/organising/staging events and showcases, gaining mainstream media exposure
Focus of attention	Project delivery, meeting expectations	Authenticity, equity	Reimagining, exceeding

Table 1: *Logics of social design*[2].

Analogous to a product launch team, this logic is coupled with economic value. Here, design expertise is a necessary contributor to economic growth for example through consultancies being paid fees to enable clients to become more customer-centric, test out ideas before committing to them, and develop new innovations (e.g. European Commission, 2012; Innovate UK, 2020). In this logic, the common good is achieved through economic growth to meet society’s needs, which requires innovation and improvements in productivity.

[2] The title of the paper is inspired by Barry et al. (2008).

The flipside of this push towards innovation is the requirement to enact austerity, when governments decide to reduce investments in public infrastructures or where government is absent. Here, social design expertise can be leveraged to redesign public services (e.g. Design Commission, 2013) or to address humanitarian issues (Institute of International Humanitarian Affairs, 2018). Social innovation – by people, for people, with people – is another response, resulting in new services and organisations when the state refuses to invest or provide. In this, designers are invited to take on new roles in identifying and “amplifying” local resources and responses, innovating in response to social needs that are not being met (e.g. Manzini, 2015).

This logic downplays the political conditions in which social design is organised and carried out in service of innovation. Critical voices are tolerated but marginalised; customers and communities are prompted to build “resilience” and to co-produce their own solutions to their needs; change is inevitable and endlessly performed. Designers are advised to think of themselves as responsive, rather than responsible for outcomes they work towards. On the one hand this can be read as acknowledgement of *realpolitik* and the limitations on the courses of actions they can pursue; on the other, responsiveness might be seen as being reactive and tactical, rather than active and strategic in the face of complex, and political issues.

The second logic is *deliberation-pluralism*, with the mission of bringing into view what matters to society. Analogous to the town meeting, this logic foregrounds and materialises the multiplicity of voices and perspectives in a social world and the potential for being involved in (re)designing. While “human-centred” perspectives are foregrounded in the innovation/austerity logic, within this logic the emphasis is on multiplicity and agonism in social relations (e.g. Di Salvo, 2012) with the rejection of simplistic accounts of experience. The legitimacy of design professionals in this logic requires a careful calculation. On the one hand, their legitimacy rests on connecting with and making visible and heard people with lived experience of social issues, on their own terms. On the other hand, the power relations in so doing must be negotiated so that the “people” still require the designers to speak for and with them. The basis of professional identity is tied to the convening of publics in ways that are not just “social” (because community organisers and political parties do that already) but “socio-material”, reliant on producing assemblies of people and things in creative configurations (Marres et al., 2018). The organisational forms of this logic include temporary teams gathering for a deliberative purpose, sometimes at the request of government, activist and community groups, and digital networks, which may involve fees and income generation. To achieve the mission of making society visible and heard, the strategy involves demonstrating people’s participation

and building relationships with communities as an end in itself. The mechanism for socialisation in this logic requires active participation in community and activist (digital) networks, hack days, or workshops.

While this logic foregrounds multiplicity, this does not map directly onto diversity. There are growing critiques of the gendered and racialised modes of contemporary European and North American design which minimise or exclude perspectives of women and people from Black, Indigenous and People of Colour communities, those with different abilities including neurodiversity, and other characterisations structured as other (e.g. Escobar, 2018; Costanza-Chock, 2020). Other developments acknowledge more-than-human perspectives (Hilgren et al., 2020) attending to living beings, ecologies and planetary constraints, going beyond “human-centred design” narratives.

The third logic is *anticipation-utopia*, which opens up and exceeds current frames about what might be possible in relation to economic growth, social change and sustainable development. While the analogy of this logic is the creative studio, it's important to note that this logic is not simply tied to the generative activities that occur during designing. Rather it foregrounds the imaginaries which are embedded this instantiation of social design, evident in its practices, objects and accounts. Designers' professional legitimacy here is on the basis of going beyond current understandings; what they propose does not have to “work”. Their professional identity is based on acting as visionaries outside of current frames. Designers are socialised through higher education including degree show as well as residencies and commissions associated with exhibition-based organisations. Here the organisational forms associated with this logic such as museums or festivals have diffused forms of income generation including public subsidy, donations or ticketing, rather than fees (although boutique consultancies may have these). Emblematic practices and objects in this logic include speculative designs and media for de-contextualised display in galleries as well as visioning workshops to involve participants to join - albeit briefly - the studio of this social design logic.

In this logic, acknowledgement of the political and economic conditions that sustain such institutional forms is muted. Von Busch and Palmås (2016) noted the idealist tendency in design thinking to sidestep the messy and contested nature of the real worlds designers are invited to reimagine. Seeing design as outside of or beyond current frames downplays positionality.

4 Exploring Social Design Logics in Sustainable Development

Turning now to the question of the anticipated common good associated with the SDGs, I examine how social design logics play out in relation to these commitments. Adopted in 2015, the 17 SDGs built on substantial work by activists, civil society organisations and researchers (Filho et al, 2017). The SDGs are intended to provide a framework for policymaking in member states over a period of 15 years to end poverty, protect the planet, and ensure prosperity – one articulation of the common good. However despite this high level vision, there are a number of problems associated with the SDGs. One is the mutual contradictions between the goals focussed on economy, society and environment (e.g. International Council for Science and International Social Science Council, 2015; Hickel, 2019). For example, goals aiming at economic growth, if achieved through “business as usual”, will result in further environmental damage. A second is the difficulty of modelling and evaluating progress towards them (Spaiser et al, 2017). A third is the fact that despite such commitments, unless there is associated action and engagement with communities and publics (Mensah, 2019) the SDGs will not be achieved. However, in the absence of better shared definitions of common good, the SDGs function as a frame to explore how social design logics are instantiated.

Intersecting the first social design logic I proposed, innovation-austerity, with the SDGs sees the social as an object for design (Tonkiss, 2017). This is evident in toolkits to aid governments to achieve sustainable development or outsource previously public services to community groups (e.g. OECD, 2020) or platforms to support problem-solving (e.g. OpenIDEO, 2020). In design higher education, students are offered as unpaid labour to toil on public problems on the basis that they achieve their learning outcomes. In-house designers or external consultants are positioned as enablers of organisations working towards the SDGs, including through designers from the Global North being paid to find “solutions” for the poor communities in the Global North or Global South, switching economic for social value as if these can easily be swapped over. This logic downplays the inherent contradictions in the SDGs and contested pathways to implementation, as well as the politics of establishing such projects and negotiating between conflicting agendas (e.g. Mission Oriented Innovation Network and Design Council, 2020).

In contrast, in the second logic, deliberation-pluralism, the contradictions in the SDGs are something to organise around, a starting point for dialogue. In this logic, the social is activated as context and as process (Tonkiss, 2017). Practices here include running workshops and using digital platforms to bring publics into view, acknowledging conflicting stakes in the issues associated with the SDGs and responses to them. The process of making publics is itself a social good, and part of the requirement to deliver the SDGs (Mensah, 2019). Through a strategy of demonstrating involvement

or formation of publics, democratic ambitions associated with the SDG are foregrounded. To enact this logic requires that designers have a focus of attention on equity, and are conversant with the requirement to be attentive to institutional conditions in which designing takes place and how they structure and limit possibilities (Keshavarz, 2018).

Social design in the form of the third logic, anticipation-utopia, intersects with the SDGs in different ways. In this logic, the social is activated as projections of use (Tonkiss, 2017). Creating and showcasing ideas matters more than implementation. Here professional identities of social designers as thinking beyond current frames are embraced to propose new visions and responses to urgent issues, often neglecting the lived experience and expertise of people within an issue. With a strategy to capture the social imagination through creative display, this logic can be seen as connecting with the espoused intentions of the SDGs while at the same time bypassing complexities and conflicts around implementation.

By mapping social design institutional logics in relation to the SDGs, distinct forms of practice and organisational action can be identified. Noting that institutional logics can explain both how things come to be similar, as well as how they change (Beckert, 2010), the value of this analysis is to ask how homogenisation or change are achieved in social design and their consequences. Second, this analysis highlights that organisations may well have more than one logic running concurrently (Besharov & Smith 2014). Identifying how these logics relate to one another – which are central and which are marginal, and the extent of their mutual alignment – can help participants assess the possibilities and consequences of particular courses of action (Sangiorgi et al, 2020).

5 Conclusion

This paper aimed to develop new understandings of design and the common good by applying the institutional logics perspective to distinguish between specific material and symbolic configurations within social design. Having proposed three ideal types of social design logic, it showed how different formations might respond to the common good embodied in the SDGs. Examining the intersections between these logics in instantiations of social design enables nuanced assessment of associated aspirations, accounts and claims.

The paper's contributions are at three levels. First, it has aided understanding social design by specifying the practices, identities, sources of legitimacy, types of organisation and strategies through which different forms of social design are (re)produced. A limitation here is privileges associated with my particular institutional setting and networks which make some forms of practice more visible. The second contribution is methodological, through the use of institutional logics to analyse how professional design is enacted in social design, building on recent work in service design. The third

contribution is to identify future research. One approach is to take this provisional framework and test it empirically. Another direction would be to identify the circumstances shaping conflicts between logics, how organisations and teams negotiate between them, and with what consequences. Further, the links between critical design studies and the institutional logics approach could be developed.

Rather than asking which social design logic is more or less likely to achieve the common good, identifying these logics brings into view the different ways that ethics are constructed, and inequalities are reproduced in particular practices and organisational arrangements. If fields of social design are indeed to achieve the common good, what kinds of institutional form and logic need to be designed?

References

- Arico, M. (2018). Service design as a transformative force: Introduction and adoption in an organizational context. PhD Thesis. Copenhagen Business School. Retrieved December 1, 2020, from www.cbs.dk/en/research/departments-and-centres/departments-of-management-politics-and-philosophy/events/phd-defence-marzia-arico
- Armstrong, L., Bailey, J., Julier, G. & Kimbell, L. (2014). *Social Design Futures: HEI research and the AHRC*. Brighton: University of Brighton; London: Victoria and Albert Museum.
- Barry, A., Born, G. & Weszkalnys, G. (2008). Logics of interdisciplinarity. *Economy and Society*, 37(1), 20-49.
- Beckert, J. (2010). Institutional isomorphism revisited: Convergence and divergence in institutional change. *Sociological Theory*, 28, 150-166. <https://doi.org/10.1111/j.1467-9558.2010.01369.x>
- Besharov, M. & Smith, W. (2014). Multiple institutional logics in organizations: Explaining their varied nature and implications. *Academy of Management Review*, 39, 364-381. <https://doi.org/10.5465/amr.2011.0431>
- Boitier, M. & Rivière, A. (2016). Management control systems, vectors of a managerial logic: Institutional change and conflicts of logics at university. *Accounting Auditing Control*, 3 (22), 47-79
- Brassett, J. (2018). Creating affective social design: An ethical and ontological discussion. *Cubic Journal*, 1(1), 172-185.
- Broken Nature. (2019). Retrieved November 1, 2020, from www.brokennature.org
- Chen, D. -S., Cheng, L.-L., Hummels, C., & Koskinen, I. (2015). Social design: An introduction. *International Journal of Design*, 10(1), 1-5.
- Costanza-Chock, S. (2020). *Design Justice: Community-Led Practices to Build the Worlds We Need*. Cambridge: MIT Press.
- Currystone Foundation. (2020). Design Prize. Retrieved November 1, 2020, from <https://currystonefoundation.org/design-prize/>
- Design Commission (2013). *Restarting Britain 2: Design and public services*. Policy Connect. Retrieved November 15, 2020, from <https://www.policyconnect.org.uk/apdig/research/restarting-britain-2-design-public-services>
- Mission Oriented Innovation Network (Institute for Innovation and Public Purpose) and Design Council. (2020). *Moving beyond financial value. How might we capture the social and environmental value of design?* London. Retrieved January 11, 2021, from www.designcouncil.org.uk/resources/report/moving-beyond-financial-value-how-might-we-capture-social-and-environmental-value
- DiMaggio, P. & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- DiSalvo, C. (2012). *Adversarial Design*. Cambridge: MIT Press.
- Durand, R., Szostak, B., Jourdan, J., & Thornton, P. (2013). Institutional logics as strategic resources. In: M. Lounsbury & E. Boxenbaum (Eds.) *Institutional Logics in Action. Research in the Sociology of Organizations*, Vol. 39, Part A, pp.165-202.
- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. New Ecologies for the Twenty-First Century. Durham: Duke University Press.
- European Commission. (2012). *Design for Growth and Prosperity. Report and Recommendations of the European Design Leadership Board*. Retrieved November 1, 2020, from <https://publications.europa.eu/en/publication-detail/-/publication/a207fc64-d4ef-4923-a8d1-4878d4d04520>
- Filho, W., Azeiteiro, U., Alves, F., Pace, P., Mifsud, M., Brandli, L., Caeiro, S. & Disterheft, A. (2018). Reinventing the sustainable development research agenda: The role of the sustainable development goals (SDG). *International Journal of Sustainable Development & World Ecology*, 25(2), 131-142, DOI: 10.1080/13504509.2017.1342103
- Fry, T. (2008). *Design Futuring. Sustainability, Ethics and New Practice*. London: Bloombury.
- Hickel, J. (2019). The contradiction of the sustainable development goals: Economic growth vs ecology on a finite planet. *Sustainable Development*, 27(5), 873-884.
- Hillgren, P.A., Light, A. & Strange, S. (2020). Future public policy and its knowledge base: shaping worldviews through counterfactual world-making. *Policy Design and Practice*, 3(2), 109-122, DOI: 10.1080/25741292.2020.1748372
- Innovate UK. (2020). *Design in Innovation Strategy, 2020-24*. UK Research and Innovation.
- International Council for Science and International Social Science Council. (2015). *Review of targets for the sustainable development goals: The Science Perspective*. Retrieved November 1, 2020, from <https://council.science/publications/review-of-targets-for-the-sustainable-development-goals-the-science-perspective-2015/>
- Institute of International Humanitarian Affairs (2018). *Design for Humanity Report*. Retrieved December 1, 2020, from <https://issuu.com/iiha/docs/design4humanity-report-2018>
- Julier, G. (2013). *The Culture of Design*. 3rd edition. London: Sage.
- Julier, G. (2017). *Economies of Design*. London: Sage.
- Julier, G., & Kimbell, L. (2016). *Co-Producing Social Futures Through Design Research*. University of Brighton.
- Julier, G. & Kimbell, L. (2019). Keeping the system going: Social design and the reproduction of inequalities in neoliberal times. *Design Issues*, 35(4), 12-22.
- Keshavarz, M. (2018). *The Design Politics of the Passport. Materiality, Immobility, and Dissent*. London: Bloomsbury.
- Kothari, U. (2005). *A Radical History of Development Studies: Individuals, Institutions and Ideologies*. London: Zed Books.
- Kurtmollaiev, S., Fjuk, A., Pedersen, P. E., Clatworthy, S., & Kvale, K. (2018). Organizational transformation through service design: The institutional logics perspective. *Journal of Service Research*, 21(1), 59-74. <https://doi.org/10.1177/1094670517738371>
- Lounsbury, M. (2007). A tale of two cities: Competing logics and practice variation in the professionalizing of mutual funds. *The Academy of Management Journal*, 50(2), 289-307.
- Mackay, F., Kenny, M., & Chappell, L. (2010) New institutionalism through a gender lens: Towards a feminist institutionalism? *International Political Science Review*, 31(5): 573-588.
- Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge: MIT Press.
- March, J., & Olsen, J. (1983). The new institutionalism: Organizational factors in political life. *American Political Science Review*, 78(3), 734-749.
- Marres, N., Guggenheim, M., & Wilkie, A. (2018). Introduction. In N. Marres, M. Guggenheim & A. Wilkie (Eds.) *Inventing the Social* (pp. 17-37). Manchester: Mattering Press.
- Mensah, Justice (2019) Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1), 1653531
- OECD. (2020). *Observatory of Public Sector Innovation. Toolkit navigator*. Retrieved December 1, 2020, from <https://oecd-opsi.org/toolkit-navigator/>
- OpenIDEO (2020). Retrieved December 10, 2020, from <https://www.openideo.com>
- Rockefeller Foundation. *Design for Social Impact. How To Guide*. (n.d.). Retrieved December 1, 2020, from https://new-ideo-com.s3.amazonaws.com/assets/files/pdfs/news/IDEO_RF_Guide.pdf
- Royal Society of Arts. (2020). *Student Design Awards*. Retrieved December 1, 2020, from <https://www.thersa.org/student-design-awards/design-briefs>

- Sangiorgi, D., Vink, J., Mulvale, G., Farr, M. & Warwick, L. (2020). Logic Multiplicity & service Design. The case of mental healthcare. Working paper.
- Simon, H. (1996). 3rd edition. *The Sciences of the Artificial*. Cambridge: MIT Press.
- Sloane, M. (2019). On the need for mapping design inequalities. *Design Issues*, 35(4), 3-11.
- Spaiser, V., Ranganathan, S., Bali Swain, R., & Sumpter, T. (2017). The sustainable development oxymoron: quantifying and modelling the incompatibility of sustainable development goals. *International Journal of Sustainable Development & World Ecology*, 24:6, 457-470, DOI: 10.1080/13504509.2016.1235624
- Thornton, P. & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958-1990. *American Journal of Sociology*, 105(3): 801-843.
- Thornton, P. & Ocasio, W. (2008). Institutional logics. In R. Greenwood, C. Oliver & R. Suddaby. *The SAGE Handbook of Organizational Institutionalism* (pp.99-128). London: Sage.
- Thornton, P., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford: Oxford University Press.
- Thornton, P., Ocasio, W. & Lounsbury, M. (2015). The institutional logics perspective. In R.A. Scott and S.M. Kosslyn (Eds.) *Emerging Trends in the Social and Behavioral Sciences*. Wiley.
- Tonkinwise, C. (2019). Is social design a thing? In Resnick, E. (Ed). *The Social Design Reader*. London: Bloomsbury, pp.9-16.
- Tonkinwise C. (2016). Committing to the political values of post-thing-centered designing (teaching designers how to design how to live collaboratively). *Design and Culture*, 8(1), 139-154, DOI: 10.1080/17547075.2016.1142355
- Tonkiss, F. (2017) Socialising design? From consumption to production. *City*, 21(6), 872-882, DOI: 10.1080/13604813.2017.1412923
- United Nations. (2020). Sustainable development goals. Retrieved December 1, 2020, from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- Vink, J., Edvardsson, B., Wetter-Edman, K. & Tronvoll, B. (2019). Reshaping mental models—Enabling innovation through service design. *Journal of Service Management*, 30(1), 75-104.
- von Busch, O., & Palmås, K. (2016). Designing consent: Can design thinking manufacture democratic capitalism? *Organizational Aesthetics*, 5(2), 10-24.
- Willis, A.M. & Elbana, E. (2016). Socially engaged design: A critical discussion with reference to an Egyptian Village. *Design Philosophy Papers*, 14(1-2), 33-57, DOI: 10.1080/14487136.2016.1275085

Acknowledgements

Thanks to Guy Julier for feedback on an earlier version.

Core Values Matter: The Role of the People in Shaping Corporate Responsibility

Keywords: Brand Design,
Core Values, Social Justice, Marketing,
Social Innovation Design

Lilian Crum^{a*}

^a*Lawrence Technological University*
^{*}*lcrum@ltu.edu*

This research investigates the role of the public in influencing a brand's social responsibility, specifically in times of crisis when social media use has increased. Using case studies, it examines the public-facing messaging and action of high-profile companies, specifically during the spring and summer of 2020 when the COVID-19 pandemic and the Black Lives Matter movement were creating dramatic social, economic, and behavioural transformations to our world. Underpinned by social innovation design, brand design and marketing, this paper discusses the relationship between brand messaging and a company's core values, as well as the ways in which people hold a brand's role in contributing to the public good accountable. Looking ahead, it considers the ongoing impact the voice of the people will have in holding brands accountable for systemic change.

1 Introduction

The COVID-19 pandemic and momentum of the Black Lives Matter movement in spring and summer of 2020 pressured brands to address the dramatic social, economic, and behavioral shifts that have been transforming our world. These events of 2020 have put the role of brands in society into the spotlight, and consumers are demanding more from them. It is no longer enough for brands to make public statements about important issues; in fact, the optics of empty messaging that is not reflected by the actual policies and practices of a company tends to gain more significant scrutiny. Consumers expect a company's values to be actualized throughout its entire system, from their hiring practices, to representation in their advertising, to pay parity, to their impact on the environment.

While some brands have expressed their solidarity with the public on issues such as social justice, pandemic-related isolation, and economic hardships in 2020, many communicated seemingly inauthentic messages and were criticized for their lack of authenticity or hypocrisy. This has resulted in the public criticism and boycotting, as well brands taking meaningful action to help contribute to positive change.

This paper uses case studies to examine the role of people in influencing a brand's role in public good. It considers the relationship between a brand's public-facing messaging and its internal core values, as well as design-led strategies that may be taken that contribute to social progress.

2 Core Values

Core values refer to the ethos of a company or organization that inform all of the company's practices. In the "Trend 4: Core Values Matter" section from *AIGA's Design Futures* (n.d.), Meredith Davis explains that on a global level, people consider quality, reliability and transparency to be the most significant virtues for brands to exemplify. Younger consumers value honesty and authenticity, and people of all ages value environmental and social responsibility (Davis, n.d.). Davis adds that a sense of distrust is created when people perceive distance between a brand's aspirational values and their core values (Davis, n.d.). It is therefore imperative that for a brand to embody any of these values, they must be fully integrated within the brand and put into practice at all levels.

Social media has been facilitating real-time public scrutiny of brand policies, practices, and organizational structures, and bottom-up forces that put pressure on corporate responsibility are consequently powerful. As Davis argues, people tend to use their social networks to share and form opinions more than ever before, the power dynamic between people and companies has shifted (Davis, n.d.). Indeed, recent increased use of social media on a global level has helped fuel the moral imperative for brands.

Consumers utilize their buying power and digital voices to hold companies accountable for driving positive change. According to a Meaningful Brands® 2019 - a global study by Havas Worldwide that examined 1800 brands in 31 countries, and that had 350,000 respondents - 55% of consumers consider businesses to be more significant than governments when contributing a better future. Further, 77% of consumers purchase from businesses who have similar values (Havas Media Group, 2019). People therefore tend to view corporations as having the ability to help realize positive change, and they will align themselves and purchase from those that embody their ideals, thereby helping to fuel their impact.

With monumental social media use during the COVID-19 pandemic, public scrutiny of brand policies, practices, and organizational structures have been particularly powerful; public criticism and boycotts are just a post away. From July 2019 to July 2020, social media user numbers increased by more than 10% worldwide, with more than 1 million people beginning to use social media every day. In other words, that time period saw nearly 12 new users every second. In North America alone, nearly 70% of the population uses social media (Kemp, 2020). As many countries experienced lockdowns, social distancing, and quarantine due to COVID-19 in spring and summer of 2020, social media usage surged even more as people were seeking a sense of connection and entertainment. In fact, 43% of internet users from ages 16 to 64 reported spending more time on social media (Kemp, 2020). This increased use of social media thereby helped to fuel dialogue around social issues that have been put into sharp focus due to the pandemic.

3 Methodology

The following investigation builds from short summaries of brand responses that have been compiled from three sources. The first, “Black Lives Matter: A Resource of Brand Responses”, is an online document that tracked over 100 examples of anti-racism messaging by major brands in response to the Black Lives Matter movement. Created by four marketers and strategists, the document is organized into a variety of market sectors including finance, technology, fashion, and food and restaurants. It includes both brands that have meaningful approaches of expressing solidarity and creating significant impact to combat racial injustice, as well as brands that have failed to respond (Perez, Cole, Vitacca, and Ballard, 2020). The following two sources track the ways that marketers and agencies are taking action against racism. *AdAge’s* “A Regularly Updated Blog Tracking Brands’ Responses to Racial Injustice” began on July 1, 2020, and as of the date of this writing, it is being updated as brands continue to respond to racial injustice (Ad Age Staff, 2020). The next source, “How Brands and Agencies Responded to Racial Injustice in the First Month Following George Floyd’s Death” is an archived *AdAge* blog of brand responses from the date of George Floyd’s death on May 25, 2020 to June 30, 2020 (Ad Age Staff, 2020).

Expanding from these summaries, this investigation discusses three illustrative key case studies wherein it is observed that the public played a significant role in influencing the brand's response. Ultimately, these developed case studies build insights about the role of the people coupled with the role of social media in each scenario.

Each case study focuses on brands that possesses the following qualities:

- The brands are high profile, and already have a large (>900k) following on social media. This ensures that the role of social media in the public's reaction was significant.
- The brands faced backlash disseminated primarily through social media at some point between spring and summer of 2020. The circumstances may still be evolving at the time of this writing.
- The brands are large corporations. While the economic hardships caused by COVID-19 impact businesses at all scales, this investigation considers that smaller businesses may have more limited resources that hinder their ability to make significant, fast responses.
- The brands are outside of what Havas Media identified as the 2019 top ten performing Meaningful Brands®, which are Google, PayPal, Mercedes-Benz, WhatsApp, YouTube, Johnson & Johnson, Gillette, BMW, Microsoft, and Danone (Havas Media Group, 2019). This ensures that the examined brands are not considered to be already among the most impactful on the public good.
- Each case experienced public backlash, followed by actionable responses or changes in response to the outcry.

4 Case Studies

It should be noted that each of these cases have occurred within the past nine months of this writing, and it is possible that more information may subsequently unfold.

4.1 Case Study 1: Glossier



Fig. 1: *Outta The Gloss* visual identity element (Graphic by Maggie Chirido).

The brand: Glossier is a digitally-native beauty start-up that is known for its “back-to-basics” line of beauty products. The brand digitizes and democratizes the beauty industry by curating content with its customers.

The controversy: While Glossier pledged \$1 million to go toward Black-owned beauty brands and racial injustice organizations in June of 2020, the company was subsequently accused of racism and mistreatment by an anonymous group of former retail workers who communicated under the name “Outta the Gloss” (a play on Glossier’s “Into the Gloss” blog). Outta the Gloss communicated through social media and through the online publishing platform, Medium, as a means of being able to directly reach its consumer base. Arguing that the initial response to the Black Lives Matter movement was performative and that the brand’s image of progressivism is empty, the collective outlined a number of demands, which included anti-racist training, pay parity, and transparency. Via a blog post, Emily Weiss, Founder and CEO of Glossier, offered a public acknowledgement of the demands, to which the group pushed back against, stating that the company’s plans were insufficient and performative (O’Brien, 2020). The company’s Instagram following also dropped by 60,000 followers in August 2020 from their peak in July 2020 (Goldfine, 2020).

The outcome: In June 2020, Glossier donated \$1 million to support Black-owned beauty brands and to organizations that combat racial injustice. This action was praised by some as being one of the only brands to quickly take monetary action rather than simply vocalize their support (Betancourt, 2020). At the time of this writing, however, Outta the Gloss is calling for a boycott of the brand as their demands have yet to be met. (Outta The Gloss, 2020).

4.2 Case Study 2: Everlane



Fig. 2: Screenshot of Everlane’s website displaying its tagline.

The brand: Everlane is a North American clothing brand that is known for its tagline, “Exceptional quality. Ethical factories. Radical Transparency”. Everlane eliminates the middleman to reduce product costs and also upholds ethical practices in their factories.

The controversy: Despite the fact that Everlane markets itself on being honest about its product mark-up and its ecological footprint, its ethical image quickly unraveled in spring of 2020 for union-busting during a pandemic and for anti-Black behavior occurring within the company.

In the spring of 2020, Everlane had assured its employees that online sales were strong and that they were not planning layoffs outside of the small number of in-store teams who were furloughed. However, when the customer experience (CX) team formed Everlane Union (@EverlaneU), and began efforts to unionize to become full-time employees and to gain the same benefits as the company’s other teams, they were all laid off (Everlane Union, 2020). Bernie Sanders intensified the backlash by re-Tweeting Everlane Union, and adding:

“Using this health and economic crisis to union bust is morally unacceptable. I’m calling on @Everlane to bring workers back on payroll and recognize the @EverlaneU” (Sanders, 2020).

Additionally, a different group of former employees who have called themselves “The Ex-Wives Club” shared allegations of anti-Black behavior and a toxic work culture in a publicly-distributed *Google Doc* entitled “Everlane’s Convenient Transparency”. The text includes both grievances with the brand and steps that Everlane could take to help remedy the issues, including “[committing] to being an intersectional environmentalist” and “[ensuring] anti-racism training is nuanced” (The Ex-Wives Club, 2020).



Fig. 3: Everlane Union social media graphics.

The outcome: On June 29, CEO Michael Preysman issued a public apology letter to the company’s former and current employees, which included a series of immediate and long-term actions that were being implemented. These actions include anti-racism train-

ing, integration of stronger BIPOC (Black, Indigenous, and People of Color) perspectives, and resolving any occurrences of pay disparity (Everlane, 2020).

4.3 Case Study 3: McDonald's Brazil

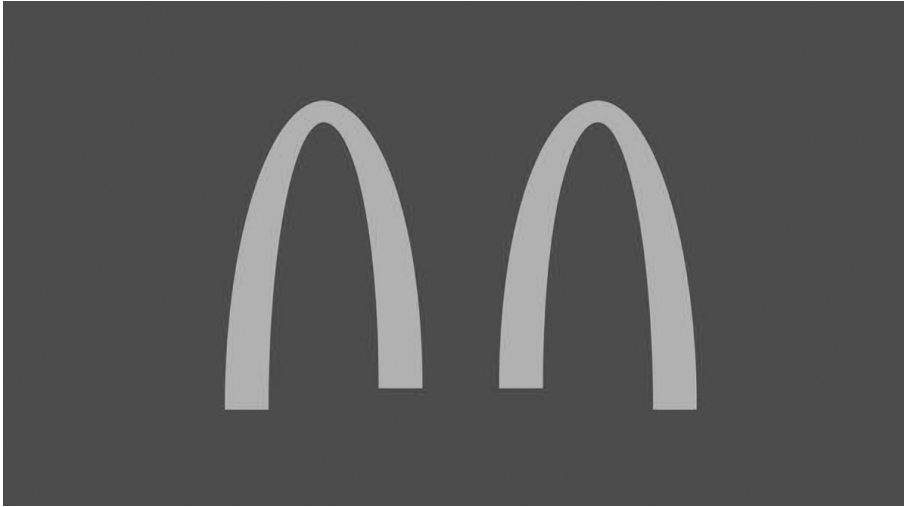


Fig. 4: (Image credit: McDonald's).

The brand: McDonald's

The controversy: In March of 2020, McDonald's Brazil launched a social media campaign to convey a sense of solidarity with the measures taken to slow down the spread of COVID-19. Produced by Brazilian advertising agency DPZ&T, the logo was altered to visually separate its iconic golden arches, symbolizing social distancing.

Other brands similarly modified their logos, such as Coca-Cola, Volkswagen, and Audi, and there was a general sense of criticism that these campaigns were marketing gimmicks that convey a false sense of being socially responsible. In one of many public Tweets responding to the controversy, founder of ad agency, GUT said:

"There's a fine line between being relevant and being opportunistic. Not every brand should do a 'coronavirus idea.' Actions will speak louder than words. (Ramos, 2020)".

Addressing these altered logos, the *Fast Company* article aptly entitled "Social Distancing logos are the design equivalent of 'thoughts and prayers'" argues that vague marketing statements are not enough, and that consumers instead want to see companies support their employees (Brown, 2020).

Of these brands, McDonald's received the most public criticism for encouraging social distancing during the pandemic yet failing to guarantee paid sick leave for its own workers. In one of many critical Tweets by the public, Shann Boglione stated:

"Brands, before playing fancy with your logo: 1/ Make sure your own employees are taken care of, even if only temporarily. 2/ Look for ways to support people on the front line. 3/ Remove [communications] that are tonally off in this moment (e.g. KFC UK). 4/ See how committed spends can help" (Boglione, 2020).

The outcome: In addition to a public apology by McDonald's Brazil, the company has since adjusted its sick leave policy and now guarantees two weeks of paid sick leave to all employees of its franchises, including those who have been in contact with someone who is infected with COVID-19 (Leow, 2020).

5 Discussion

It is evident that consumers are able to utilize their buying power and public voices on digital platforms to pressure on brands to make changes that support social good. It is also evident that brands cannot simply express their values to preserve their image, but must instead actively integrate strategies to ensure these values are embedded within the DNA of the company. It is also critical that the optics around these actions are not exploiting the causes that they support. These actions cannot simply be reactive, they must also be sustainable. Considering that at the time of this writing is so soon after the brands have initiated changes, long-term action and impact is yet to be determined. How, then, can these changes be sustained, transcending feel-good marketing tactics and superficial brand messaging?

5.1 Sustainable Strategies

According to the online document "Black Lives Matter: A Resource of Brand Responses and Approaches", meaningful impact can be created by brands who: create impact through action, are transparent about internal policies and practices, retool their products or services to support marginalized communities, pause or pivot to amplify other voices, and who commit to long-term tangible solutions (Perez, Cole, Vitacca, and Ballard, 2020). Similarly, Simon Mainwaring, founder and CEO of strategic consultancy We First, proposes that for brands to respond authentically to the Black Lives Matter movement, they must: listen to gain a better understanding of the cause, assess internal operations of the company, form partnerships with groups who are making impact, communicate the company's stance on the issue, and hold themselves accountable (Mainwaring, 2020). This suggests that the sustainable change calls for integrated, formalized strategies that incorporate several different types of stakeholders into the process.

Designer Ezio Manzini expands on the definition of social innovation design to say that it is:

“a constellation of design initiatives geared toward making social innovation more probably, effective, long-lasting, and apt to spread” (Manzini, 2013, p.65).

He argues that social innovation design can be either a top-down or bottom-up process - or a combination of the two - depending on the origins and drivers of the change (Manzini, 2013). In the previously examined cases of people holding brands accountable for their role in the common good, wherein the change is initiated by the people and is subsequently supported by CEOs or other decision-makers, one could suggest that this form innovation is hybridized - both bottom-up and top-down. For long-term impact, then, it must remain a participatory process that integrates the concerns of people and their communities.

The people’s demands for impact through action ultimately calls for structural changes that must be realized a systems level not simply a one-time adjustment or message of intent. According to Manzi, the nature of these kinds of design activities are dynamic, creative, and complex, and designers can act in the roles of generators, co-design teams, or design activists (Manzi, 2013). Regardless of the formal role of a specific role or strategy, a design-led process for change that formally integrates the concerns of the people may offer a more structured approach for sustainable, meaningful impact.

At this point, the investigation prompts the following questions for future consideration:

- How should people be a formal part of a participatory design process that is utilized by brands to create positive change?
- How will a participatory design process avoid pitfalls of what is already in practice by profit-driven marketing strategies?
- What is the long-term trajectory for these kinds of ethical corporate changes?

6 Conclusion

Social media has created a platform for bottom-up forces to have a networked, and therefore stronger, amplified, and coordinated voice. As consumer values are magnified across digital platforms, their opinions play a triggering and mediating role in holding brands accountable for change. Vague solidarity statements - or even one-time actions like monetary donations - are not enough to create meaningful, long-term impact. Brands must begin by identifying authentic core values that can be integrated at the level of systems.

It is to be determined whether the changes that have already been enacted or promised by many brands will be ongoing, meaningful, or develop into authentic core values of the company. It is also to be determined whether the changes to this date will continue to be reactionary or more effectively integrate the voices of the people in a structured, coordinated way (outside of existing, traditional marketing strategies).

Looking forward, however, it is clear that sustainable impact necessitates larger structural changes to companies' policies and practices. As design for social innovation would suggest, these changes will need to be on-going and iterative, and occur at a systems level in order to be sustainable. Because the voices of people are also a critical part of the initiative, they should be integrated in a formal, design-led process that acknowledges grassroots initiatives, the re-envisioning of the future, and that considers the interconnectedness of social, political, economic, and environmental systems.

References

- Ad Age Staff (2020). A Regularly Updated Blog Tracking Brands' Responses to Racial Injustice, *AdAge*. Retrieved December 27, 2020, from <https://adage.com/article/cmo-strategy/regularly-updated-blog-tracking-brands-responses-racial-injustice/2260291>.
- Betancourt, B. (2020). Glossier Is Donating \$1 Million to Black Lives Matter and Black-Owned Beauty Brands, *Harper's Bazaar*. Retrieved December 27, 2020, from www.harpersbazaar.com/beauty/makeup/a32731503/glossier-donates-one-million-dollars-to-black-causes.
- Boglione [@LeShann]. (2020, March 22). Brands, before playing fancy with your logo: 1/ Make sure your own employees are taken care of, even if only temporarily. 2/ Look for ways to support people on the front line. 3/ Remove comms that are tonally off in this moment (e.g. KFC UK). 4/ See how committed spends can help. [Tweet]. Twitter. Retrieved December 27, 2020, from <https://twitter.com/LeShann/status/1241741756057751555>.
- Brown, E. N. (2020). Social distancing logos are the design equivalent of 'thoughts and prayers'. *Fast Company*. Retrieved December 27, 2020, from www.fastcompany.com/90485303/social-distancing-logos-are-the-design-equivalent-of-thoughts-and-prayers.
- Davis, M. (n.d.) Trend 4: Core Values Matter. *AIGA: The Professional Association for Design*. Retrieved December 27, 2020, from www.aiga.org/aiga-design-futures/introduction-to-design-futures.
- Everlane. (2020, June 29). A note to our past employees, current employees and community [Instagram post]. Instagram. Retrieved December 27, 2020, from <https://www.instagram.com/p/CCAib-NtJ2o2/>.
- Everlane's Customer Experience Union [@EverlaneU]. (2020), March 27). Nearly every member of our team was just laid off. Retail workers from Everlane stores are being trained to replace us to answer your support emails. We are devastated beyond measure [Tweet]. Twitter. Retrieved December 27, 2020, from <https://twitter.com/EverlaneU/status/1243598760153952256>.
- The Ex-Wives Club. (2020). Everlane's Convenient Transparency. [Google Doc]. Retrieved December 27, 2020, from https://docs.google.com/document/d/1fRAdfTxBvcq4tsUryXl_Sjcot0H_mG_llyXuQrMcOg/edit.
- Goldfine, J. (2020). Glossier is #cancelled - here's which companies could benefit from the billion-dollar beauty brand's failure, *The Business of Business*. Retrieved December 27, 2020, from <https://www.businessofbusiness.com/articles/glossier-cancelled-beauty-brands-loreal-data-social-media>.
- Havas Media Group. (2019). Building meaningful is good for business: 77% of consumers buy brands who share their values. *Havas Media Group*. Retrieved December 27, 2020, from <https://havasmedia.com/building-meaningful-is-good-for-business-77-of-consumers-buy-brands-who-share-their-values>.
- Kemp, S. (2020) Digital 2020: July Global Statshot. *Datareportal*. Retrieved December 27, 2020, from <https://datareportal.com/reports/digital-2020-july-global-statshot>.
- Mainwaring, S. (2020). Brands Must Respond in Times of Crisis, *Forbes*. Retrieved December 27, 2020, from www.forbes.com/sites/simonmainwaring/2020/07/13/purpose-at-work-how-brands-must-respond-in-times-of-social-crisis/?sh=5f40afd24eba.
- Manzini, E. (2014). Making Things Happen: Social Innovation and Design. *DesignIssues*, Vol 30 (1): 57-66.
- March, B. (2017). Glossier's Emily Weiss on democratising beauty (and direct messages from Kim Kardashian), *Harper's Bazaar*. Retrieved December 27, 2020, from www.harpersbazaar.com/uk/beauty/a44230/glossier-emily-weiss-interview.
- O'Brien, S. A. (2020). Glossier, a billion-dollar beauty brand, apologizes to former retail workers after racism allegations, *CNN Business*. Retrieved December 27, 2020, from www.cnn.com/2020/08/18/tech/glossier-apology-retail-workers/index.html.
- Outta The Gloss [@outtathegloss]. (2020, December 19). Thank you to every one of you who participated in #NoGlossierForTheHolidays. All 13k of you really made this happen! This isn't the end of our boycott, and we have so much more in the works [Instagram post]. Instagram. Retrieved December 27, 2020, from www.instagram.com/p/Cl_Ro8cF8JW.
- Ramos, A. [@anselmoramos]. (2020, March 18). To every brand confused about what to do right now: There's a fine line between being relevant and being opportunistic. Not every brand should do a "coronavirus idea." Actions will speak louder than words. Everything you do or don't do communicates. It's a pandemic. Not a brief. [Tweet]. Twitter. Retrieved December 27, 2020, from <https://twitter.com/anselmoramos/status/1240232956280672257>.
- Perez, L., Cole, J., Vitacca, S., and Ballard, D. (2020). Black Lives Matter: A Resource of Brand Responses and Approaches. [Google Slides]. Retrieved December 27, 2020, from https://docs.google.com/presentation/d/19d2SDI4yEbkSyPnFqHNwcc7TAb_4PaVEza3F-prS_2Nk/mobilepresent?fbclid=IwAR2WHcOBHgrQ6oVf42PgXI7hIDubLkRjlvRDPbK36nG-6PCsQ1LXYH3KHgYg&slide=id.g8c139a8507_424_115.
- Sanders, B. [@BernieSanders]. (2020, March 28). Using this health and economic crisis to union bust is morally unacceptable. I'm calling on @Everlane to bring workers back on payroll and recognize the @EverlaneU [Tweet]. Twitter. Retrieved December 27, 2020, from <https://twitter.com/BernieSanders/status/1244008836610088963>.

Designing New Solutions During Covid-19 through Creativity

Keywords: Creativity, Design practices, COVID-19, Social Innovation.

Gianluca Carella^{a*},
Mattia Italia^a,
Silvia D'Ambrosio^a,
Francesco Zurlo^a

^a*Department of Design,
Politecnico di Milano*
^{*}gianluca.carella@polimi.it

The COVID-19 represented what Murray (2009) defines as intractable social problems: problems where reactions of government structures and markets often seem to be inadequate. Within this shattering scenario, people rediscovered the power of collaboration as triggers for creating new artefacts and solutions (Manzini, 2015).

The research tried to focus on the role of design as a driver to create new initiatives and activities in response to the crisis. 130 case studies circa were collected, obtaining later a final set of 22 most exemplary initiatives, demonstrating how creative actions contributed to social innovation.

The paper aims to discuss how individuals were the activators and protagonists of bottom-up processes, which have produced solutions that can be identified as common goods, where society benefits as a whole (Hussain, 2018). Collaboration allowed both people and enterprises to develop ecosystems where creatives find space for action and which have a sense of existing only if shared with other people.

1 Introduction

The outbreak and rapid spread of the coronavirus between the end of 2019 and the beginning of 2020 caught the whole world off guard. Economies, societies and governments faced a whole new threat, often strictly related to a difficult situation. The consequences observed till now have shown to be severely critical. The European economy alone lost about 7.7% of its GDP in the first quarter of 2020. This is linked to the social difficulties, such as the increase in unemployment, the necessity to stay at home to avoid the spread of the virus, and the worries and sacrifices of the families (ISTAT, 2020). This strong negative impact on society at different levels, from local to global, makes it possible to classify the COVID-19 as a social problem. In fact, following the classification carried out by the University of California, the consequences of what has already been described make the pandemic fall within the social issues and business and economic categories. Despite these globally widespread problems, society has had an unexpected response, showing itself to be cohesive and responsible. The sense of belonging and common destiny (Drury et al, 2009) has allowed the creation of communities more aware of their own needs and what is good for the individuals and the society itself. It is precisely these groups of individuals, with their common goals and relationships, that have represented the means to achieve the common good, making communities and relationships themselves part of the shared good (Hollenbach, 2002; Melé, 2009). Therefore, it is possible to see how individuals, communities and their relationships were the cornerstones of the first part of the pandemic. They were able to propose solutions and initiatives to the unexpected social problem. Each one of them contained a collective dimension within itself, going to alleviate or raise the conditions of the communities (Hussain, 2018). Although even unconsciously, social innovation actions were born, able to act where governments and markets were not able to intervene (Mulgan et al, 2010).

In this panorama design and designers have played a fundamental role, proposing themselves in different positions and in different moments among community initiatives, but always being the figures and the method that "make things happen" (Manzini, 2014).

This research wants to examine some emblematic cases of initiatives that emerged during the Phase 1 of the Italian lockdown born from creative stimuli. An initial collection of about 130 case studies was made. Subsequently, the various cases were skimmed, selecting the 22 most effective and representative of both the contribution of design and the social driver behind them. Their analysis has highlighted the role of design as a driver of social innovation, ending up with different forms of common goods from which the whole of society can benefit.

The article is divided into four main parts. First, the theoretical background will give an overview of the main themes covered: COVID-19, common good, social problem and social innovation. Then, the methodology will follow, by expressing how the research has been conceived. Subsequently, the different emerged emblematic macro themes will be presented, by taking in consideration their relationship with social innovation and their role as common goods. Finally, conclusions at the end will show final considerations on the contribution of design.

2 Theoretical Background

2.1 COVID-19 and New Normalities

Since December 2019, Wuhan, the capital of China's Hubei Province, has been declared as the epicentre of a new pneumonia, later identified as a strain of SARS-CoV, named COVID-19 (Zhou et al, 2020). During the first three months the virus began to spread globally and reached Italy, creating the first outbreak in the town of Codogno, in the north of the country. Immediately afterwards, with 118,000 infected and 4,291 dead in 114 countries, the World Health Organization (WHO) declared the coronavirus a pandemic (Guzzonato, 2020).

To fight the spread of the virus and to prevent the collapse of health structures, the Italian Government, like many others, was forced to adopt containment measures through a national lockdown. In addition to personal anti-accounting measures such as physical distancing, washing hands often, not touching face and wearing face masks (Bavel et al, 2020), further restrictions have been approved to prevent the circulation of individuals and the opening of commercial activities. The restrictions have affected the vast majority of production activities, leaving only those related to essential goods and services, including the food chain and the production of sanitary materials and equipment.

Despite these difficulties, Italian society showed strong cohesion during the first lockdown, manifested through the adoption of careful and responsible attitudes (ISTAT, 2020).

The new containment measures have led to a number of changes in people's daily life. New needs have emerged, including the need for new forms of social relationship and/or collaboration. These have produced new bases for social innovation solutions that led to the creation of a large number of common goods.

2.2 The Acceleration of Common Goods During the COVID-19 Pandemic

Although it is a common opinion that in a dangerous situation people act panicked and selfishly (Clarke, 2002), COVID-19 has shown us the opposite. Help groups and initiatives of all sorts and nature arose during the first wave of contagion to rescue people and companies, in contrast to the common belief. A factor capable of explaining what happened is the sense of belonging and com-

mon destiny that has spread initially (Drury et al, 2009). This has created a natural push towards the community, to act for the common good and not the individual (Bavel et al., 2020).

COVID-19 has allowed people to be aware of what this good can be, to pursue it, and so to have unity and be closer to the perfect state (Etzioni, 2014). The result is a more aware society, made up of individuals who, in a whole new condition, are pursuing well-being. This condition, or rather society, represents what is summarised by Hollenbach (1989) as an "interactive community" social model and used by him and several other authors as a prerequisite for an ethical-social vision of communitarian/common-good. Common good it is also identified as the good of being in a community, because (the common good) is only realised in relation to others and it is through relationships that people can achieve well-being (Hollenbach & Hollenbach, 2002). This because individuals are not isolated from all others but rather are immersed in a network of relationships that constitute the common good (O'Brian, 2008; Melé, 2009). This concept is widely rooted and was already mentioned inside the Aristotelian vision where the good of the individual was subordinate to that of the community. Although for Cahill (2004) and O'Brien (2008) it is in fact reductive to think common goods only as the sum of the individualistic good of singles.

Among the different kind of communities who can contribute to the creation of common goods, Solomon (1992) identify also firms. They, too, must contribute to the common good through their goals and objectives, always bearing in mind their relationships with other entities (Bower, 1988; Melé, 2009). There are different ways in which a company can contribute, ranging from services to the creation of economic added value (Melé, 2002). Given the different situations that companies and individuals experience, the contribution to the common good is never the same and differs according to circumstances (Melé, 2009). Since conditions can worsen rapidly the community become very important, sharing the burden of the problem. The struggle, therefore, becomes a common aspect that everyone takes on and contributes to the good of society (Hussain, 2018).

2.3 Answering to Social Problems

The pandemic situation has highlighted a number of social problems that have emerged with greater strength and characterization. The community response was manifested through the development of a series of initiatives, products that can be characterized as common goods. The importance of social problems, their relevance and the need for their resolution is at the center of the debate in recent years, even before the advent of COVID-19.

In recent years many theorists and experts from all over the world, and most importantly from very different backgrounds, have started framing, evaluating and addressing social problems within both profit and not-for profit institutions and businesses. Worth mentioning from its etymology, 'social problems or issues' assess to a condition or circumstance that has a negative impact on a large number of individuals at local, national, international and even global level. Encounter and address social problems, means involving individuals of a community, an organisation or the entire society itself: sociologists, economics, urban planners, policy makers and managers are changing their objectives in serving the society and improving social conditions. Lots of theorists and experts have tried to differ and cluster social issues by merging their perspectives with the fields of study related to the most relevant social sciences: Anthropology, Communication Studies, Education, Economics, Geography, History, Law, Linguistics, Political Science, Psychology and Sociology.

The social problems are those complexes, including wicked, problems of collective action (Marshall, 2013) that are also named as those complex public and/or shared problems that imply new public arenas, agenda and goods. Within this scenario, design plays its fundamental role in supporting and enabling a 'powerful global conversation', between companies and the people they serve. According to Design Council, public sector organisations, charities and foundations are recognising the potential of design to solve social and environmental challenges, thanks to its mindset and multiple assets that are based on human-centred methods, design thinking tools and systemic visions.

Lots has been explored and published about the methodologies and abilities taken from the design field that aim at beneficial outcomes for individuals, groups, communities and societies. Design is a collaborative creative process and, therefore a social activity (Warr et al., 2005) because it allows high-impact solutions to social problems through a bottom-up approach rather than imposed from the top. T. Brown and J. Wyatt (2010) affirmed that design addresses the many social and environmental needs of people by crossing the traditional boundaries between public, profit and not-for profit sectors because of its being optimistic, constructive and experiential.

The pandemic, as previously pointed out, has revealed a number of social problems. The resolution of these, has in most cases been possible thanks to the production of common goods as result of social innovation actions. Several individuals, parts of communities, have been activated through different ways to develop solutions useful for the common good. Among the different things performed, people also started to collaborate, mixing their own resources in order to produce something for the community.

2.4 Social Innovation as Driver to Produce New Solutions Starting from Social Problems

Manzini (2015) stated that social innovation initiatives emerge from “the creative recombination of existing assets (from social capital to historical heritage, from traditional craftsmanship to accessible advanced technology), which aim to achieve socially recognized goals in a new way” (Manzini, 2015).

In this vision, social innovation represented a very fundamental approach to face part of the new conditions emerged from the pandemic situation and offer adequate solutions. In fact, it is largely recognized that social innovation can act as problems solver for those situations that can be considered very difficult, if not intractable. Intractable social problems are for Mulgan and his colleagues (2010) problems where both government policy and market solutions are proved as grossly inadequate. In this sense, social innovation solutions can break traditional economic models representing solutions shared with different actors and sustained by their motivation. It is important to underline that results of social innovation initiatives should led a social change (Howaldt and Schwarz, 2010).

Social innovations are produced thanks to a mix of behaviourist approach through actions taken by individuals and stimulus coming from the external context (Cajaiba-Santana, 2014). It is fundamental to start from yourself, without waiting for the change to come from institutions.

Both the strong impact and impact of social innovation is nowadays widely recognised and also for-profit organisations seek to create social value through a range of CSR programs. (Dees&Anderson, 2006) This is just an example that represent the massive multiplication that social innovation initiatives are having. In addition to the multiplication of cases, many of them have become so important that they are considered mainstream examples. (Mulgan, 2006)

In this panorama design and designer can have two main roles, both extremely important to reach final solutions: designing with communities and designing for communities (Manzini, 2014). The former refers to a participation where it is necessary to facilitate both collaboration and convergence, acting as peers with the different involved actors; the latter refers to a proactive action of designers who have to implement new solutions for specific collaborative services.

Designers can play a variety of roles within the process, acting as facilitators, triggers, members of co-design teams and design activist. To summarize all these different functions, Manzini (2014) stated that designers inside the social innovation processes are those that “make things happen”.

3 Methodology

During the unexpected COVID-19 emergency situation in Italy, researchers and collaborators from CI.Lab - Creative Industries Lab of the Department of Design at the Politecnico di Milano, started to collect case studies focused on cultural and creative industries, small and medium-sized enterprises that were forced to think and act in new 'creative' ways.

During the lockdown period, professional and personal spheres collided and combined, by forming new ecosystems to explore, understand and most importantly to protect. Therefore, from across Italy some 'best practices' were selected and analysed from a design point of view in order to provide a valuable reflection on the scenarios that professionals and non-professionals alike, both creative and otherwise, will have to face in the near future.

The result of the research is stated in a digital booklet entitled *"From COVID to Creativity"* spread through media channels in collaboration with *Symbola - Fondazione per le qualità italiane*, and licensed with Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

As above mentioned, the research work analysed how CCIs and SMEs have responded to this emergency, by making use of their resources and bring creative ideas and innovation into play. The research questions at the basis were thus the following ones: *"What responses did cultural and creative businesses, small and medium-sized, give to the COVID-19 emergency?"* and *"What were the contributions dictated by creative impulses and stimuli?"*.

The investigation and its related actions of selection and analysis involved tools and methodologies from the design field, with the aim of collecting and processing both qualitative and quantitative data. As such, the investigation was structured upon precise objectives, including:

- Understanding and visualising the Italian panorama during the first lockdown period, with a focus on the contributions of creative and cultural companies.
- Analysing and summarising the various interpretations or themes underlying the possible levers for innovation.
- Mapping and sharing significant case studies that provide qualitative aspects of the phenomenon.

Therefore, through a collaborative process over the period between March and May 2020, CI.Lab collected 130 case studies circa from a range of sources (magazines, social networks, online videos, direct contacts) based on potential creative actions for innovation by companies, small agencies and creative individuals. An in-depth examination of these case studies made it possible to identify, by affinity and response to the various research hypotheses, certain

recurring interpretations and themes, which were later analysed in detail with a selection of 44 case studies. Finally, the researchers selected 22 exemplary initiatives which demonstrate how creative energies manifested, spread and transformed themselves as a result of the different moods that the pandemic brought in each individual. These initiatives were clustered in 6 macro themes.

4 Design as a Creative Mean in Response to COVID-19

The conducted research allowed the identification of 6 macro themes, that are further illustrated. Moreover, a selection of three best practices will be presented as a convergence among the valuable topics of social innovation and common good. The idea is to give a real perception not only about the different macro themes among which the different initiatives arise, but to have also an overview about some of the concrete actions that were realized.

4.1 Generosity and Solidarity (Macro Theme 1)

Confronted with adversity, the world's population has come together to form something greater, something that is often forgotten or taken for granted: a common sense and awareness. As a result, people came up with all kinds of creative solutions to provide what they had to their neighbours, making their time and skills available, resulting in an incredibly wide and diverse range of solidarity. Here, the various digital tools have allowed everyone to remain close to one another: sharing platforms, video tools, creative and digital products and services created and donated to others out of pure altruism.

4.2 Enabling Widespread Creativity (Macro Theme 2)

Facing the difficulties of the past few months, everybody rediscovered their designer side, creating new solutions to the problems related to the everyday life. Tutorials, webinars, websites and platforms have unlocked and spread skills, allowing for new experiences, new "first times". In this case the new role and usage of creative synergies were emphasised.

4.3 Entertainment / Education (Macro Theme 3)

During the months of lockdown, homes across Italy became "micro-worlds" to re-explore, observe, accept and respect with particular care and attention: streamlining spaces and resources, learning to measure out our living spaces, and discovering details and potential gaps that we had never before noticed (Molinari, 2020). Individuals found themselves with more free time than usual, and new needs for quality emerged both in terms of family and individual time. Therefore, new entertainment contents started to be shared, readily provided and easily accessible thanks to new uses for communication channels.

4.4 Channel Innovation (Macro Theme 4)

The pandemic has highlighted how important the relationships are, at any level. Friendships, working, romantic, and customer-business relationships have been profoundly rearranged by social distancing measures. Physical contact points, which previously provided a primary channel of communication for consumers, were suddenly closed. As a result, the virtual world came in response, by

forcing even the smallest businesses to make their first forays into it in order to continue communicating with their loyal customer base.

4.5 Partnership (Macro Theme 5)

COVID-19 was the first global pandemic of the new millennium. This new condition of danger and isolation created new needs and requests in people which big companies and SMEs have done their best to meet. But the pandemic itself has made people much more aware of their own limits and abilities, bringing emotions and behaviours to the surface. Therefore, the ability to band together and work towards a common goal thus became a priority once more. Companies, organisations, associations and small local businesses, despite coming from the most disparate of fields, came together to help one another survive, sometimes managing to satisfy their customers' needs where individually they would have been unable. This was not just a matter of mere economic value, but also of initiatives promoting moral and ethical values which, at such a crucial time, do a great deal to launch strong messages to customers, messages of openness.

4.6 Revision of the Value System (Macro Theme 6)

Through the last centuries, the various civilisations of the world have increasingly differentiated their value systems, which even today form the basis for the lifestyles that we all care about. During the first lockdown, the commonly accepted behaviours and habits have been affected by deep reflections promoted by major companies, such as the fashion giants. These reflections are shifts towards transformation, or innovations, aimed at becoming systemic and capable of changing both the promoting brand, along with its image, and the various companies that exist in its orbit.

4.7 Three Best Practices Coming from the Creative Drive

Within this overwhelming context, the research projects tried therefore to empathise the way in which companies, especially the smallest ones, have rediscovered the value and the mutual benefit of collaboration, based on the use and sharing of common good. The 3 case studies that are worth to note are initiatives that were developed in response to the COVID-19 emergency by highlighting the three pillars that balance the synopsis among common good, social problems and social innovation in terms of valuable collaboration and sharing of an open and widespread awareness.

STEAM da Casa by La Tata Robotica, a project started in response to the lockdown by Tata Robotica, a firm created by a young researcher to make technological dissemination for educational purposes. Enrica Amplo created and shared videos and activities dedicated to STEAM and more. This case study demonstrates how, during the lockdown, new forms of gift emerged and that involved new types of virtuous relationships and interactions that occur, without fear, between the digital and the physical. The "new forms of a gift" offered by creative experts who, as in the case of La Tata

Robotica, promoted new digital interactions related to physical actions.

Covidash is a platform developed by Sheldon studio, a communication studio that has made available its skills to create a tool that would improve the visualization, and therefore the monitoring, of Coronavirus related data. Understanding data, especially those relating to infection, has become of primary importance during the emergency. Data such as the epidemiological curve, however, can be difficult to understand if not displayed or explained clearly. What differentiates this project from others of the same type is that they used infographics to deliver complete, clarity and simple information (data from each region are compared). What has been created is a special website that works as an alternative communication tool between who provides the data (civil protection) and who must use it (citizens).

Le Finestre sul Cortile is a new program by RadioShare to support people during the quarantine. Once a week 4/5 inhabitants of social housing were interviewed, talking about their daily lives and meeting with guests who deal with solidarity initiatives. RadioShare is a web radio aimed to promote social cohesion that, since its first signal in 1901 thanks to Guglielmo Marconi, has always been one of the most popular tools for mass communication, still today. Through the transmission of sound contents, that are accessible in real-time from different geographical areas, the radio instantly creates connections between people by implying opportunities for reflection and comparison. *Le Finestre sul Cortile* aimed to give voice to the Milanese people who were most affected by the quarantine, by supporting and involving them by sharing their daily life stories. Thanks to both positive and negative emotions that were at the basis of the many stories collected, this communication channels allowed a reduction of the physical distance supported by virtual interactions between users and solidarity entities.

5 Conclusions

The Pandemic situation represented a crucial moment for the creation of innovations arising from people. The different initiatives resulted in a clear example of social innovation solutions. These initiatives are always characterized from people who start from their own problems but also by the suffering of their friends, their family or other people with which they empathise (Mulgan, 2006). Some of the main drivers were represented by both empathy and personal motivations that have assumed a crucial role. In this panorama, to offer an adequate answer and to contribute more effectively to society, and thus to address significant positive change, it is therefore necessary to study and apply crisscross relationships and discourses between different subsystems. In this intertwining of spheres, design had the occasion to play an important role. A new social agenda for designers is becoming more widespread, by facing unique challenges, including long time horizons and issues

(Stermann, 2002). According to O'Neill (2005), the way individuals look at problems affects how they study and try to solve them. Therefore, a systemic design thinking perspective demands a further and in-depth investigation based on the exploration and application of mixed method, by integrating social science and design inquiry, co-creation, and cross-sectors collaborations. Through discourse, groups of people construct a shared story, a collective knowledge that deepen the capacity to take action (Sutton & Kemp, 2006). Design should therefore be taken into account as one of the most important levers in situation as the one we are facing, being able to give appropriate answers that led to common goods for the whole of society.

References

- Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Haslam, S. A., Jetten, J., Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471. <https://doi.org/10.1038/s41562-020-0884-z>
- Bower, J. L. (1988). The Managerial Estate. In J. R. Meyer & J. M. Gustafson, *The U.S. business corporation: An institution in transition* (pp.149–168). Cambridge, Mass.: Ballinger Pub. Co. <http://archive.org/details/usbusinesscorpor000unse>
- Brown, T., & Wyatt, J. (2010). Design thinking for social innovation. *Development Outreach*, 12(1), 29–43.
- Cahill, L. S. (2004). Bioethics and the Common Good. In *The Père Marquette Lecture in Theology Series* (Vol. 35, pp.7–88). <https://doi.org/10.5840/pmlt2004352>
- Cajaiba-Santana, G. (2014). Social innovation: Moving the field forward. A conceptual framework. *Technological Forecasting and Social Change*, 82, 42–51. <https://doi.org/10.1016/j.techfore.2013.05.008>
- Clarke, L. (2002). Panic: Myth or Reality? *Contexts*. <https://doi.org/10.1525/ctx.2002.1.3.21>
- Dees, J. G., & Anderson, B. B. (2006). Framing a theory of social entrepreneurship: Building on two schools of practice and thought. *ARNOVA Occasional Paper Series*, 1, 39–66.
- Design Council. (2019, November 20). Public Sector and Social Innovation. Retrieved from <https://www.designcouncil.org.uk/what-we-do/programmes/public-sector-and-social-innovation>
- Drury, J., Cocking, C., & Reicher, S. (2009). The Nature of Collective Resilience: Survivor Reactions to the 2005 London Bombings. *International Journal of Mass Emergencies and Disasters*, 27, 66–95.
- Etzioni, A. (2014). Common Good. In M. T. Gibbons, *The Encyclopedia of Political Thought* (pp.603–610). American Cancer Society. <https://doi.org/10.1002/9781118474396.wbept0178>
- Guzzonato, C. (2020, March 11). CoViD-19: L'OMS ha dichiarato la pandemia. Focus.it. <https://www.focus.it/scienza/salute/perche-la-oms-non-ha-ancora-dichiarato-la-pandemia-da-covid-19>
- Hollenbach, D. (1989). The Common Good Revisited. *Theological Studies*, 50(1), 70–94. <https://doi.org/10.1177/004056398905000104>
- Hollenbach, S. J., & Hollenbach, D. (2002). *The Common Good and Christian Ethics*. Cambridge University Press.
- Howaldt, J., & Schwarz, M. (2010). *Social Innovation: Concepts, Research Fields and International Trends*. IMA/ZLW.
- Hussain, W. (2018). The Common Good. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2018). Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- ISTAT. (2020). *Rapporto annuale 2020—La situazione del Paese* (No. 28; Rapporto annuale, Issue 28, pp.15–79). ISTAT. <https://www.istat.it/it/archivio/244848>
- Manzini, E. (2014). Making Things Happen: Social Innovation and Design. *Design Issues*, 30, 57–66. https://doi.org/10.1162/DESI_a_00248
- Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. MIT Press.
- Marshall, G. R. (2013). Transaction costs, collective action and adaptation in managing complex social-ecological systems. *Ecological Economics*, 88, 185–194.
- Melé, Domènec. (2002). Not Only Stakeholders interests: The Firm Oriented towards the Common Good. In S. A. Cortright & M. Naughton, *Rethinking the purpose of business: Interdisciplinary essays from the Catholic social tradition* (pp.190–214). Notre Dame, Ind.: University of Notre Dame Press.
- <http://archive.org/details/rethinkingpurpos000unse>
- Melé, Domènec. (2009). Integrating Personalism into Virtue-Based Business Ethics: The Personalist and the Common Good Principles. *Journal of Business Ethics*, 88(1), 227–244. <https://doi.org/10.1007/s10551-009-0108-y>
- Molinari, L. (2020). *Le case che saremo. Abitare dopo il lockdown*.
- Moulaert, F., Maccallum, D., & Hillier, J. (2013). Social innovation: Intuition, precept, concept, theory and practice. *Social Learning and Transdisciplinary Research*, 13–24. <https://doi.org/10.4337/9781849809986.00011>
- Mulgan, G. (2006). The Process of Social Innovation. *Innovations: Technology, Governance, Globalization*, 1, 145–162. <https://doi.org/10.1162/itgg.2006.1.2.145>
- O'Brien, T. (2008). Reconsidering the Common Good in a Business Context. *Journal of Business Ethics*, 85, 25–37. <https://doi.org/10.1007/s10551-008-9942-6>
- O'Neill, P. (2005). The Ethics of Problem Definition. *Canadian Psychology/Psychologie Canadienne*, 46(1), 13.
- Solomon, R. C. (1992). *Ethics and Excellence: Cooperation and Integrity in Business*. Oxford University Press.
- Sterman, J. (2002). *System Dynamics: Systems thinking and modeling for a complex world*.
- Sutton, S. E., & Kemp, S. P. (2006). Integrating social science and design inquiry through interdisciplinary design charrettes: An approach to participatory community problem solving. *American Journal of Community Psychology*, 38(1–2), 51–62.
- Warr, A., & O'Neill, E. (2005). Understanding design as a social creative process. *Proceedings of the 5th Conference on Creativity & Cognition*, 118–127.
- Zhou, F., Yu, T., Du, R., Fan, G., Liu, Y., Liu, Z., Xiang, J., Wang, Y., Song, B., Gu, X., Guan, L., Wei, Y., Li, H., Wu, X., Xu, J., Tu, S., Zhang, Y., Chen, H., & Cao, B. (2020). Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: A retrospective cohort study. *Lancet (London, England)*, 395(10229), 1054–1062. [https://doi.org/10.1016/S0140-6736\(20\)30566-3](https://doi.org/10.1016/S0140-6736(20)30566-3)
- Zurlo, F., D'Ambrosio, S., Italia, M., Carella, G. (2020, June 22). From Covid To Creativity. Retrieved from <http://www.cilab.polimi.it/publications/>

The Genealogies of Social Design and Claims to the Common Good

Keywords: Social design, Common good, Family resemblance, Genealogy, Archaeology.

Patrycja Kaszynska^{a*}

^a*Social Design Institute,
University of the Arts London*
^{*}p.kaszynska@arts.ac.uk

This paper investigates the claim that social design can be defined in terms of its orientation towards the common good. It does this by looking at three canonical texts in social design as set against the socio-cultural contexts in which they were produced: Morris's *News from Nowhere*, Papanek's *Design for the Real World* and Manzini's *Design, When Everybody Designs*. Applying genealogical and archaeological analyses, the paper finds that the conceptions of the common good presupposed in these three articulations are sufficiently different to preclude definitional consensus with respect to social design. Yet, the paper argues, there is enough overlap for social design to be considered a "family resemblance" concept. This need not be a disappointing outcome. Using social design as a family resemblance concept enables us to differentiate some ways of practicing and talking about design from others, even though we are not able to offer a "standard" definition in terms of necessary and sufficient conditions. As a bonus, the notion of social design approached in the terms proposed provides a good heuristic for thinking about the common good: not just how the good is distributed but, crucially, how the commonality is constructed and constituted.

1 Introduction

Social design has made claims to supporting or even constituting the common good (Dorst, Kaldor, Klippan & Watson, 2016). Certainly, it has been one of the concepts used to capture the increasing immersion and involvement of design into the social life and in support of social goals (Resnick, 2019; Margolin & Margolin, 2002). Yet there is a lack of clarity as to what kind of societal vision of a common good might be implied in social design. Presumably, if social design furthers the common good and the common good 'benefits society as a whole' - social design should not be used in support of individual or fractional interest. Has this been always, or ever, the case? If social design is effectively defined as a body of practice oriented towards the common good, interrogating the operative conception of the common good seems crucial.

This paper reflects upon 'designing' the common good by tracing a number of genealogies and archaeologies of social design. Starting with the social-reform vision of building public infrastructures in the Victorian philanthropists and the idea of social design in William Morris' *News from Nowhere* (1890); through Papanek's counter-movement to the corporate, industrial, mass production design on the one hand and the modernist design detached from the 'real world' on the other (Papanek, 1971); to iterations of social design as embodied in the more recent manifestations of participatory design (Manzini, 2015) - the paper interrogates the notions of the social presupposed and the hidden assumptions about the common good thereby entailed. Is the common good presupposed in the different instances sufficiently similar to allow a definitional unity for social design?

The paper proceeds in the following way: first, it introduces the problem of defining social design as it has emerged in the design scholarship in the recent years; then it turns to look at the historical 'vignettes': three texts associated with social design as situated within the historical contexts of their production; it unfolds by asking about the central tenets of the respective "applications" of social design and questions whether there is enough continuity to speak of a geographically and historically unified phenomenon. Even though the paper recognises that it is not possible to find a common "essence" in the historically variable instances that would suffice for defining social design in terms of sufficient and necessary properties, the paper argues that the notion of social design is meaningful and explanatory as a "family resemblance" concept. The paper concludes with the claim that approaching social design using the Wittgensteinian family resemblance paves a way for better informed considerations of the common good in design.

2 Defining 'Social Design'

It is well accepted that any design operates on the social and through the social and so, without further qualifications, 'social' cannot be a distinctive feature of social design (Julier & Kimbell, 2019; Tonkinwise, 2019). Rather, the existing scholarship suggests

that the distinction comes from the way that the relationship with the social is established, e.g., through attitudes of social, ethical and political responsibility and, in many cases, political engagement underpinning what social designers do. It is in this sense that the term "social design" is used in the design discourse (e.g., Chen, Hummels & Koskinen, 2015; Julier, 2013). This leads to approaches resting on taxonomies where social design is defined in terms of further sub-categories. For instance, Armstrong, Bailey, Julier, & Kimbell (2014) break social design down into: social entrepreneurship, socially responsible design, and design activism but remain silent about what these categories have in common. Indeed, approaches of this kind dominate in contemporary scholarship with the most prominent examples including: "socially responsive design" (Gamman & Thorpe, 2011), "sustainable design" (Issa & Isaias, 2015) and relatedly, the conceptual clustering emerging around "design for sustainability" (Wever & Vogtländer, 2014), "design for public interest" (Abendroth & Bell, 2015). While this strategy of analytic decomposition is implicitly thought to allow more definitional precision with respect to the specific practices, it is not helpful for spanning the broad "church" of social design as the overarching uniting strand is not explicitly articulated.

The argument of this paper is that there is a normative orientation towards the common good presupposed in and through the practice of social design. This is what binds together the names that have been associated with socially useful design, such as: William Morris, Walter Gropius, Buckminster Fuller, through Victor Papanek, to Richard Buchanan, John Thackara, Nigel Whiteley and Bruce Mau (Melles, da Vere & Mistic, 2011; Gamman & Thorpe, 2011). However, there is no unitary articulation of the common good in question. The next section advances this argument by showing how archeologically and genealogical analyses are useful as a way of disclosing contrasts and similarities between the historically and socially varied forms of social design and how it is related to different notions of the common good operative in those socio-cultural frames.

3 Genealogy, Archaeology and the Historical 'Vignettes'

This paper uses the approaches of genealogy and archaeology as introduced by Foucault (1975 [1977]; 1969 [1972]). The genealogical technique rests on an approach developed originally by Nietzsche (1887 [1996]) which, taking the form of historiographic analysis, is intended to show the contingencies surrounding the formation of notions "we tend to feel [are] without history" (Foucault, 1977). These include God, truth, sexuality, and arguably, social designing. Foucault and Nietzsche agree that genealogy does not stand for the search for origins, nor does it designate a linear development. Rather, the historicising account it offers is inherently pluralistic and intended to undermine the unitary, ahistorical understanding of concepts which are exposed to be products of specific interests operating in specific historical circumstances.

In order to investigate the connection between discursive and nondiscursive practices, Foucault combines genealogy thus understood with the archaeological method (Foucault, 1969). This is done to undercut the possibility – left open by Nietzsche – that genealogy can be performed in terms of subjective meaning transmission (c.f. Latour, 2005). By highlighting that the discourse and the material circumstances in which it is embedded can be fruitfully compared to bring to light the discursive agendas, Foucault amplifies the potential of his technique to disclose hidden positionalities and power dynamics.

In the three historical 'vignettes' that follow, social design is interpreted using both, the genealogical and archaeological approaches.

3.1 Morris's *News from Nowhere*, 1890

News from Nowhere (1985 [1890]) is a political novel offering an account of utopian socialism. It is narrated by William Guest, a member of the Socialist League who finds himself in the future when key pillars of socialism, including, collective ownership of resources and co-operative oversight of the means of production - have become reality. Responding to what was seen as key criticism of socialism in the Victorian times, namely that it fails to account for what motivates people in everyday endeavours, Morris presents the intrinsic meaning of work and investment in natural beauty as the driving forces of the utopian society. Even though not explicitly concerned with what we would call professional design in modern days, the novel explores types of social organisation and institutional arrangements required for an emancipated society and how these can be delivered through craft and design understood as unalienated labour. Design in this sense is the means of delivery of a common good and an expression of a vision of social harmony where material inequalities have been eliminated.

Even though these themes were echoed in the articulations of the Arts and Crafts movement between 1880 and 1920, when the novel was first published in the *Commonwealth* journal in January 1890, it quickly won Morris the reputation of a romantic 'uprooted' from the context of the Victorian England. This perhaps was not surprising given that the Victorian structural social reform and massive infrastructure projects undertaken at the time, e.g., slum clearance and the building of the sewer systems (see, for instance, Goldman, 2002) - seemed the antithesis of the agrarian idyl presented by Morris. The vision of social unity imbued with the spirit of collectivism could not seem further away from the reality of the sharp social divisions, perhaps most evocatively captured in Disraeli's trope of "Two nations; between whom there is no intercourse and no sympathy; who are as ignorant of each other's habits, thoughts, and feelings, as if they were dwellers in different zones, or inhabitants of different planets" (2017, [1845]).

While the vision of the common good presented in *News from Nowhere* seemed far removed from the realities of industrialising Victorian England, a closer reading shows that Morris was also a product of his time. Indicatively, the utopian ideals in his novel are framed as a religious epiphany. Indeed, the book was intended to appeal to the religious sentiments of the time and the spirit of philanthropy and charity that went hand in hand with it. Indeed, rather than being radically progressive, a different reading of Morris's novel points to conservation as the anchoring principle. This is consonant with Morris's desire to keep traditional craftsmanship alive while providing access to the benefits of modern design in an industrial age. In the same way as Ruskin's 1860-62 essays *Unto This Last*, Morris's novel can be read as espousing the conservative - Red Tory - tradition of hierarchy and the established authority, where those who naturally held power had a duty to serve and protect the poor (Blewitt, 2019). This is the deep architecture of the feudal utopia in *News from Nowhere*. This puts a specific reading on the understanding of 'common' in the common good presupposed in Morris's social design.

3.2 Papanek's Design for the Real World: Human Ecology and Social Change, 1971

Design for the Real World is often seen as the canonical design text challenging consumerist design culture and a staunch defense of socially useful design. Papanek's oft quoted claim is that design should serve the people, not the commercial interests of the corporates, nor some idealised vision of the agrarian past or socialist utopia. Indeed, confronting the real world means working with the actual conditions, such as the limited resources and social inequalities. Alongside the 'sensitivity' to the changing realities in which designers operate, the strand running across Papanek's book is the sustained focus on the ecological or ethical responsibilities of the designer. The vision of the common good emerging is thus one contingent of the changing historical realities but underpinned by social and environmental concerns.

The 'origin' of Papanek's thinking remains disputed. Whereas, Margolin (1998) situates Papanek's book as a follow up to the student movement of the 1960s; Clarke (2018) places him within a much more complicated lineage of 'émigré discourse' with links to the participatory design legacy. In this context Clarke emphasises Papanek's unease with the post-colonial design discourse and the modernism implicit in the Ulm school as carried over from Bauhaus (Clarke, 2018). This underscores an interesting tension where, on the one hand, Papanek's *Design for the Real World* is read as part of the heroic, activist, post war narrative of design; on the other hand, as problematising the expertise of designer and the blurring of the distinction between the user and the professional expert.

Retrospectively, it is however apparent that the *Design for the Real World* has left unchallenged the client service framework dictating the terms of engagement in the consumer culture (Margolin,

1998). With Papanek's legacy assimilated into the post-war North American narrative of heroic mass culture, the prevailing premises of design practice as complicit with industrialism and the economic prowess of the US at the height of its imperialist aspirations was not threatened. It could be that the ambition to reform design practice from within design practice was doomed to fail from the start. The charge remains that while presented under the banner of democratisation and inclusion, *Design for the Real World* advocated using the expertise of one group, namely professional designers with a specific outlook, to drive social change. In doing this the 'architecture' of the collective good underpinning Papanek's vision of social design is still very much the few to the many model of transmission.

3.3 Manzini's Design, When Everybody Designs: An Introduction to Design for Social Innovation, 2015

The starting point of Manzini's social design is that the design of products, services and systems has to include the people who have a stake in it. In this, Manzini can be seen as going to the historical roots of the participatory design in the Scandinavian workplaces in the 1970s. The simple aspiration back then was to make sure that trade unions were included in the creation of systems that would affect their members and so, the question was how to design process that would ensure this. Manzini's post-industrial Italian translation of this finds a radical articulation beyond the workplace. Manzini argues that not just the 'professionals' but 'everybody' designs and they do so in every domain of their life, including but not limited to their workplace.

In the introduction to *Design, When Everybody Designs: An Introduction to Design for Social Innovation* Manzini writes:

"This book talks about design and social change in a connected world in transition toward sustainability: a world in which everybody constantly has to design and redesign their existence, whether they wish to or not; a world in which many of these projects converge and give rise to wider social changes; a world in which the role of design experts is to feed and support these individual and collective projects - and thus the social changes they may give rise to." (Manzini & Coad, 2015, p.1).

Manzini's vision of social design is robust in that it is not so much about making socially progressive ideas more mainstream and subverting the corporate, mass culture narrative this way; rather, what is at issue is instituting new social relations and infrastructures which make everyday and everybody's designing mainstream. In the words of Chen and her co-authors, Manzini "urges designers to create new social forms rather than be content with socially responsible design, which follows Papanek and Whiteley in targeting market failures" (Chen, et al., 2016, p.2). This chimes well with the spirit of social innovation embraced by Manzini (see for instance, Mulgan, 2012) which came to signify the ambition to empower individuals and communities to create new collaborative

structures responding to the perceived simultaneous failure of market capitalism and the welfare state (see for instance, Nicholls & Murdock, 2012).

When analysed against the historical background of its production *Design, When Everybody Designs: An Introduction to Design for Social Innovation* could be perceived as a radically democratic attempt to turn designing inside out and to support social designing where the common good is delivered according to the 'architectural conceits' of the many and not the few. And yet, this universalist aspiration fails. Indeed, the claim that 'everybody designs' has been criticised for its lack of awareness of the power structures and the de facto inequalities to individual's ability to act (Tonkinwise 2016), as well as on the ground of falsely claiming that the values articulated in design are the value that design actually delivers (Ehn, et al., 2014). The universalist ambition of Manzini is thwarted by the reality where, to use the language of the capabilities framework, not all capabilities can be turned into actual functionings (Sen, 2005). The failing of *Design, When Everybody Designs* may well be due to not paying enough attention to the socio-material conditions grounding the possibility of social change. The common good thereby presupposed seems strangely resonant with the utopian vision advocated by Morris more than 100 years before.

3.4 Common Threads?

It might be questioned whether the three "vignettes" discussed above represent an exhaustive and comprehensive account of social design and indeed, whether speaking of social design is justified in relation to these three accounts. In the absence of any alternative viable definition of social design, the application of the term social design can only follow the already established convention and these authors are considered canonical in much of the existing scholarship (Melles, da Vere & Mistic, 2011; Gamman & Thorpe, 2011). Others may query whether focusing on the specific texts diverts attention from the kind of practices which are legitimately the site of social design. It is true that the ontology of social design bridges discursive and non-discursive realities: it is a term applied to a way of doing things and a way of describing this doing. Indeed, the three authors discussed above were selected in virtue of being both: commentators and practitioners. The choice to use the genealogical and archeological methods underscores further this hybridity of the term social design as something expressed through discourse and instantiated in reality through practice. And so, this objection can be rebutted. Perhaps the most interesting reservation to the approach proposed here concerns the question of what is gained from establishing that historically differentiated uses of social design are underpinned by different visions of the common good? The answer is that enough unity has been established to consider social design as a family resemblance concept and in this sense, as an explanatorily useful category.

4 Social Design as a Family Resemblance Concept

Writing in the *Philosophical Investigations* Wittgenstein provokes his readers to consider the example of games: board-games, card-games, ball-games, Olympic games, and so on. "What is common to them all?" - he asks and proceeds to use the metaphor of fibers to explain:

[...] as in spinning a thread we twist fibre on fibre. And the strength of the thread does not reside in the fact that some one fibre runs through its whole length, but in the overlapping of many fibres." (§67) (Wittgenstein, 2009 [1953]).

Wittgenstein argues that some concepts apply by virtue of such an overlap of characteristics and similarities rather than a set of necessary and sufficient properties. In other words, a family resemblance concept has an open-ended set of identifying features, such that not all the features need be instantiated for the concept to apply. Rather, the contingencies of overlapping characteristics form a pattern in use which allows for phenomena to be identified as falling under certain categories and for meaning to be attributed through use. The overview of what might be considered three canonical instances of social design presented in this paper indicates that social design is plausibly such a concept.

This paper has suggested that the orientation towards the common good may be a characteristic of social design and yet, the visions of common good presupposed were shown to be too different to offer a clearly defined thread running across all the instances. In a nutshell, all three examples discussed made assumptions about the common good but in each case, the commonality presupposed was constructed differently: in the case of Morris, it was a stipulative ideal of a solitary visionary pronouncing a highly hierarchical society; for Papanek it was a prerogative of a professional group opposing the encroachment of the corporate world; for Manzini the 'architecture' of the common good was universally extended to all but only as a theoretical postulate and not a practical reality. Yet, even though the articulations of the common good are shown to be historically and geographically contingent, the similarities between the cases are sufficient to ensure that the concept of social design is meaningfully applicable across these three instances. Indeed, these three cases are instructive not just with respect to understanding the concept of social design but also, as a way of forcing reflexivity and reflection upon the understanding of the common good. In other words, what has been demonstrated is that the application of the concept of social design is an indication that *some* common good is at issue and thus, if we want to understand more about the constructions of the common good - investigating these instances is a good start.

5 Concluding Remarks

Perhaps not surprisingly, the concept of social design as applied in the three accounts considered here: Morris's *News from Nowhere*, Papanek's *Design for the Real World* and Manzini's *Design, When Everybody Designs* - is shown to function more like a Wittgensteinian family resemblance concept than a clear designation. While the concept can be characterised in terms of an orientation towards the common good, the visions of the common good presupposed in these accounts are sufficiently different to preclude any standard definition. There is no "essence" uniting these uses and so, no definition in terms of necessary and sufficient conditions can be offered. Unlike natural kind terms, e.g., *cooper*, the meaning of social design is contingent of socio-cultural contexts which have different conceptions of the common good. This however does not mean that the term social design has no explanatory power. Firstly, identifying several genealogies and archaeologies within the social design discourse allows us to interrogate the historical continuity in the use of the concept that displays enough overlap to make the term meaningful. (This in spite of the fact that social design is approached as contingently constructed in different socio-material frames, or what Clarke and Star (2008) would call different 'social worlds'.) This analysis reveals that there is enough overlap in use to show that the concept of social design is useful to differentiate certain *family* of practices from others - not *all* design is social. This in turn prepares the ground for more careful choices as to whose vision of the common good should be actualised through the practice of social design.

References

- Abendroth, L. M., & Bell, B. (Eds.). (2015). Public interest design practice guidebook: SEED methodology, case studies, and critical issues. Routledge.
- Blewitt, J. (Ed.). (2019). William Morris and John Ruskin: A New Road on which the World Should Travel. University of Exeter Press.
- Chen, D. S., Cheng, L. L., Hummels, C. C. M., & Koskinen, I. (2016). Social design: an introduction. *International Journal of Design*, 10(1), 1-5.
- Clarke, A. (2018). *Design, Development and its Legacies: A Perspective on 1970s Design Culture and its Anthropological Intents* [Ebook] (1st ed., pp.110-121). Transcript Verlag. <http://ebookcentral.proquest.com/lib/uah/detail.action?docID=549>
- Clarke, A. E., & Star, S. L. (2008). *The social worlds framework: A theory/methods package. The handbook of science and technology studies*, 3(0), 113-137.
- Dorst, C. H., Kaldor, L., Klippan, L., & Watson, R. (2016). *Designing for the common good*. BIS publishers.
- Disraeli, B. (2017). Sybil, or, The two nations. Oxford University Press.
- Ehn, P., Nilsson, E. M., & Topgaard, R. (2014). Making futures: Marginal notes on innovation, design, and democracy. The MIT Press.
- Foucault, M. (1977). Nietzsche, Genealogy, History. In *Language, Counter-Memory, Practice: Selected Essays and Interviews*, edited by D. F. Bouchard. Ithaca: Cornell University Press.
- Foucault, M. (1969). *L'archéologie du savoir*, Paris: Gallimard. Translated as *The Archaeology of Knowledge*, Allan Sheridan (trans.), New York: Harper and Row, 1972.
- Foucault, M. (1975) *Surveiller et punir*, Paris: Gallimard. Translated as *Discipline and Punish*, Alan Sheridan (trans.), New York: Pantheon, 1977.
- Gamman, L., & Thorpe, A. (2011). Design with society: why socially responsive design is good enough. *CoDesign: International Journal Of Cocreation In Design And The Art*, 7(3-4), 217-227. <https://doi.org/http://dx.doi.org/10.1080/15710882.2011.630477>
- Goldman, L. (2002). *Science, Reform, and Politics in Victorian Britain: The Social Science Association 1857-1886*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511490545.
- Issa, T., & Isaias, P. (2015). *Sustainable design*. Springer London.
- Julier, G. (2013). From Design Culture to Design Activism. *Design And Culture*, 5(2), 224-226. <https://doi.org/10.2752/175470813X13638640370814>
- Julier, G., & Kimbell, L. (2019). Keeping the System Going: Social Design and the Reproduction of Inequalities in Neoliberal Times. *Design Issues* 2019 35:4, 12-22
- Manzini, E., & Coad, R. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge, Massachusetts; London, England: The MIT Press. doi:10.2307/j.ctt17kk7sv
- Margolin, V. (1998). Design for a Sustainable World. *Design Issues*, 14(2), 83-92. <https://www.jstor.org/stable/1511853>.
- Margolin, V., & Margolin, S. (2002). A "social model" of design: Issues of practice and research. *Design issues*, 18(4), 24-30.
- Melles, G., da Vere, I., & Mistic, V. (2011). Socially responsible design: thinking beyond the triple bottom line to socially responsible and sustainable product design. *Codesign: International Journal Of Cocreation In Design And The Art*, 7(3-4), 143-146. <https://doi.org/https://doi.org/10.1080/15710882.2011.630473>
- Morris, W. (1985). News from Nowhere. 1890. *Collected Works*, 16, 1910-15.
- Mulgan, G. (2012). The theoretical foundations of social innovation. In *Social innovation* (pp.33-65). Palgrave Macmillan, London.
- Nicholls, A. & Murdock, A. (2012). *Social Innovation: Blurring Boundaries to Reconfigure Markets*. Palgrave Macmillan, London.
- Nietzsche, F. (1887). *On the Genealogy of Morals*, translated and edited by Douglas Smith, Oxford: Oxford World's Classics, 1996, ISBN 0-19-283617-X.
- Papanek, V., & Fuller, R. B. (1971). *Design for the real world*. London: Thames and Hudson.
- Resnick, E. (Ed.). (2019). *The Social Design Reader*. United Kingdom: Bloomsbury Publishing.
- Sen, A. (2005). Human rights and capabilities. *Journal of human development*, 6(2), 151-166.
- Tonkinwise, C. (2019). Is social design a thing? In Resnick, E. (Ed). *The Social Design Reader*. London: Bloomsbury, pp.9-16.
- Tonkinwise, C. 2016. "Committing to the Political Values of Post-Thing-Centered Designing (Teaching Designers How to Design How to Live Collaboratively)." *Design and Culture*, 8:1: 139-154.
- Wever, R., & Vogtländer, J. (2015). Design for the Value of Sustainability. *Handbook of Ethics, Values, and Technological Design*; Van den Hoven, J., Vermaas, PE, Van de Poel, I., Eds, 513-549.
- Wittgenstein, L. (1953). *Philosophical Investigations*. John Wiley & Sons. Chicago, 2009.

Structuring Interaction: Four Viewpoints on Design Methods in Communities

Re-Designing Social Services for People in Transition

Laura C. Heym, Jennifer L. Schubert,
Alvise Mattozzi

Greater Good and Good Difference

Bryan Bell, Lisa M. Abendroth,
Sergio Palleroni

The Use of “Borderwork”: Approaches and Framing in Reconstructing Critical Interdisciplinary and Community Engagement in Design Education and Design and Social Innovation

Scott Townsend, Maria Patsarika

Communication Design Doing It Better

Ana Melo, Marco Neves

Re-Designing Social Services for People in Transition

Keywords: Service Design, Transitions, Life Course, Welfare State, Interdisciplinary Research.

Laura C. Heym^{ab},
Jennifer L. Schubert^a,
Alvise Mattozzi^{a*}

^aFree University of Bozen-Bolzano

^bNeuland21

*amattozzi@unibz.it

Our paper describes a research project aimed at understanding how social and community services can be redesigned in order to include people in transition, which are now excluded or, at least, not addressed by the way the welfare system and social and community services have been 'silently' designed.

The inter- and trans-disciplinary research project, developed in collaborations with local NGOs and the Municipality of Bozen-Bolzano, was supposed to elaborate service concepts proposals to be taken into consideration by the local administration. Here, we present the eleven service concepts and the research trajectory that lead us to them. As we will show change and transition, from being the focus of our research, have become, along the unfolding of the research, the framework, through which to look at social and community services. Such shift has meant proposing a more general 'paradigm shift' through which to look and design social and community services.

1 Introduction – Welfare State, Social Services: Common Good and Exclusions

The welfare state, and the social services as its manifestation, have been designed for the common good. It generates common good by protecting citizens from falling into poverty or from the consequences of poverty and by promoting more equal chances for all. Indeed, it was devised “to insulate individuals and families from the play of market forces through guarantees of minimum income and insurance against the inability to participate in a labor market due to sickness, disability, and old age” (Minnite and Mazelis, 2015, p.476). Even people who do not resort to it, but still contribute to it through taxation can enjoy the advantage of the welfare state’s deployment – e.g. because more stable relations among different social groups or increased “social solidarity” can bring more prosperity for all in turn.

Despite their gradually achieved (formal) universality, European welfare systems have been inevitably built on various boundaries (Ferrera, 2005) which entails inclusions and exclusions. On a smaller scale, this applies also for local welfare systems, which are the object of this paper – e.g.. some services are accessible only by the residents of a specific locality. These boundaries usually are explicit. Others, however, are less or not at all visible. They might depend on specific and situated factors or be more structural. The boundaries depend on the way the welfare state and social services have been “silently” (Junginger, 2017) designed.

If the welfare state was created to provide “guarantees [...] against the inability to participate in a labor market”, then welfare assumes as reference the “labor market”, though, as providing (almost) full employment through permanent jobs. Thus, especially after WWII, welfare systems were designed in relation to a “normalized” (Schröer, 2013) life course with the purpose of allowing people to be part of or re-enter in - as for unemployed - such kind of “labour market”, or to support those who could not be part of it. Such “normalized” life course entailed – to put it simply – the phases of training-education, working in a permanent employment, establishing a long term residence related to the job, having a family and retiring. All these status passages were supposed to succeed smoothly and the changes from one status to the next were not supposed to be characterized by long transition phases (Pohl & Walther, 2013; fig.1a).

In the last decades changes occurred in the organization and management of labour, as well as in the individual perception and construction of biographical trajectories (Beck & Beck-Gernsheim, 2001), and in general demographics, like an increased life expectancy. Therefore, the normalized life course less and less is an option for most people, whether because it is not attainable or it is not considered an attractive choice.

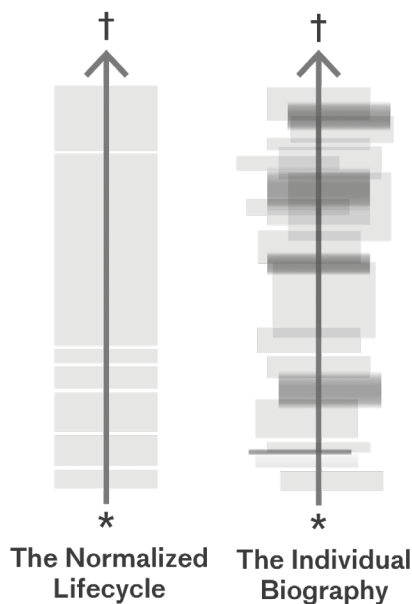


Fig. 1: *The normalized life path (a) in comparison to the individual biography with several phases of transition (red) and non-chronological, flexible ways of living (b).*

Today's life courses are increasingly characterized by disconnected and non-consequential status passages (fig.1b) – so one could get back into training-education after years of employment or start a new job after retirement, for instance. Additionally, they include transitions among status passages that might be not only quite long but also uncertain – one might not be able to clearly define their current employment status and does not know when they will find a permanent job, or one does not have a clear residence, e.g. because being official resident in one place but based in another, and does not know when and if will find a long term residence.

Notwithstanding these radical changes, the design of welfare and social services remained related to a “normalized” life course, thus excluding, or at least not involving in the enjoyment of the common good it ensures those who do not follow the “normalized” life course (Lessenich, 2013).

This leads to the question of how to redesign welfare and social services in order to address the exigences and desires of people following “non-normalized” life courses. Obviously, the answers can be provided on various levels, of which some require competences that go much beyond design (see e.g., Ferrera, 2019).

In the research project *RiDeST – Persone in cambiamento | Menschen im Übergang* [People in Transition] (<https://ridest.projects.unibz.it/it/home-2/>), we addressed the issue on a level that can be tackled by service design (amongts others, Erlhoff, et al., 1997; Junginger, 2016; Meroni & Sangiorgi, 2011; Schneider & Stickdorn, 2012); the design of local social services. (Lowndes, Wilson, 2001; Steiner et al, 2018).

1.1 Various Ways of Addressing Common(s) and Good

Being a common good the welfare system is a set of “facilities [...] that the members of a community provide to all members in order to fulfill a relational obligation they all have to care for certain interests that they have in common” (Hussain, 2018).

In our research project we assume that in Europe in general, and especially in the area of Bolzano, the network of social and community services provided by both public and private (NGOs, i.e. social private or third sector) organizations, presents a relevant common good.

However, this welfare system needs to be redesigned to provide the flexibility to support different people's life courses. Many of them not only cannot utilize such common good, but paradoxically are also stigmatized for not having a 'normalized' life course and left alone with the burden of managing their adaptation to this 'normalized' life course.

Acknowledging the existing services, our proposal never intended to redesign services from scratch, but to provide viable concepts for intervention. Thereby the connectivity and reach of the present network should be increased and the good it creates can be more common eventually.

According to Hussain's definition of the common good, individuals come first and then "they provide [facilities] to all members in order to fulfill a relational obligation" (Hussain, 2018).

Our research project has addressed the issue of common and good also from another point of view though. We do not neglect the existence and relevance of individuals – at least in European-Western societies we live in and take as reference for our research project – and indeed the aim of our project is to fit individual life courses into the present Welfare. However, we assume that individuals, and especially their agency, emerge from a network of relations of which they are part, be it material and immaterial, with other humans and with non-humans. Therefore, we consider relationality not as 'obligation', but the very ground from which individuals can emerge. Such ground is a form of (pre-individual) common, in itself not necessarily 'good'.

Our research project aims at designing tools and activities for the individual to take advantage of such pre-individual common – the network of relations – with the support of social and community services, first by recognizing and mapping such networks (see below). We deem that social and community services should become an integral and permanent part of individuals' networks that crucially contributes to their agency. Thus, the services present themselves as a reliable resource rather than something to resort to in case of emergency.

Such perspective even allows extending the good provided by the common network of social and community services. As a constant resource to rely on, it could prevent situations of emergence. The potential benefits of this became particularly evident through the recent Covid-19 crisis. During the pandemic, people who never needed social service support, had to count on them overnight without even knowing where to start from.

2 Research Project's Background, Rationale and Organization

The research project RiDeST has been thought and developed as an inter- and trans-disciplinary project.

The interdisciplinarity derives from the conception as dialogue between social sciences and design. Such dialogue has developed as an exchange between two practices of description (Mattozzi 2017; 2020). Social Sciences provided retrospective descriptions (descriptions of the past and of the present situation) upon which

prospective descriptions (descriptions of the future) provided by design, have been built.

However, due to the intensive integration, design tools and methods have been used throughout the project. They served to elicit data for the description of the present situation, through, for instance, the design of a Transition Sheet (see below) and the organization of various workshop-focus groups. At the same time they were used to prototype and outline possible future tools and methods utilized by social and community services.

This last consideration brings us to the trans-disciplinary aspect: The research team included two professionals – Sofia Sanchez and Irene Visentini – working in the social cooperative (NGO) *studio comune* (www.studiocomune.eu). They already provide services in the form of workshops and coaching that could be integrated in the present social and community services offer. Actually, the project evolved from a workshop series for people in transition, organized and facilitated for the Municipality of Bozen-Bolzano by *studio comune*. The involvement of *studio comune* also provided the project with local knowledge and contacts to relevant stakeholders.

Based on that the steering committee of the project was assembled. The committee, which can be considered the sixth member of the research team, included a representative of the Municipality, a representative of the social services provider of the municipality (AS-SB-BSB, Azienda Servizi Sociali di Bolzano – Betrieb für Sozialdienste Bozen, www.aziendasociale.bz.it), a representative of the Department of the Province working on social services (www.provinz.bz.it/familie-soziales-gemeinschaft) and two representatives of two local NGOs, Arci-Bolzano (it-it.facebook.com/arci.bolzano and arci.bz.it/arciragazzi) and OfficineVispa (officinevispa.com).

The research project has been articulated in five threads of inquiry:

- an inquiry into the social science literature about welfare, social services and transition-change, as well as into design and design research literature on (social) service design;
- an inquiry into the individual experience of change-transition, carried out through narrative interviews with individuals and workshop-focus groups;
- an inquiry related to the present offer of social and community services in Bozen-Bolzano, through an ethnographic observation of the daily business of the providers of social services for the municipality and interviews carried out by Stefan Festini Cucco with operators of the providers, as well as interviews with operators of NGOs (carried out by two of us, Mattozzi and Heym) and a workshop-focus group. The offer has been compared with service providers in Vienna (through observations

- and various interviews carried out by one of us, Heym) and Bologna (see below);
- an inquiry into the relevance of situations of transition-change on the territory of the Municipality of Bozen-Bolzano, through to a statistical analysis carried out by Andrea Nigri;
 - an inquiry into methods and tools for coordinating, interconnecting and providing social and community services, among which workshop and coaching sessions (the latter carried out by *studio comune*) through prototyping and testing of the very methods and tools, therewith the research includes an aspect of Participatory Action Research (Whyte, 1991).

The project has been greatly affected by the Covid-19 crisis in four ways:

- the research could not be carried out as planned; for instance, the ethnographic observation was interrupted; the comparison with other municipalities should have involved further towns;
- it has provided the opportunity to indirectly observe (mainly through post-hoc interviews) the social services in a stressful process of sudden organizational change;
- because of such changes, the steering committee strongly insisted on shifting the focus of our research from people in transition-change to services in transition-change – something that we partially did;
- it has provided the opportunity to experiment with new methods and especially workshop and coaching sessions online.

One relevant aspect of the way in which the research project has unfolded, is that the topic of transition-change has presented itself not only as our object of research but proved to have such relevance that we suggest to use it as a framework for rethinking social and community services and their rationale.

Therefore we introduced a 'paradigm shift'. Within this our service concepts have been elaborated, but also our tools, initially designed as tools to gather data about change in people's life have been elaborated as tools to be actually used by social and community services (see, below the Transition Sheet). Such paradigm shift requires to think social and community services not as facilities that address needs in case of emergency – i.e. the occurred inability to stay in the labour market – but as a constant resource on which to rely upon in order to manage one's own transitions and achieve changes.

Because of that, the proposed paradigm shift requires not only to rethink social services beyond need, thus in terms of transition, but also beyond absolute autonomy and self-sufficiency. Factual, the primary goal of social services is still the achievement of absolute individual autonomy and self-sufficiency. What we propose, instead, is to take into account the various dependencies and ties people have – namely the pre-individual network of social relations (§ 1.1.) which also includes relations with non-humans. By taking such network into account, the goal of social and community services should become the facilitation of the development of a personal agency based on these relations, as well as the ability to progress through and with the support of the person’s network of social relations, knowing that social services are a crucial part of this network.

This entails that people resorting to social services need to be considered not as people in need, but as people in transition-change – as some NGOs working in the municipality of Bozen-Bolzano already started to do. This does not mean to neglect the “needs” of people, nor to neglect that for certain people changes-transitions are smoother and easier than for others, nor to neglect that there are people that are stuck and not at all in change-transition. This implies to put need in perspective and provide the 'people in need' with a perspective. But this also means to include many people that are not considered 'in need' for the standards of the traditional Welfare system.

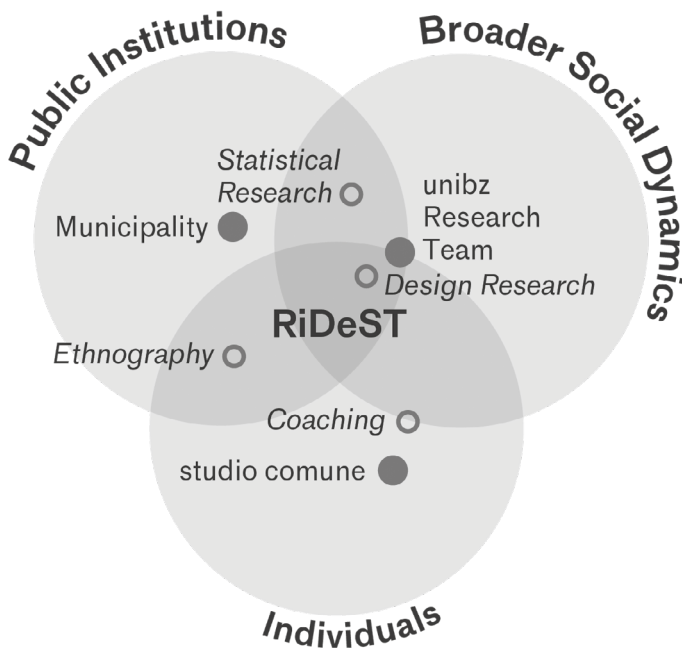


Fig. 2: The project combines demands of public institutions, individual citizens and broader social dynamics by integrating different actors (red dots) and research activities (red rings) (Heym et. al 2021).

3 The State of the Art of the Service-Landscape in Bolzano

The network of social and public services is very complex because it comprises public social services provided by the province, which actually owns most of the budget for services in general, and by the municipality as well as private social and community services provided by local NGOs. The latter work in collaboration, yet not without frictions and misunderstandings, with both the Province and the Municipality, which also have their frictions and misunderstandings. At the same time the entire provision of services faces a tension between providing support and help for those “in need” and/or to promote the social welfare of the entire community – such tension has also created some misunderstanding related to our project (see 6), too.

Despite the complexity, frictions, misunderstandings and tensions – which reproduce also inside organizations –, Bozen-Bolzano has a variegated, dynamic and diffused offer of services, which have the potential to address exigencies and desires of people in change-transitions. However, many of the people in change-transition do not consider these services because they know little about them and how to access them, because they worry that they would have to 'normalize' their life courses in order to receive support, or because they are not residents of the municipality, although living in the territory since many years.

4 Research Results and Consequent Design Concept Proposals

During an intensive phase of research, we obtained manifold insights from activities like the analysis of the existing service structure, literature and co-design workshops. Consequently, the insights were clustered and associated patterns identified. On the basis of all findings (§ 3), the service concepts were developed. The most relevant findings are described in the following sections.

The issue was for us to elaborate not so much a concept for a new service, but rather design *for* (Meroni's and Sangiorgi, 2011) existing services. Thus, we elaborated service concepts that would allow the network to better work not only as a network but as a resource upon which people in transition-change can rely upon, becoming visible as such, and being easily accessible from different entry points and navigable, according to individual exigencies and desires.

We deem that in this way social and community services can function as preventative measures and back-up structures, that allow more resilience also in emergency cases as the Covid-19 crisis.

In order to appear more valuable and efficient for an individual's change process, social services must be: easy to access, adaptable to personal requirements, and in association with a lesser degree of bureaucracy.

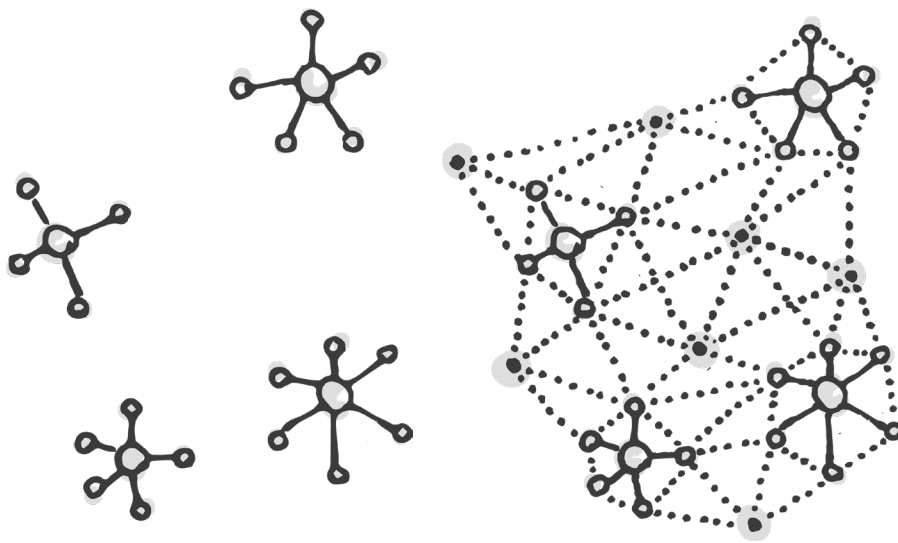


Fig. 3: left: Status quo: Service providers with their own services, independent from each other; right: desirable status: network of service providers with complementary services building the connections.

4.1 The Service Concept Proposal

In order to start a process that could reconfigure the social services in a way that would comply with the suggested framework, we proposed eleven service concepts. These services complement the already existing services, and therefore can be integrated and implemented step by step without requiring excessive additional financial resources.

The concepts can be divided into activities and tools that are mutually dependent. The tools are the base for the activities and are partly developed and completed within them. Altogether they build a system that provides a bridge from the people's various needs and requirements to available social service offers. They intertwine to enable a holistic transition management.

Not all the projects can be implemented directly due to financial restrictions and the need for a delicate approach to introduce the paradigm shift. Therefore, we selected four concepts with high feasibility and relevance together with the project's steering committee: *Service Landscape Mapping*, *Interorganizational Meetings*, *Transition Sheet* and *Orientation Points*. These were refined and suggested to the municipality and social service agency to be implemented first.

In the following section, the concepts are described in detail and structured in four clusters of action directed towards the execution of the suggested new paradigm and approach.

The first set of tools aims at gaining an in-depth understanding of the existing social service system in Bolzano, the phenomenon of transitions and especially the touchpoints between them by collecting answers to the following questions: Which transitional situations can be found in the area of Bolzano? Which social services are offered? Which needs do they address? How are the different

4.1.1 Promote an Understanding of the Phenomenon of Transitions and the Social Service System of Bolzano

providers of public, private and third sector connected? How do they name transitions and how could they be named in a more objective and constructive way?

Service Landscape Mapping: A map representing available services in Bolzano and their interrelations. It can be provided as a website or in printed format. The map also provides basic information about the services, e.g. to whom they are addressed, where they are located, etc.

Transition Mapping: A digital catalogue of possible situations of change and transition. It shows the interconnections, similarities and differences between them through the representation of transitions on different levels of abstraction and concreteness (from simple diagrams to extracts from life stories).

Lexicon: A collectively assembled compilation of terms about transition situations with recommendations on words to be used preferably to use to speak about transition and change without judgement, stigmatisation and bias. Since it would be a dynamic collection, continuously taken up and re-articulated by the community of users and operators, it should have a digital format. The lexicon can be associated with face-to-face discussion sessions.

4.1.2 Enable the Paradigm Change in Organisations

Employees of social service providers often and evermore struggle with high workload and the feeling of insufficiency when the offers that they can provide do not meet the specific needs of users in unusual situations. The following two activities seek to provide support in facilitating the exchange about “new cases” of people in transition and giving them self care tools to hand.

Interorganisational Meetings: Moderated meetings and exchanges held on a regular basis for practitioners from different organisations. They have the function of acting as a refresher and peer education. The meetings are non-hierarchical and maintain an informal character within a clear structure. Specific modules may be: presenting a challenge and a success; contributions from external experts; discussion on the Lexicon; presentations of case studies. They may be followed by more informal convivial moments, allowing for an informal exchange between different actors.

Operator Selfcare Meetings: Training sessions offered regularly to practitioners, in order to provide them with competences on coaching methods and language that is relevant to support the paradigm shift as well as self-care, specific for practitioners dedicated to caring for others. The inter-organisational training sessions are also a place of exchange between workers from different organisations. Exchange Program: Possibility for operators to work for a short period in another organisation or another sector of their organisation.

4.1.3 Build a Community of 'Transitioners' and Facilitate Peer-to-Peer Support

The two tools in this cluster value the knowledge of peers and lay experts, and use it to provide an approachable support that is very close to life's realities. Thereby, a community of people in similar or comparable transition phases is created that gives mutual backing and motivation.

User Exchange Workshops: Moderated moments of meeting and dialogue held on a regular basis between users offering possibilities for re-learning. The participants don't necessarily have to share the same experiences. Possible activities: compilation and discussion of the Transition Card, presentation of a service organisation; feedforward method, traffic light method.

Advice from Lay Experts: Electronic noticeboard or switchboard, on which it is possible to enter requests or make calls regarding the functioning of the services. In the case of the noticeboard, the group is open and anyone can propose themselves as an expert, but the moderators are specially trained. In the case of the switchboard, the lay expert group is not open. The noticeboard or switchboard can be used anonymously. Support can be complemented by the intervention of certified experts.

4.1.4 Analyze Individual Transitions and Develop Action Paths with the Help of Social Services

The goal of these concepts is to support people to clarify and analyze their individual situation in order to detect hidden problems and potential resources for support. People are approached openly by starting with their individual situation instead of predefined categories. That allows people to approach social services in a situation, where support is needed without stigmatization and the constraint to research and decide which specific office could potentially fit their need. Therefore misunderstandings and misallocation of time and resources are prevented and social services can have a less standardized, more target-oriented and effective design. Enabling a neat overview, clearer understanding and targeted discussion, the analysis is conducted with visualization tools.

Transition Sheet: A tool that allows users to reflect on their situation and operators to visualise the users' transitions, the networks they are part of and the resources they have or miss. It can be filled in and analysed autonomously or in collaboration with a social worker, a volunteer or a coach. It consists of the following steps: an assessment and general description of the transition, a timeline, a social network map and finally a planning tool for next steps.

Modular Service Kit: It consists of various modular elements, each of which in a tangible format represents a service offer. The kit allows a customized service configuration to be composed, building it (literally) on the basis of the user's requirements. It is a materialized activity plan that addresses the steps to be taken and

helps to remember the users and their standpoint in the process and when to continue (proceed again/further).

Orientation Points: "Counters" that are open to everyone at regular intervals, hosted in turn e.g. at the premises of different organizations and therefore are decentralized. They are low threshold entry points to the portfolio of services, and provide an initial orientation. The Transition Cards, Modular Service Composition Kit and the Service Map can be used for these encounters. The open hours are run by staff from the service providers or by volunteers. In both cases, the staff are trained about the use of the tools, the articulation of the services and the communication with clients.

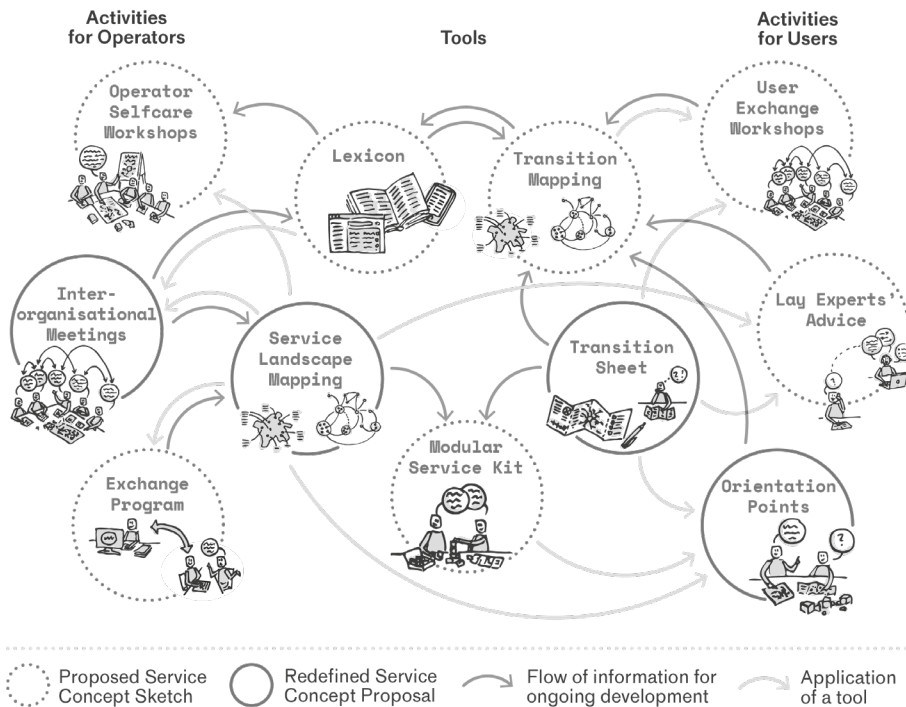


Fig. 4: Overview of the proposed service concepts and their interrelations.

5 Comparisons with Other (Design) Projects

In order to “meet the great challenges ahead” (Esping-Andersen, et al., 2002, p.4), the need to reform the welfare system and to redesign social and community services has been diversely addressed through reflection and research (amongst others, Esping-Andersen, et al., 2002; Ferrera, 2019; Fumagalli, et al., 2019; General Intellect, 2017)) as well as through policies and experiments. For instance, during the course of our research project we met people working at the Fondazione Innovazione Urbana of Bologna (www.fondazioneinnovazioneurbana.it), who try to address community services and urban policies in innovative and more participatory ways. Another meeting was held with the people working on a European project called CoSIE (Co-creation of Service Innovation in Europe – cosie.turkuamk.fi), who also try to experiment with social services innovation in particular at the CoSIE Pilot in Houten

(NL) (cosie.turkuamk.fi/redesigning-social-services), where despite a different focus on the job market, the aims and procedures similar to ours.

Here, we intend to start to outline a comparison with

- projects addressing the redesign of the Welfare;
- projects providing exemplary or inspirational methodologies, procedures or proposals
- exemplary or inspirational projects working as part of a urban based network of services

5.1 Projects Addressing the Redesign of the Welfare System

Commonfare (www.commonfare.net; Bassetti, et al., 2019; Lyle, et al., 2018) is a very similar project to ours. This project was initiated through an analysis of 20th century Welfare crisis and it combines social sciences and design with the aim of developing a platform that “intends to promote a participatory approach to social [w]elfare through collaboration and reciprocal support”. The descriptions written in different languages (i.e Italian, Dutch and Croatian) state that the project is intended for specific type of people in transition: “precarious workers”. Besides similarities, *Commonfare* can also be characterized by an outline of the following relevant differences:

- compatibilities and, consequently, possibilities of integration – RiDeST could be a very situated actualization of *Commonfare*;
- frictions and, therefore, an opposition between the two research projects.

The differences regard:

- the scale of the project – *Commonfare* is a European project with three national bases;
- the scale of the starting analysis of the crisis of Welfare – *Commonfare* is based on a macro-economic analysis (Fumagalli, et al., 2019; General Intellect, 2017);
- the relation with the present situation of welfare – although providing information about the present institutional welfare possibilities, *Commonfare* aims at creating a completely alternative system;
- the idea of the common – *Commonfare* assumes a very general (and generic) definition of commons, inspired by Negri and Hardt (2009), as the “ensemble of resources” that “tie together human beings” (Lyle, et al, 2018).

5.2 Projects Providing Exemplary or Inspirational Methodologies, Procedures or Proposals

5.2.1 Service Innovation from within Institutions or Proposals

The design and innovation lab *Inland Design* (inlanddesign.fi) co-designs public services as part of the Finnish Ministry of the Interior. One of their projects was the development of a customer service chatbot devised for the Immigration Service. Starting from the challenge that many phone calls remained unanswered, a team of service designers created and tested solutions and eventually implemented a functioning chatbot. The integration of an innovation lab in a ministry facilitates an effective organizational change from within. They have easy access to the knowledge and resources to design, implement and evaluate solutions for occurring problems in social services. Additionally they also foster the collaboration between different offices. As the external position of our team caused difficulties in the execution of the research, we are convinced that a similar constellation could enhance the quality of social services in Bolzano, too.

5.2.2 A Service Ecosystem instead of Single Services for the Mental Wellbeing of Londoners

The studio LifeWorks co-created inclusive mental wellbeing services for Londoners on behalf of the British National Health Service (www.liveworkstudio.com/presentations/working-with-people-to-design-inclusive-mental-wellbeing-services). Similar to what we have found in the course of RiDeST, the service designers noticed that although suitable services are available, they are not used. So, they developed low-threshold communication tools to reach people in the digital environments they already use. A new vision for a service ecosystem was created and services were integrated instead of duplicated. A central platform was built that forwards to specific services.

5.2.3 A Knowledge Platform for Gender-Sensitive Design

The project *Sensitive Service Design* (www.sensitive-servicedesign.net) of the service designer Abigail Schreider is a platform that provides methodologies for designers to develop gender-sensitive solutions. She offers talks, a workshop template and a glossary. The approach of imparting knowledge to foster a change in the mindset of practitioners instead of offering single solutions is something to be found in RiDeST, too, albeit with a different topic. While creating a glossary, she also acknowledged the crucial significance of constructive wording for in services. However, while this project is focused strongly on the transfer of knowledge, in RiDeST we rather suggest tools that facilitate gaining a deeper understanding.

5.3 Projects Working as Part of an Urban - Based Network of Services

The city of Vienna is ranked among the most livable cities in the world – not least because of its well-developed social system and public benefits. Therefore we decided to conduct interviews with

local organizations and projects there and gained various inspirational insights that are summarized in the following sections.

The private project *Stadtmenschen* offers open consultation hours, where volunteers provide free orientation in Vienna's social system and a buddy programme through which people are assigned a volunteer to support them in difficult life situations. Throughout the conversation it became clear that the best social system is of little use if the people who need the services most urgently do not take advantage of them because to find suitable offers is too cumbersome and application processes are complicated.

The neighbourhood centre in Vienna's 17th district, *NZ17*, offers an open space and point of contact for people in all situations and thus strengthens social networking in the neighbourhood. The offer is completed by social and psychological consultation services.

The idea impresses, above all, because of its flexibility and the approach of being a "dance floor" for the potential that the people of the district offer.

The *Gebietsbetreuung Stadterneuerung GB** (district management and urban regeneration) of the 21st and 22nd districts assists their residents in enhancing the district's quality of life with information, events and infrastructures. It was noted that especially people in transitional situations bring drive and commitment for the development of lively and resilient neighbourhoods and at the same time particularly benefit from it. Another valuable insight was that crucial information is often not shared in complex and long prepared discussion formats, but rather in conversations on the side at low-threshold offers, e.g. crafting or baking events.

The three projects share some several basic principles that have also strongly influenced our own project work:

- They show local presence, offer open spaces with regular opening hours and communicate their impartiality very clearly – this low-threshold accessibility for people of all social backgrounds reduces stigmatisation and barriers.
- They want to provide continuous support in any life situation to detect and prevent critical events in time.
- They are very aware of the significance of networks, whether on the individual or the organizational level which is why they try to strengthen the social networks of their clients and communicate closely with other actors in the social landscape of Vienna. All interview partners also emphasized that their aim is not at all to duplicate or compete with municipal services but that they strive to fill gaps and build bridges in the urban welfare system.

6 Conclusions

In our paper we introduced the inter- and trans-disciplinary research project *RiDeST - Persone in cambiamento / Menschen im Übergang*. The goal was to provide several service concepts to the Municipality of Bozen-Bolzano that enable the local social and community service network to address and meet the exigences and desires of people in transition. In doing so we emphasized that instead of reducing users and potential users on their needs, they should be seen as being in transition. In this way, we consider that social and community services can better achieve the common good for which they were designed.

The research project, which lasted around one year, is now coming to its conclusion.

It is very likely that the four service concepts that the municipality rated as most urgent and feasible will be further explored and developed. At the same time, as these concepts are being further developed, a misunderstanding between us and the city administration that has characterized the entire research project must be overcome. It resulted from a different perception of whom the proposal of the paradigm shift and the associated service concepts is addressing. The municipality criticized that our proposal was not addressing the actual people in need who resort to the social services. However, at the same time we were asked to raise the attraction and approachability of the services for people, who usually are not addressing social services.

We are convinced though that the proposed paradigm shift – from need to transition-change – facilitates the inclusion of an increased number of people in the common goods of social and community services. The last step of the project, as well as probably the first step of a new phase, will be to demonstrate that.

References

- Bassetti, C., Sciannamblo, M., Lyle, P., Teli, M., Paoli, S. D., & Angeli, A. D. (2019). Co-designing for common values: Creating hybrid spaces to nurture autonomous cooperation. *CoDesign*, 15(3), 256–271. DOI: 10.1080/15710882.2019.1637897
- Beck, U., & Beck-Gernsheim, E. (2001). *Individualization: Institutionalized Individualism and its Social and Political Consequences*. Thousand Oaks, CA: SAGE.
- Erlhoff, M., Mager, B., & Manzini, E. (1997). *Dienstleistung braucht Design: Professioneller Produkt- und Marktauftritt für Serviceanbieter*. Munich: Hermann Luchterhand Verlag.
- Esping-Andersen, G., Gallie, D., Hemerijk, A., & Myers, J. (2002). *Why We Need a New Welfare State*. Oxford: Oxford University Press.
- Ferrera, M. (2019). *La società del Quinto Stato*. Bari: Laterza.
- Ferrera, M. (2005). *The Boundaries of Welfare: European Integration and the New Spatial Politics of Social Protection*. Oxford: Oxford University Press.
- Fumagalli, A., Giuliani, A., Lucarelli, S., & Vercellone, C. (2019). *Cognitive Capitalism, Welfare and Labour: The Commonfare Hypothesis* (1° edizione). London: Routledge.
- General Intellect (2017). Tesi per l'elaborazione di un Manifesto per il Commonfare. Per cominciare la discussione—Di General Intellect. *Effimera*. <http://effimera.org/tesi-lelaborazione-un-manifesto-commonfare-cominciare-la-discussione-general-intellect/>
- Hardt, M., & Negri, A. (2009). *Commonwealth*. Cambridge, MA.: Harvard University Press.
- Heym, L. C., Schubert, J. L., Sanchez, S., Visentini, I. & Mattozzi, A. (2021) A visual-analytical approach to phases of transition in people's life paths (accepted poster for the Cumulus conference, forthcoming)
- Hussain, W. (2018). The Common Good. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- Junginger, S. (2016). *Transforming Public Services by Design: Re-Orienting Policies, Organizations and Services around People*. London: Routledge.
- Lessenich, S. (2013) Übergänge im Wohlfahrtsstaat. In: Schröer, W. et al., *Handbuch Übergänge* (pp.895-911). Weinheim Basel: Beltz Verlag
- Lowndes, V., & Wilson, D. (2001). Social Capital and Local Governance: Exploring the Institutional Design Variable. *Political Studies*, 49(4), 629–647. DOI: 10.1111/1467-9248.00334
- Lyle, P., Sciannamblo, M., & Teli, M. (2018). Fostering Commonfare. Infrastructuring Autonomous Social Collaboration. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–12. DOI: 10.1145/3173574.3174026
- Mattozzi, A. (2018). Teaching Everything in Relationship: Integrating Social Sciences and Design in Teaching and Professional Practice. *Diseña*, 12, 104–125. DOI: 10.7764/disen.12.104-125
- Mattozzi, A. (2020). Describing Artifacts. What design and anthropology share, but Design Anthropology disregards. *Antropologia*, 7(2), 105–128. DOI: 10.14672/ada20201688105-128
- Meroni, A., & Sangiorgi, D. (2011). *Design for Services*. London: Routledge.
- Minnite, L. C., & Mazelis, J. M. (2015). Welfare. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (pp.475–480). Amsterdam: Elsevier. DOI: 10.1016/B978-0-08-097086-8.32170-5
- Pohl, A. & Walther, A. (2013) Perspektiven einer integrierten Übergangspolitik. In: Schröer, W. et al., *Handbuch Übergänge* (pp.929-946). Weinheim Basel: Beltz Verlag.
- Schneider, J., Stickdorn, M., & Jakob, S. (2012). *This is Service Design Thinking: Basics-Tools-Cases*. Oldenburg: BIS Publishers.
- Schröer, W. (2013) Entgrenzung, Übergänge, Bewältigung. In: Schröer, W. et al. *Handbuch Übergänge* (pp.64-79). Weinheim Basel: Beltz Verlag.
- Schröer, W., Stauber, B., Walther, A., Böhnisch, L., & Lenz, K. (2013). *Handbuch Übergänge*. Weinheim: Beltz Juventa.
- Steiner, R., Kaiser, C., Tapscott, C., Navarro, C. (2018) Is local always better? Strengths and limitations of local governance for service delivery, *International Journal of Public Sector Management*, Vol. 31 No. 4, pp.394-409, DOI 10.1108/IJPSM-05-2018-226
- Whyte, W. F. (1991). *Participatory Action Research*. Thousand Oaks: Sage

Acknowledgements

First of all we thank our project partners Sofia Sanchez and Irene Visentini from the social cooperative *studio comune* who provided the project idea, cooperated crucially in holding events like presentations and workshops and enriched the research with knowledge of the territory as well as contacts with relevant stakeholders.

We would also like to show our gratitude to the steering committee members who dedicated their time to join the regular meetings and gave essential feedback: Licia Manzardo (ASSB-BSB), Stefano Santoro (Municipality of Bozen-Bolzano), Alessandra Zanirato (Province), Elena De Concini (Arci, Bolzano), Gianluca Tenin (Officine Vispa).

The project was financially supported by the Free University of Bozen-Bolzano and the Municipality of Bozen-Bolzano.

A special thanks goes to all our interview and conversation partners in Bolzano, Vienna and Bologna and to the participants of the various workshops conducted during the course of the project.

The present paper is a collaborative effort by the three authors. If, however, for academic reasons individual responsibility is to be assigned, Heym, besides designing the layout and drawing all the illustrations, wrote the following paragraphs, 4 (except for 4.1.1.) and 5. (except for 5.1); Schubert, 2., 4.1.1 and 6.; Mattozzi 1., 3. and 5.1.

Greater Good and Good Difference

Keywords: Public Interest Design, Inclusive Design, Issue-based Design, Evaluation, Equity, Social Economic Environmental Design, SEED Network, Common Good, Good Difference, Greater Good.

Bryan Bell^a,
Lisa M. Abendroth^{b*},
Sergio Palleroni^c

^aNorth Carolina State University

^bMetropolitan State University of Denver

^cPortland State University

*lisa@seednetwork.org

Common good as postulated for the field of public interest design (PID) is social, economic, and environmental well-being for all people. When design is situated as a response to the pursuit of this common good, it has the potential to produce a confluence among diverse interests. From this perspective, communities who shape collective goals while accepting differences thus have the capacity to enact beneficial outcomes with design as the vehicle. An implicit collaboration in the achievement of good, that is mutually and collectively generated and distributed, can result. This article outlines a precedent for the achievement of common good design outcomes through the mission, principles, and methods of the Social Economic Environmental Design (SEED) Network, an affiliation of designers who operate through the framework of PID. Through the SEED process, design can advance such fundamental human values as equity and justice while sustaining the distinct interests of stakeholders, forming a community through design that constitutes a greater good.

1 Introduction

When design is situated as a response to the pursuit of common good, it has the potential to produce purpose-driven outcomes informed by the mutual goals of the public and the designers who serve the public. This context of shared interests can be expressed by the people who populate that conceptual or physical space as they form a community around what constitutes their common good. Communities who work together toward collective goals thus have the capacity to enact shared and beneficial outcomes where design is the vehicle; within this there is an implicit relationship in the achievement of a good that is mutually, collectively, or publicly generated and distributed. Through this process, design can advance such fundamental human values as equity and justice. Increasingly designers are stepping into the role of facilitators in these contexts to further successful practices that prioritize community engagement, agency, public participation, and democratic decision making. These actions are the very foundation of designing *with and for* the common good and can manifest design itself as a physical realization of common good.

Considered a still emergent field of inquiry, research, and practice, public interest design (PID) is characterized by inclusive decision-making realized by meaningful community-centered and community-led stakeholder engagement, an issue-based approach that prioritizes community issues, and design evaluation (Abendroth and Bell, 2015, p.308). The Social Economic Environmental Design (SEED) Network, whose goal is the advancement and promotion of PID practices and research, positions issue identification oriented around the triple bottom line^[1] - social, economic, and environmental factors - to facilitate communities working with designers to identify their design project needs from within. This is further realized through the network's mission, "to advance the right of every person to live in a socially, economically and environmentally healthy community" (SEED Network, Cox, Goldsmith, Bell, Dorgan, et al., 2005; Feldman, Palleroni, Perkes and Bell, 2013, p.3; Bell, 2015, p.13). The network not only provides a methodology and best practice case studies, it also offers an actionable online tool for pursuing PID through a scaffold of issues oriented to achieve long term sustainable outcomes.

Work on behalf of the public interest carries unique challenges that call for new ideas in establishing professional standards of practice that deserve public trust and commitment. In translating the word "profession," to *profess a mission*, PID broadly and the SEED Network specifically seek to advance the public good through design as a new mission-focused profession (Gardner, Csikszentm-

[1] John Elkington coined this term in his 1999 book, *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. The SEED Network leverages the social, economic and environmental welfare of a community through its mission and principles where long-standing sustainable outcomes are underscored by the three pillars of the SEED process.

halhi and Damon, 2002). The innovations taking place in this realm afford an opportunity to critically examine how specific tools and methods support equitable, just, and inclusive approaches to design problem-solving that function for the benefit of many. Design processes are prioritized that are participatory in nature, are issue-driven, and are comprehensive to the evaluation of outcomes and outputs that meet identified thresholds. With over a decade of case study development and a body of collected practice knowledge that spans design professions and higher education contexts, this article offers insights into how designers are adapting its approaches and methods to face societal, economic, and environmental issues for common good.

1.1 Common Good and Community

The concept of *common good* is context driven. Its definition is dependent upon the surrounding conditions. Together, these two words imply a connectedness, a singularity that shapes human perception. Much like a bridge, this shared perspective completes itself in expressions of *doing good* and creating impact for *positive social change*. Increasingly these expressions have become motivated calls with actionable outcomes within the fields of design. As a relational obligation, common good oscillates between defined difference and reciprocity. Understanding there is increasing need for design that serves all people as a human right, there is a history and legacy of power, contested agency, and complicity in the concept of design for all that requires unravelling.

The concept of *community* provides an entry point to understanding the complexity of common good. A network onto itself, community shows connection to others through something that is mutually generated - geography, a cultural identifier, practices, and experiences to name but a few. Simply, that which is shared is *common*. The etymology of both *community* and *common* derive from the Latin root *communis*, meaning of or for the public. According to Bose and Horrigan (2014), in the context of community design, community can be defined based on the qualities of collective reasoning underscored by shared approaches to small-scale, agile, democratically run design decision making processes (p.2). *Common* arrives from sharing or participating in this; a PID framework shapes not only the process for creating common ground but also a tangible methodology for imparting it.

Finnis (2011) offers perspective, calling *common good*, “a set of conditions which enables the members of a community to attain for themselves reasonable objectives, or to realize reasonably for themselves the value(s), for the sake of which they have reason to collaborate with each other (positively and/or negatively) in a community” (p.155). The social contract bound within common good is one attributed to collective interests within an identified group (suggesting boundaries) but also extends to spatial, political, economic, and symbolic constructs of community (Cohen, 1985, p.12-

14). Common good asserts itself as a power structure emphasizing the necessity for, but not always exerting, mutuality and shared benefits. In the world of 2020, the call for social justice as a human right is a palpable reminder of who and what defines common good - and who holds the power to do so. Finnis goes on to argue “the maintenance of human rights is a fundamental component of common good” (2011, p.218). According to Hussain (2018):

“The common good incorporates certain basic requirements of social justice, as citizens must provide one another with basic rights and freedoms, and they must not exploit each other. But common good goes beyond the basic requirements of justice because it requires citizens to maintain certain patterns of conduct on the grounds that these patterns serve certain common interests” (section 11, par. 3).

These nuanced interpretations between what constitutes *community* and *common* are important to understanding the goals of PID, a practice devoted to achieving common good. “A practice composed of democratic decision-making through meaningful community engagement, an issue-based approach to the identification of community need, with a requirement for design evaluation” (Abendroth and Bell, 2015, p.308), the tenets of PID establish the standard for a practice that is created with and for the public good.

1.2 Good Difference

The practice of PID positions the design process as the means to unite diverse stakeholders. But how can unified, common goals be established when there are diverse interests in a PID project? To appreciate this concept, here the term *good difference* is introduced. Turning meaning on its side, *difference* can yield interpretations ranging from disparity to diversity to discrepancy to disadvantage. Escobar (2018) acknowledges “design and difference” exists in the context of form-making (design) and in the hierarchic dualities of privileged and subaltern groups (p.xvi). When viewed through a PID framework *good difference* however suggests that multiple interests can converge into a rich and authentic set of outcomes that honors all communities and their needs. It champions several causes within a single community project, essentially accomplishing a scaffold of necessary and required outcomes for the varied stakeholders represented. By way of example, Figure 1, The Bancroft School Apartments in Kansas City encompasses a range of issues including: community revitalization, housing, unemployment, energy efficiency, crime, and historic preservation. During and after project completion measurements were collected for each of these issues. Through a small health clinic in the building and a collaboration with the local hospital, the community assessed local health risks and trained neighbors how to confront these preventatively. Performance measures such as this are quantified and documented and reviewed through the SEED Network’s third-party evalua-

tion process[2] revealing the positive changes of the project. An exemplary SEED project because it effectively addresses so many different issues of the community, the Bancroft School transcends a building to become more of a social-impact machine.

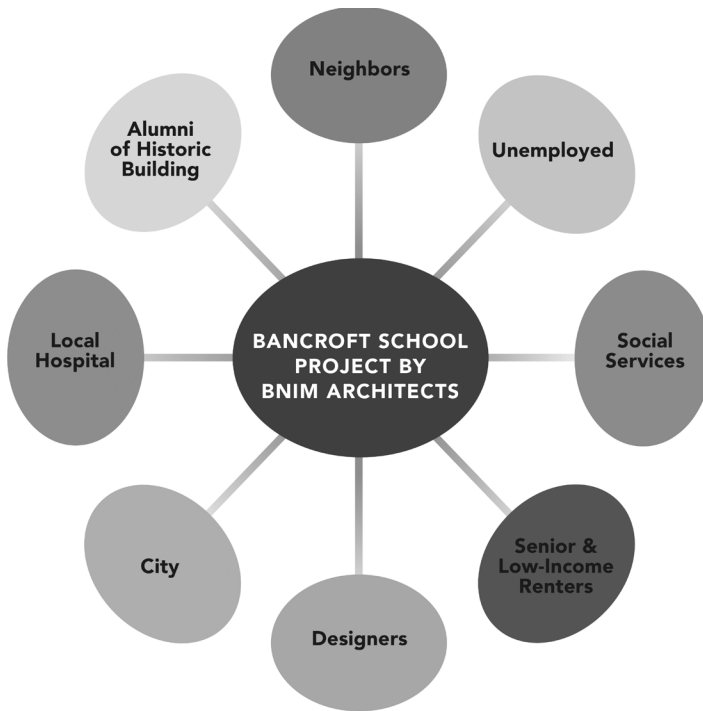


Fig. 1: This visualization reflects a range of stakeholders engaged in the Bancroft School project. It illustrates how a design project can be the common element in creating a community output, in this case the renovation of an empty neighborhood school. The means of identifying each stakeholder group and clarifying needs, their assets, their commonalities and differences and their relationships to each other, represents a collective action for common good. The SEED process assures that community members and stakeholders are involved in the design and planning processes. Image Credit: Bryan Bell, North Carolina State University and Lisa M. Abendroth, Metropolitan State University of Denver.

Diverse stakeholders who work together toward collective goals become a community by sharing goals and accomplishing the project. Together, they have much greater capacity to enact beneficial outcomes from multiple and diverse points of view with PID being the vehicle to accommodate these. Within this is the achievement of a good that is mutually, collectively, publicly generated and distributed. Through extensive research this process to create a community around design that shares common good has been standardized in the SEED Network's delivery of PID practices. A principle-based organization that builds knowledge in the design community by providing guidelines for inclusive and participatory design processes, the SEED Network is shaped by its membership and supported with input by the larger design community (Feldman, Palleroni, Perkes and Bell, 2013). Along with its mission the network imparts five guiding principles:

- Principle 1: Advocate with those who have a limited voice in public life.
- Principle 2: Build structures for inclusion that engage stake-

[2] The SEED Network offers design evaluation through its SEED Evaluator online tool and SEED Certification for projects that meet defined thresholds in the process metrics.

- holders and allow communities to make decisions.
 - Principle 3: Promote social equity through discourse that reflects a range of values and social identities.
 - Principle 4: Generate ideas that grow from place and build local capacity.
 - Principle 5: Design to help conserve resources and minimize waste.
- (SEED Network, Cox, Goldsmith, Bell, Dorgan, et al., 2005; Feldman, Palleroni, Perkes and Bell, 2013, p.3; Bell, 2015, p.13-14).

To *advocate, engage, promote, generate, and design* is the essence of a community-based design practice. These activators for purposeful engagement and localized actions simplify and distil an otherwise often complicated design research process into tangible objectives that are goal oriented and measurable in communities.

2 Achieving Common Good

2.1 The SEED Network and the Triple Bottom Line

A membership of over 3000, the SEED Network is the result of over fifteen years of grass-roots community-supported development as an organization started *with and for* designers who have a calling to work *with and for* underserved communities. The network mission and principles reinforce one another to affect understanding in PID practice and pedagogy: together these function as a recognized pathway for the achievement of triple bottom line design evaluation[3]. As a result, the SEED Network is a resource for guiding practitioners, academics, students, and communities in identifying best practices in PID. Resulting SEED projects often go on to serve as replicable models of practice where methodology is translated, analysed, and applied for its ability to work through the tangible and intangible qualities of community engagement. The commitment to growing the field is evident in the range of products, services, as well as events made available through SEEDNetwork.org and administered through the non-profit design firm Design Corps (*The Structures for Inclusion* conference for example is in its 21st year and the SEED Network's SEED Evaluator online tool is approaching version 5.0, originally released to the public in 2008).

The SEED Network encourages a holistic approach when considering the triple bottom line of community needs, looking comprehensively at the social, economic, and environmental health of a community project. The triple bottom line guides communities in the prioritization of actions stemming from the needs and goals they face. It can also allow communities to seek out or develop a project that can meet several needs at once, for example education and job creation, or hunger and affordable housing. When these

[3] In 2014 the U.S. Green Building Council (USGBC) introduced into their LEED certification a social equity pilot credit called "Social Equity within the Community." The credit can be achieved by using the SEED Evaluator or other social evaluation program.

needs are addressed separately, a community fails to use often-limited resources most effectively for the greatest impact. An integrated approach however can create opportunities for multi-levelled outcomes that serve a variety of strategic functions.

Public interest designers recognize that every community has a unique set of priorities. The SEED process is a culmination of SEED Network mission and principles that not only assists designers in modeling a proven method for community-based practice but also aids communities in identifying their own needs from within and illustrates how design might address these concerns. Understanding that the triple bottom line is fundamental to the SEED process, community-designer partnerships work together to dismantle pre-conceived notions of singular outcomes in a project. Instead they formulate inclusive approaches for problem identification that tease out embedded issues, priorities, and requisites. Identifying and addressing a range of issues within a project can support a scaled approach to design problem-solving.

For example, the diabetes epidemic among low-income African Americans in the American South is a complex issue with origins related to a traditional diet of fried meats and starches in that part of the country. In some cases, diabetes can lead to peripheral artery disease (PAD) which causes blood vessels to narrow and reduces blood flow to the legs and feet. Since PAD can lead to leg amputations, the base-line issue of diabetes is compounded and, in this instance, also relates to the need for affordable, accessibly designed, rural housing. Only addressing diabetes as a medical issue without considering the root causes of the primary issue, related meta-issues, and their solutions - such as sources for and access to fresh healthy foods - does not attend to the extent of the challenge. Other local populations have other issues; in this and so many other instances it is the holistic and scaled approach of the SEED process that is an essential part of a design process.

Whether goals are met or not is demonstrated by documenting process outcomes and exchanges, clearly showing how the design result leads to success and how that success can be measured. Through transparency and open communication, the SEED process promotes democratic decision-making that validates community member and stakeholder participation in design and planning. In this way, communities are equipped to define and communicate their own visions of success within a design project.

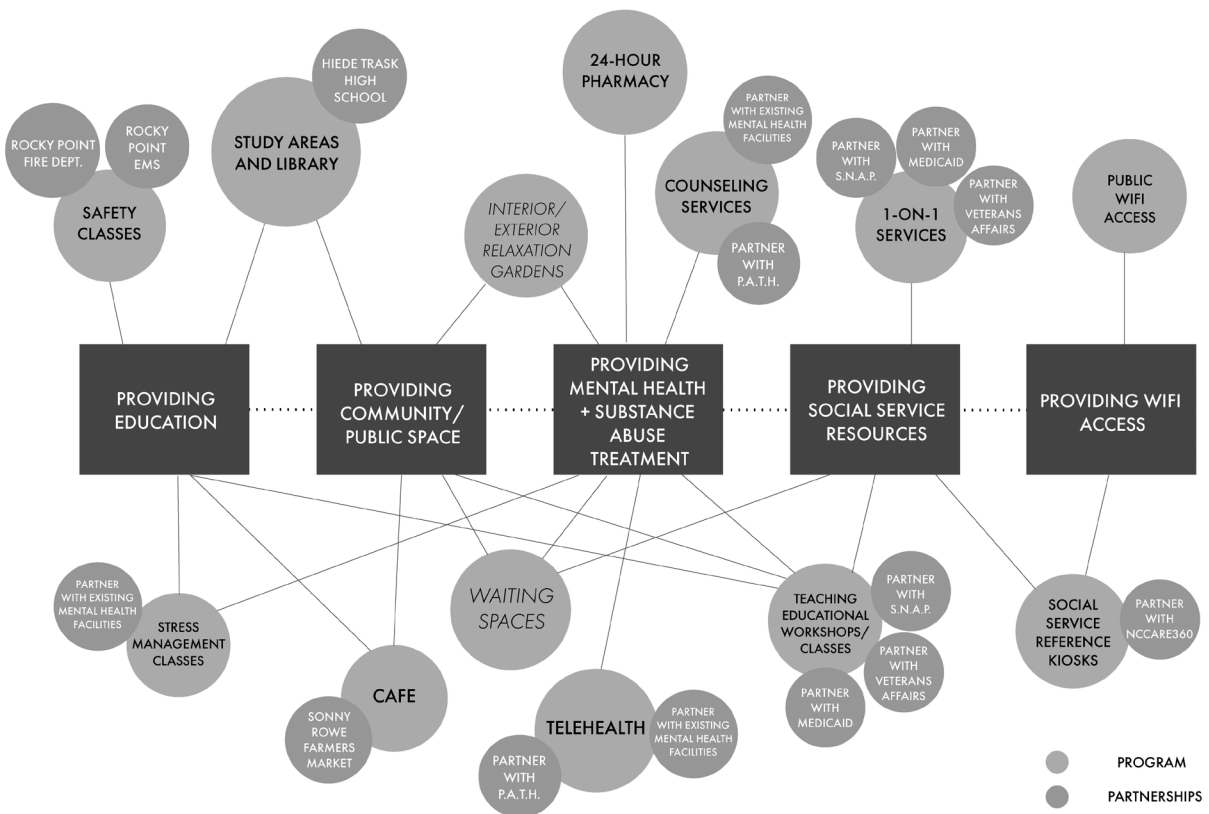


Fig. 2: This diagram represents the ecosystem of a design project, in this case a community center. Gray rectangles feature the outcomes that the building will provide, the positive changes that will result. Orange circles reveal the program pieces or activities that the building will house. Gray circles represent the partners who have an interest or stake in the outcomes and will contribute to the programming activities. Although every stakeholder does not have an identical role or interest in the project, the map shows how multiple goals can be combined into one vision for project success. The combined building programming share assets to create outcomes, producing an ecosystem that can generate a shared success.
 Image Credit: SEED Ecosystem Diagram and Community Vision of Success, concept by Abigail Uhrich, example by Ariel Hills, North Carolina State University.

2.2 Actionable Best Practices

Research conducted by the authors and their collaborators over the past twenty years reveal PID practitioners operate at a range of scales and have a fundamental need for documented methods to inform their methodology. There is necessity for a unifying framework that not only holds designers accountable but allows the field of PID to build capacity over time through education, outreach, and growth of practice. Context defines each design problem and its conditions as set forth therein. Changes in the contexts of design (where and how a design problem may manifest) have evolved the discourse of what defines a design problem today. So called ‘wicked’ problems have captured the attention of the public in recent years and indeed the world today is embroiled in this young century’s most galvanizing and yet divisive public health issue. COVID-19 is an urgent and daily reminder that design problems come in all shapes, sizes, and complexities. A redefining of what constitutes a design problem alongside shifting concepts of client reflects a growing trend in PID practice as practitioners adapt to changing social, economic, and environmental conditions. As a still emerging profession the necessity to meet new standards and practices is timely and urgent.

Practices in the public interest are broader and more interdisciplinary than the current prescribed models of design practice often focused on technical output. Public interest designers have had to be more innovative in their protocols, procedures, economic models, and relationships in order to make their practices possible. Most of the skills necessary to be successful in this work were not learned in the academy or through on-the-job training. Focused methods, new educational models, curriculum, and professional training courses are slowly starting to provide these needed skills (Abendroth and Bell, 2018). The SEED Network has been answering this demand.

The SEED process converts the SEED mission and principles into clear actions accessible through the SEED Evaluator online tool. The methodology guides locally based collaborations of design professionals and stakeholders who best know their community and their needs. In this way the SEED process lays out a clear and principled approach to a PID practice that emphasizes communication between parties and promotes informed participation from the ground up during the project, from concept through implementation, scaling, and post-occupancy or post-use[4].

[4] The topics below are discussed in depth in part 2 of the *Public Interest Design Practice Guidebook* (Routledge, 2015) and translate the SEED process into easy-to-use techniques that span the life of a project. These strategies provide a way to measure successes and challenges in which transparency and accountability are vital ingredients to a healthy process and fully realized outcomes.

- Starting a Project: Public Participation and the Feedback Loop (chapters 10–12)
- Sustaining Collaboration: Extended Engagement (chapters 13–15)
- Doing More: Issue-Based Design and the Triple Bottom Line (16–18)

SEED Process Overview

- What is the design PROJECT?
- Who is the COMMUNITY and what are the shared elements that define it?
- Who are the STAKEHOLDERS - including the design team and the community - and what different interests/benefits do they have in the project?
- What are the critical ISSUES for stakeholders?
- What research confirms NEED?
- How will stakeholder ENGAGEMENT shape project ideas and verify project development over time?
- What is the VISION OF SUCCESS (goals) for the design project?
- What is the DESIGN output that will support these goals?
- What PERFORMANCE MEASURES are identified to verify outcomes?
- How do RESULTS respond to identified goals and measures?
- How does ANALYSIS show replicable best practices?
- Does REFLECTION create an opportunity for change?[5]

3 Guadalupe Community Collaboration

The following is an example of the SEED Network's principle-based design process produced in a partnership between Design Corps, an NGO, and the University of Texas. Design Corps was invited to participate in a summer studio by the University of Texas, the Austin Community Design and Development Center, and the Guadalupe Neighborhood Development Corporation (GNDC). A local service organization, GNDC not only identified the area the design team would serve, but they had years of experience and the resulting understanding of the people who lived there. They were the team's first stakeholder. The Guadalupe Community Collaboration is the project developed within this neighborhood.

One of the potential projects the design team started researching was proposed for the studio by the City of Austin, to "green the alleyways". This may seem like a valuable idea, but it was noted immediately that this was a top-down idea and did not meet the SEED Network principles which the team was relying on. Through a series of interviews, the team looked for input from the residents of the Guadalupe neighborhood. They identified issues, challenges and assets associated with the alleyways. Common issues in the neighborhood included traffic speeding, parking by downtown visitors on weekends, lack of identity and continuity. Assets discovered include enthusiastic neighbors ready to tackle issues as well as the alley being a great place to stroll through the neighborhood and/or walk dogs.

- Assessing Results: Defining and Measuring Success (chapters 19–21)
- Scaling a Project: Uniting Diverse Stakeholders (chapters 22–24)

[5] Portions of this project narrative were previously published: Bell, Bryan (2013) "Towards a Cultural Value of Design and Democracy," Oz: Vol. 35. <https://doi.org/10.4148/2378-5853.1519>

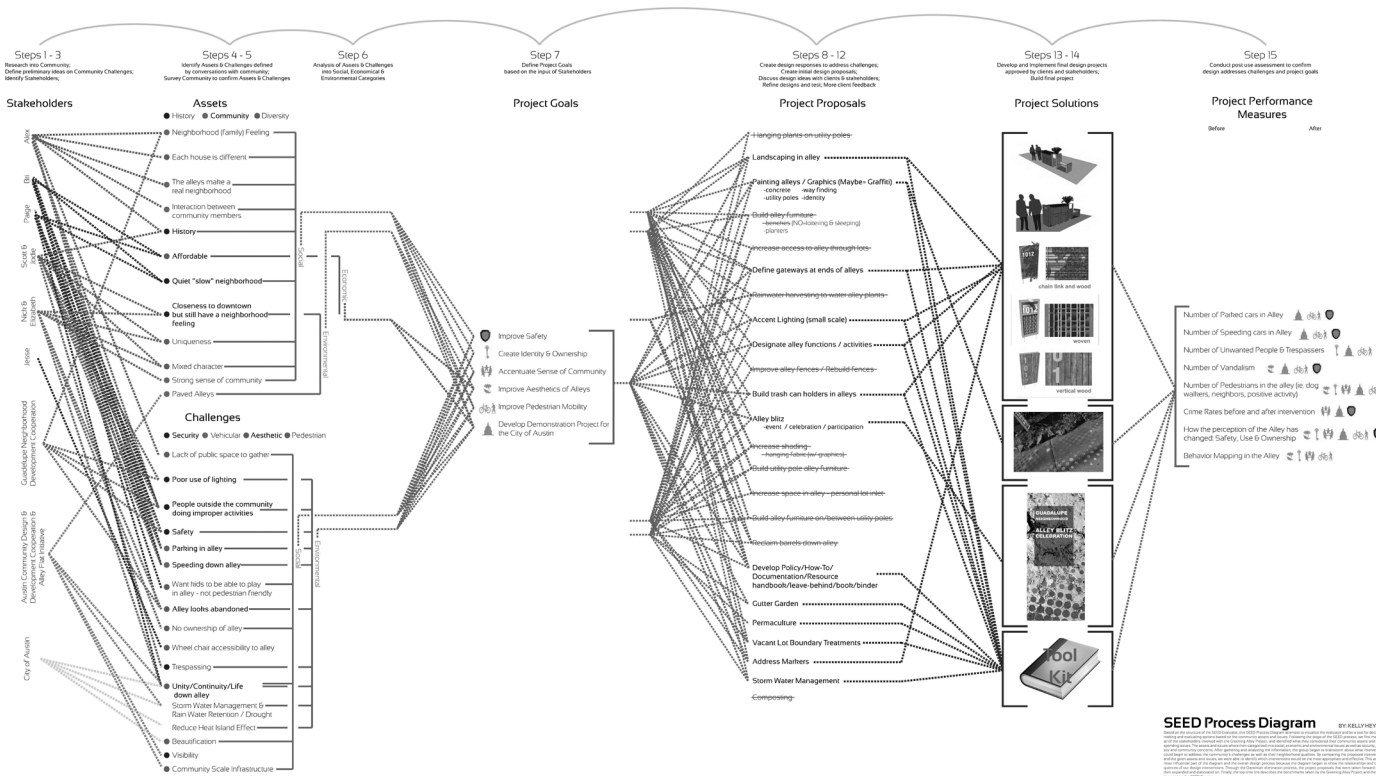


Fig. 3: Based on the structure of the SEED Evaluator, this SEED process diagram shows the iterative process which seeks verification through stakeholder input. By comparing the proposed interventions and the given assets and issues, the team was able to identify which interventions would be the most appropriate and effective in accomplishing identified and specific goals. Image Credit: Kelly Heyer.

The neighborhood residents also gave the team their priorities. This was a critical step as many projects were positive additions, the biggest impact achieved by addressing the highest priority. Greening the alleys was not a priority, but safety was. At this point, the team composed of designers identified that safety was not within their skill set or budget. Hiring more police to patrol the area was not something they could provide. But here is the moment when understanding can trump funding. Safety did not mean police patrols, it meant slowing down traffic in the alley so that children could play there. It also stemmed from an emergency incident when an ambulance had not been able to find a home on the alley because there were no addresses. Understanding these issues led to a specific economic design proposal. Through close involvement with alley residents and City of Austin staff, a design was developed to address the stated concerns. A proposed alley address/garbage unit pinched the width of the alley, encouraging cars to slow down.

It aided in creating spatial organization for the alley, as well as creating a sense of identity and ownership. It increased safety as emergency vehicles would benefit from the address markers. Also, the team created pavement markings for the alley to act as traffic calming measures as well as being a unique way to give the alley further identity.

Rather than the city responding to this direction that the design team had failed to meet their objective of greening the alleys, their response was very positive. They had been seeking a way to accommodate Class C bike riders, a group that included children. While they had achieved success in accommodating Class A bikers, they had not found any policies that could work well for Class C. Now the team had provided an approach that could become city-wide policy to serve another group of residents, with a minimum of resources needed. This is an important lesson to planners who derive direction for the public good from an office and do not have the face-to-face feedback that allows resources to address priorities.

By addressing multiple neighborhood priorities with a single small intervention, the team had met the value proposition: *to efficiently allocate public resources to a community's greatest building priorities through a democratic decision-making process that is transparent and accountable*. To further the impact and help advance this as a city-wide policy, the team presented the neighborhood stakeholders and City staff with a toolkit that helped them with ideas for future alley projects as well as helped connect them with the resources needed for such projects.

Overall, this neighborhood project proved that residents, designers and other stakeholders could be involved in shaping priorities such as safety, employment, and the environment. This was an intensely localized solution but could have a broader impact when this specificity was relevant. During this project, studio students learned that during the process, in order to create truly important, influential, and meaningful projects, that there must be an ongoing dialogue with and participation of community members, allowing them to voice concerns and give constructive feedback. This collaborative process empowered others through design: it showed the public that they are designers in their own right and that they too can create positive change in their own environments and communities.

The SEED Network's efforts to realize beneficial outcomes has not operated in a vacuum. Its aspirational principles are not unique in seeking common ground with other networks and shared visions of success. Meta-relationships offer a framework to understand the collective action beyond a single design project and convey to the level of networks devoted to the productive evolution of community-based public interest practices. One coalition, the Design for the Common Good Network (DCGN) is an international network of networks that embodies shared interests in the public value of design. Just as in the design project examples presented above, this collective action for common good is focused on building capacity through goals common to all. Composed of four core member organizations, DCGN however recognizes the good difference represented in each: it is both what we share and how we are different. "While each network has a unique focus, we acknowledge our common ground: supporting the growth of design for the common good" (Design for the Common Good, 2020). In this way, the future of this global collective action unit can be defined by recognizing common good and respecting good difference.

In *Teaching Community* (2003) bell hooks words remind us: "To build community requires vigilant awareness of the work we must continually do to undermine all the socialization that leads us to behave in ways that perpetuate domination" (p.36). Much work remains to build the global change needed for authentic, inclusive mutually beneficial solutions; and yet, public interest designers are ready at the call to do the work required now more than ever. Each step taken, as designers and non-design stakeholders, towards recognizing common good and good differences, PID moves closer to the concept of a representative public interest practice of inclusion, equity, justice, and diversity. Each step taken disrupts the status quo, shapes new collaborations, and creates new visions of success. This growing collective of stakeholders can move forward by recognizing both common good and good differences and by recognizing the *greater good* impacts in the pursuit of justice, equity, diversity and inclusion for all people.

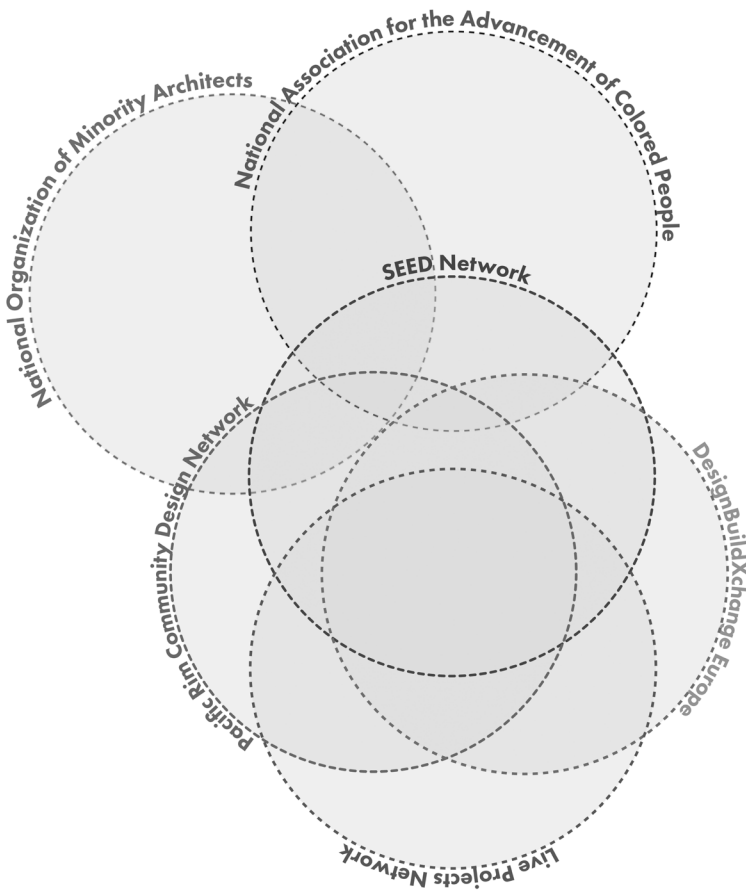


Fig. 4: A Venn diagram illustrates visions for commonality as well as difference. DCGN offers a platform to coordinate common good design efforts globally through various outputs including shared awards and conferences. Examples include the SEED Awards produced with Live Projects and designbuildXchange in 2017 followed by the Pacific Rim Community Design Network in 2018. The annual Structures for Inclusion conference, where these awards have been presented, becomes a venue for this discussion. In 2020, another collaboration occurred between the SEED Network, the National Organization of Minority Architects (NOMA), the National Association for the Advancement of Colored People (NAACP) resulting in juried awards and a conference session on designs that advance justice, equity, diversity and inclusion, timely public conversations during the rise of Black Lives Matter. The NAACP is not a design-oriented organization; while there is much shared, the differences were not an obstacle in our united goals. A confluence of common interests defined our work, and it is this confluence that seeks to bring about the greatest common good found among communities across the world. Image Credit: Bryan Bell, North Carolina State University; Todd Ferry, Portland State University; and Lisa M. Abendroth, Metropolitan State University of Denver.

References

- Abendroth, L. M. and Bell, B. Eds. (2018). *Public Interest Design Education Guidebook: SEED Curricula, Strategies, and SEED Academic Case Studies*. New York and London: Routledge.
- Abendroth, L. M. and Bell, B. Eds. (2015). *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues*. New York and London: Routledge.
- Abendroth, L. M. and Bell, B. (2015). Glossary. In L. M. Abendroth and B. Bell (Eds.), *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues* (pp.306-309). New York and London: Routledge.
- Bell, B. (2015). The State of Public Interest Design. In L. M. Abendroth and B. Bell (Eds.), *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues* (pp.11-18). New York and London: Routledge.
- Bell, Bryan (2013) "Towards a Cultural Value of Design and Democracy," *Oz*: Vol. 35. <https://doi.org/10.4148/2378-5853.1519>
- Bose, M. and Horrigan, P. (2014). Why Community Matters. In M. Bose, P. Horrigan, C. Doble, and S. Shipp (Eds.), *Community Matters: Service-learning in engaged design and planning* (pp.1-21). New York, NY: Routledge.
- Cohen, A. P. (1985). *Symbolic Construction of Community*. New York, NY: Routledge.
- Design for the Common Good. (2020). <http://www.designforcommongood.net/>
- Elkington, J. (1999). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Hoboken, NJ: John Wiley and Sons.
- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham: Duke University Press.
- Feldman, R., Palleroni, S., Perkes, D., and Bell, B. (2013). "Wisdom from the Field: Public Interest Architecture in Practice." 2011 AIA Latrobe Prize Research. www.publicinterestdesign.com/wp-content/uploads/2013/07/Wisdom-from-the-Field.pdf
- Finnis, J. (2011) *Natural Law and Natural Rights* (Clarendon Law Series, Second Edition). Oxford: Oxford University Press.
- Gardner, H. E., Csikszentmihalyi, M., and Damon, W. (2002). *Good Work: When Excellence and Ethics Meet*. New York: Basic Books.
- Hussain, W. (Spring 2018 Edition). The Common Good. In Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*. <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- SEED Network, Cox, M., Goldsmith, S., Bell, B., and Dorgan, K., et al. (2005). <https://seednetwork.org/about/mission/>

The Use of “Borderwork”: Approaches and Framing in Reconstructing Critical Interdisciplinary and Community Engagement in Design Education and Design and Social Innovation

Keywords: Cultural probes, Design and social innovation, Border pedagogy, Schema theory, Embodiment.

Scott Townsend^{a*},
Maria Patsarika^b

^a*Department of Graphic Design,
North Carolina State University*

^b*Social Design Institute,
University of the Arts, London UK,
& The American College of Thessaloniki,
Greece*

*sttwn@ncsu.edu

Designers and researchers rely on methods and metaphors (for example service 'ecologies' or 'blueprints', etc.) that enable and constrain ideas of the common good, whilst the concept of 'user experience' may subtly close off other kinds of experiences not anticipated by the designer. However, interdisciplinary collaboration in design and social innovation acknowledges contextual complexity and agency. Interdisciplinary 'border work' is a powerful concept in education. We explore such border work at the intersection of social sciences and design curricula and communities in the United States and in Greece. We will present extensions to these methods from a graduate research group one of us is leading in the Department of Graphic Design, North Carolina State University, and as an ongoing engagement with students, researchers, designers and stakeholders/communities in Greece. We see these methods as a kind of continuing 'interaction design problem' that can foster reflexivity, using affordance, schema and local interpretation.

1 Introduction

Before the turn of the 21st century, designers examined the entanglements of design and real-world practices involving interactions among humans, technology and nature (Papanek, 1984). The concept of an ontological dimension to design, proposed by Winogrand & Flores (1986), sprang “from a seemingly simple observation: that in designing tools (objects, structures, policies, expert systems, discourses, even narratives) we are creating ways of being” (Escobar, 2018, p.4). This line of thinking is thus a dive into the being of design in relation to other ways of being, an exploration of its role and imprint on the world with a focus on its reflective (Willis, 2006, p.80) and political qualities (for example, design for sustainability (Fry, 2011)). Along with ontological discourses, concomitant epistemological concerns continue to be expressed over the role of design knowledge and expertise, expanding the potential of participatory design and making space for non-professionals to articulate their needs and desires as experts in their own lives. This framework embraces a Heideggerian understanding of design/ers as “being of the world-in-being (which [...] includes being with others)” (Fry, 2011, p.193).

1.1 Methods

Methods may constrain how social relationships are conceptualized. In the mode of design practice and education, methods and tools are often chosen without a critical appreciation of what is created and ontologically derived and are seen as simple interchangeable choices. In this perspective, they are often chosen with little regard in how they may introduce and reinforce a certain ingrained perspective on the social in a particular context. The choice of methods does not necessarily respond to differences in cultural contexts, and designers are often inculcated into a pragmatic instrumentalist viewpoint about their work and what is valuable translated into quickly measured outcomes. For example, designers accept a priori mapping and diagramming as the basis for abstracting social systems, ostensibly creating new social practices in service design solutions and experience design, with little interrogation of method as a means to an end. However, the virtualism in simplified approaches to the social is voiced by Julier & Kimbell (2019, p.19): “Illustrated outputs of social design, such as personas or user journey maps, can travel through networks of project partners detached from specificity and grounded actuality. Persons are actual, but personas are virtual. Such virtualism masks the reproduction of inequalities by performing change that cannot actually happen”.

1.2 “Design Coalitions” and Knowledges

As Smith has noted; “Many researchers argue for an alternative sociological method that ‘makes the everyday world its problematic’, (Smith, 1990 p.28), acknowledging individual experiences within unique contexts, as they are truly lived. Our investigations over the last several years suggest that a reflexive research methodology and design engagement may provide a basis, further refining Manzini’s framework of sense making to eventual problem solving. This

process places design and research within the community as dialogical and responsive. Our starting point is based on principles of design and social innovation, where local resources, practices and knowledge are key, specifically expanding on Manzini's ideas of "diffuse and expert" design (Manzini 2015, p.50).

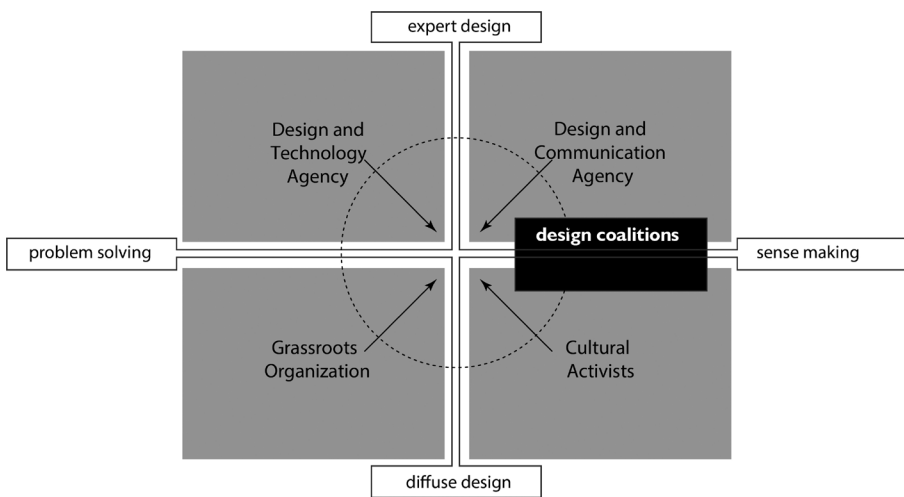


Fig. 1: After Manzini 2015 modified.

In our interpretation 'sense making' in local settings is based on examining the 'traces' (in the sense of semiotics, particularly indexical forms of representation) of people/communities. Secondly, since this model implicitly is based on 'border crossings' between different groups (cultural, disciplinary) the role of interpretation has to be consciously and reflexively constructed (Liebenberg, 2009) between participants to understand attitudes, practices and experiences. 'Problem solving' in the latter design proposals is most useful where the actual production of a solution is more reliant on the communities' shared expertise and techne. The community/network can become co-authors and influence the ongoing changes and design interventions concretely as an adopted change in practice and agency. Third, as design becomes more practice- and experience-oriented, a cycle can be created. Sense making and problem solving are reliant upon veridicality and judgement about changes in lived material experiences - does change adequately respond to ongoing issues of people and communities? How do groups and individuals dynamically respond to each other? How do other ideas and resources, through a larger social and economic realm get synthesized into local context? This presents experts in design and non-experts with critical questions: how can design professionals with disciplinary 'monocultural' backgrounds work with experts from the social sciences and other fields, as well as lay participants? Is there a shared 'language' that can be used in such borderlands? How does border work affect designers' and other stakeholders' roles and identities? etc. And how can educators introduce borderwork to students, without potentially confusing them, or

without diluting the distinct knowledge and expertise that design and other disciplines have to offer? We propose that the role of the researcher/educator here is similar to the role that the “expert designer” plays in this model.

2 Reflexive Methodologies and Pedagogies

Our approach specifically is in how to combine reflexive research with long term participation with - and in - a design solution as a long-term social interaction in the community, and how ethnographic methods converge with designed interactions as an iterative way to engage a kind of ontological designing.

As an ongoing working process, qualitative research starts as an initial contact between an outsider as researcher/designer in the community. Through the design of reflexive methods participants become interpreters of the data that they generate, or “[...] when researchers include images that participants themselves have created, an opportunity is established for researchers to literally see what participants are talking about” (Liebenberg 2009, p.444). Visual and other indexical traces and their description expose tentative themes, concepts and settings. With ongoing participation between participants and the researchers-designers, these visual references can be 'amplified' through the design of further reflexive interactions between individuals and also groups, adapting ideas of designing interactions based on schema and affordance generating possible scenarios and future plans. Sense making/problem solving, expert and diffuse design converge through iterative cycles. It is important to note that our approach is different than so called cultural probes that are often used as a speculative exercise for designer inspiration, or as a quick solution to garner some aspect of user experience. Dourish points out both the value and the limitations of cultural probes (Dourish, 2006, p.548) whilst Sanders and Stappers make a distinction between 'front end' research and probes as 'design led' activities (Sanders & Stappers 2012-2014). Rather than primarily speculative, or consequently 'design led', we see these kinds of evolving designed interactions as inspired from methods such as photo-elicitation and more aligned to qualitative research methods.

2.1 Border Pedagogy: Implications for Design Education

In design education the notion of a 'design context' may become so simplified that it reinforces a reductive and instrumentalist viewpoint that is presented as 'natural' to the way that design works efficiently in activities such as sponsored courses and increased educational 'efficiencies'. Border pedagogy works to “further create borderlands in which the diverse cultural resources allow for the refashioning of new identities within existing configurations of power” (Giroux, 1991, p.510). In a border pedagogy, educators:

- See various forms of discrimination in relation to their own class, background and biased epistemologies.
- Encourage such discussions among their students and encourage them to think critically about their own experiences and identities.
- Develop dispositions that enhance a strong ethical stance toward stakeholders they're working with and a strong sense of personal identity as teachers, learners, family members, community members.
- Support students' engagement with the "common good" by offering them opportunities for problem solving, practical, necessity-driven applications of their expert knowledge.
- Encourage interdisciplinary collaborations and positive social interactions, thus valuing all forms of knowledge, and critical engagement in one's own learning process and self-motivation (Romo & Chavez, 2006).

In education, more specifically, critical social concepts and ideas, such as Giroux's border education/border work problematize issues of power, knowledge and interactions between experts and non-experts and, even, what constitutes "common good." Specifically, for Giroux, an education that ignores or rejects discussions on how the social world is experienced differently from a cultural perspective (e.g., through the lens of gender, inequality, race, ethnicity) cannot provide perspective on issues of representation and the diverse experiences that people bring with them to the design or place making process. Therefore, border work in design and education, we think, is important, because it encourages critical discussions on the different understandings that various stakeholder groups may have of what is often uniformly called 'common good'. A critical postmodern thinker, Giroux calls for a critically engaged citizenry that challenges, as well as rebuilds, 'border'. A critically engaged citizenry may be, indeed, a definition of "common good" in this sense.

2.2 Coursework

We have experimented in two different design education venues, 1) an ongoing study abroad program in Greece as an outgrowth of research and design interventions in communities, and 2) an experimental elective graduate course as a critically informed engagement activity in local communities in the United States. Created within the existing course structure of the Master of Graphic Design program at North Carolina State University, Designing for Social and Community Experiences is conceived as a 'making seminar', combining seminar instruction with a hands-on lab component. The course introduces a short history of participatory design with critiques of its underlying assumptions, acquainting students with a multidisciplinary perspective on approaches in urban design, architecture, and the social sciences, whilst introducing the use of mapping principles from GIS. From this framing, service design, design for social innovation and transition design are discussed. Finally,

students respond with community interaction proposals working in small teams. The course structure provides background and experimentation in developing reflexive methods working with actual participants. The initial group constituted five students in a 2-month investigation with individual members of local communities, followed by a survey of participatory design precedents and methods (shifting to online instruction due to the Covid 19 pandemic). Each method was developed with at least one team member having long term experience with particular participants and communities.

3 Course Projects

3.1 Case Study One: "Natural Learning" Enhancing Stakeholder Roles for Parents in the Development of Outdoor Community Spaces (Marcie Laird)

This example relies on photo-elicitation and simple open-ended prompts. The Natural Learning Initiative promotes "the natural environment in the daily experience of all children through environmental design, action research, education and information." Among other goals it provides design assistance "[...] with community partners including landscape architects, to create model, research-based, ecologically viable outdoor settings" and as such it "[...] support(s) consensus-based design solutions" (Natural Learning Initiative, 2020, Design assistance section). Initial interviews were conducted with the director of the program detailing out current methods of community contact. The predominate way that initial community research is conducted uses emailed surveys and questionnaires. Due to the nature of broad email requests, time and investment by the participant in answering the questionnaire may lack depth and reflection. Secondly, a 'natural learning environment' such as a playground is an intervention with long term social implications to the community. Building strong connections to research participants can also build commitment and ownership in the community that extends out to broader issues of community well-being. The proposed intervention consists of an initial email contact and survey with members of the community with an invitation to join a participant activity with other parents and their children at the future site of the playground. Researchers would invite participants to engage further via a series of guided tasks completed at home where participants would photograph objects, mementos, and include previous snapshots relevant to time outdoors with a simple scripting of 'then and now'. This would then be submitted online via a website archive. The researchers would then do follow up interviews with parents using the scripted photo-documentation as a way to encourage narrative and interpretation. The goal of this is to encourage generational reflection through self-generated narrative and interpretation on the parent's experiences and memories of themselves as a child in outdoor settings, and to encourage comparison and empathy with their child's experiences now in outdoor spaces. This could provide insight into the parent's values and aspirations when it comes to outdoor learning for their child based on formative experiences and values, rather than viewing the design intervention as only amenities.

3.2 Image Schemata

The following example uses initial drawings, interviews and interactions with community members, and then attempts to “amplify” user concepts and affordances. These approaches draw significantly on “embodied” or “image” schemas “that are constantly operating in our perception, bodily movement through space and physical manipulation of objects [...] image schemata are not rich, concrete images or mental pictures [...] they are structures that organize our mental representations at a level more general and abstract than that which we form particular mental images” (Johnson, 1987, p.23–24). Image schemata have a few basic elements or components that are related by definite structures and yet have certain flexibility. As a result of this simple structure, they are a chief means for achieving order in our experience so that we can comprehend and reason about it “[...] in sum, image schemata operate at a level of mental organization that falls between abstract propositional structures, on the one side, and particular concrete images, on the other” (Johnson, 1987, p.28–29). Further they can be understood as developmental, experiential, and influenced by particular contexts that a subject builds relational understanding in and with.

Superposition	Process	Restraint removal
Enablement	Attraction	Mass-count
Path	Link	Centre-periphery
Cycle	Near-far	Scale
Part-whole	Merging	Splitting
Full-empty	Matching	Container
Iteration	Contact	Blockage
Surface	Object	Balance
Counterforce	Compulsion	

Table 1: *Examples of image schemata.*

3.3 Case Study Two: Understanding the Experience of Low-Income Housing Communities in Research Triangle Park (RTP)

Initial community contacts were made with stakeholders in low-income housing in the Raleigh-Durham areas with an emphasis on the experiences of residents, specifically looking at categories of nutritional food sources, transportation access, and education. The initial probe provides a sketchbook with simple visual suggestions that ask participants to document their daily and weekly routine and when disruptions occur. Daily routines include working, commuting, childcare and household obligations. Two simple prompts were given for graphic representations. The first is based on proportional time through a clock face. Secondly, participants were asked to sketch their typical daily routine (foregrounding recent experiences from the previous week) based on mapping their route. In the subsequent interviews, participants were asked to de-

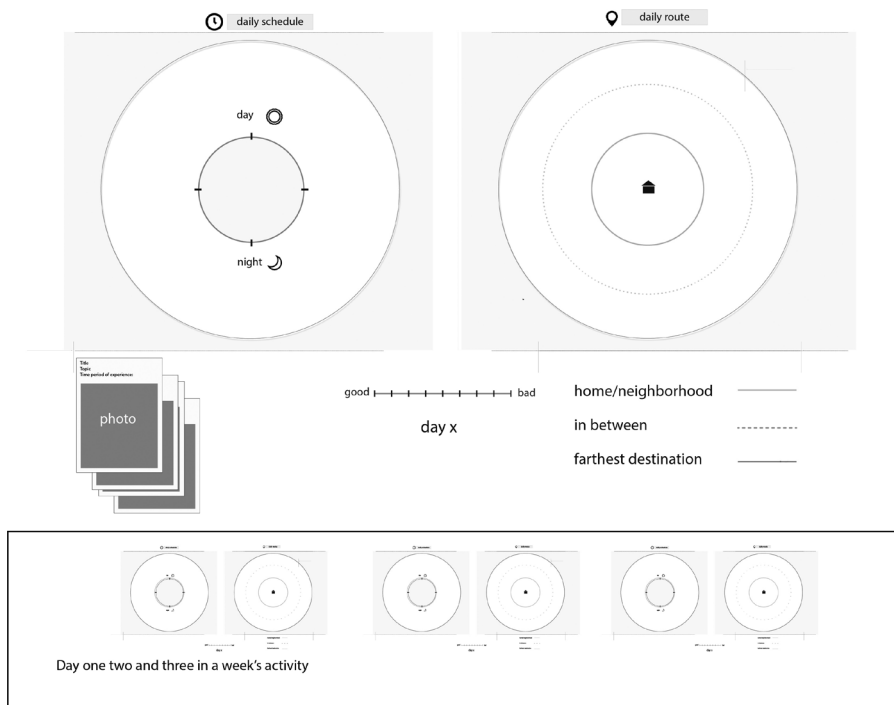
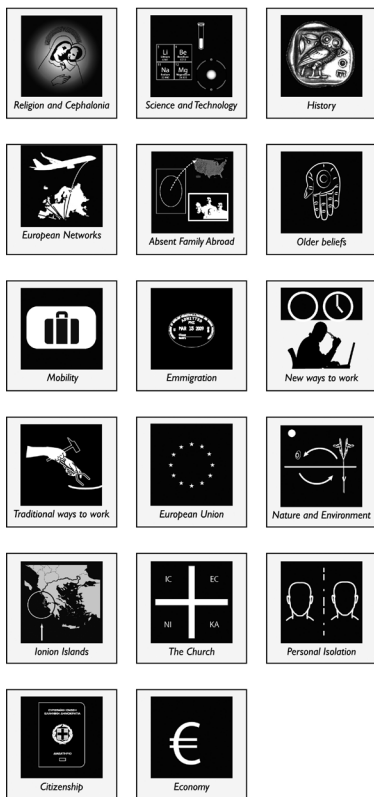


Fig. 3: Amplifying participant concepts through design based on original participant sketches. Original concepts developed by Nigel Jones and Madeline Kelly, modified and revised by author.

4 Research and Fieldwork Basis

Much of the basis of this educational framing is based on the last five years of research and community engagement with communities in Kefalonia, Greece that have yielded research and engagement approaches and strategies in education, local identity and historical preservation. The next examples are the result of a cycle of research and engagement within a phenomenological approach to understanding the lived context of the region, where “[...] human experience, as opposed to abstract systems is increasingly the focus of social science studies, where the body, emotions, and senses are viewed phenomenologically, together with an increased focus on representation” (Liebenberg, 2009 p.443).



here/negative εδώ/αρνητικό	here/negative and positive εδώ/αρνητικό/θετικό	here/positive εδώ/θετικό
here and abroad/negative εδώ & στο εξωτερικό	here and abroad/both negative and positive εδώ & στο εξωτερικό/αρνητικό & θετικό	here and abroad/positive εδώ & στο εξωτερικό/θετικό
abroad/negative στο εξωτερικό/αρνητικό	abroad/negative and positive στο εξωτερικό/αρνητικό & θετικό	abroad/positive στο εξωτερικό/θετικό

Fig. 4: Structure.

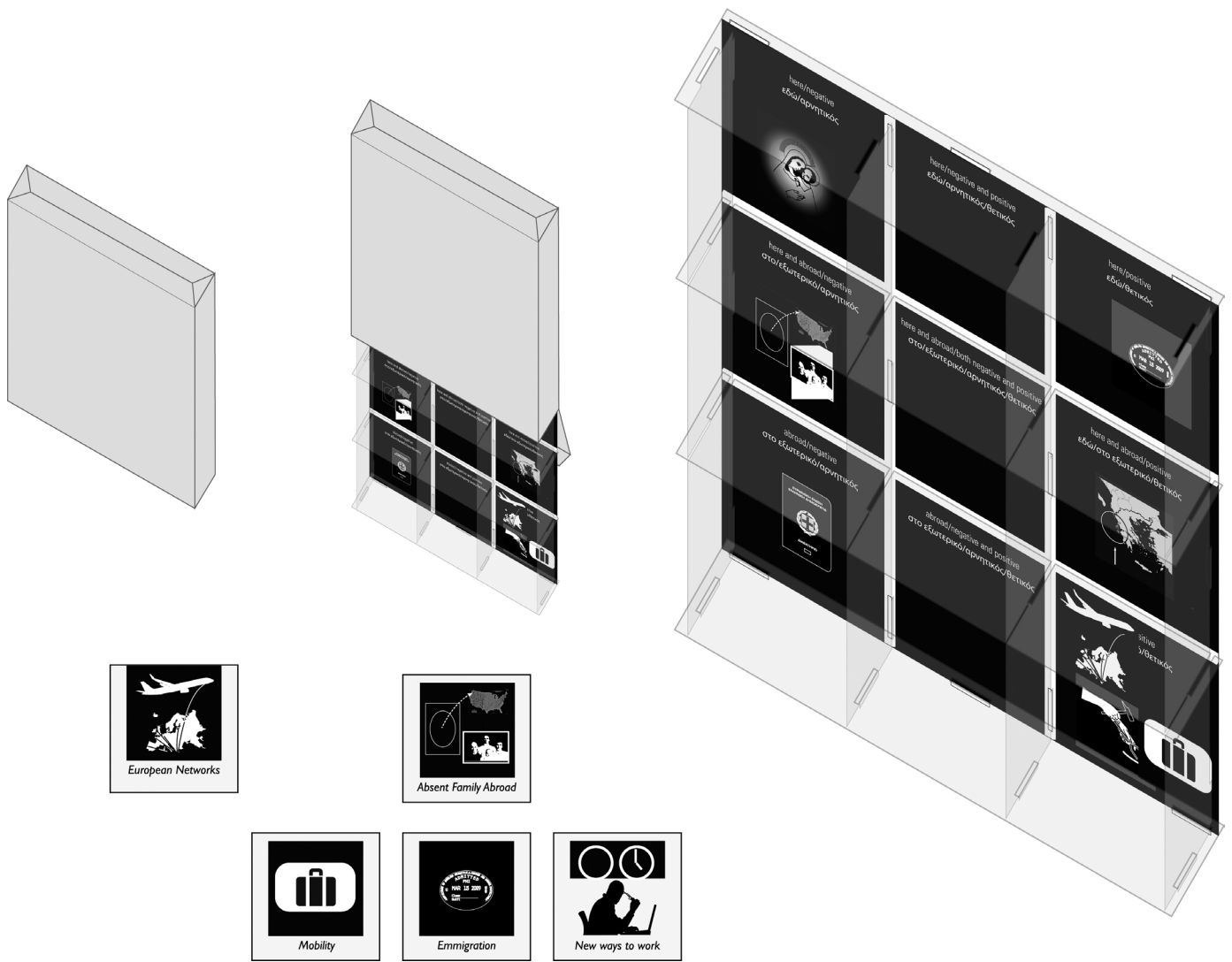


Fig. 5: Artifact.

The development of these interactions and artifacts are to help participants visualize and make explicit their points of view in dialogue with a participant researcher, or in negotiation of shared issues with colleagues, or in their general storytelling.

4.1 Interactive Tool as Negotiated Matrix

The matrix box and the 'unfold' schema sorting kit guide the participant to move through “decision points” about characteristics of their dialogue in a group. This sorting matrix is based on scale ('here' and 'abroad') and simple valuations of positive negative or both negative and positive in an 'x-y' matrix in interviews and small focus groups. Thematic ideas emerged from initial interviews conducted in the community and can be placed into the matrix during recorded discussions and negotiations in groups. In this example reflexive ethnographic methods such as participant observation/in-depth interviews, etc. are broadened to include more public discussions of experiences and values, and where motivated community

stakeholders solicited designers in solving immediate problems. Discussions included local institutional stakeholders in education; local histories and preserving identities and practices, (35th Ephorate of Prehistoric and Classical Antiquities and the Focas-Kosmetatos Foundation), higher education institutions, and other ongoing community initiatives. From subsequent interviews, a common concern centred on preserving place-based local identity whilst creating a sense of cosmopolitan engagement in the EU and elsewhere. Specific needs of strengthening community engagement in museum and educational engagement were discussed. Currently many local institutions use entrepreneurial strategies working with national and international networks that are combined with local and community resources.

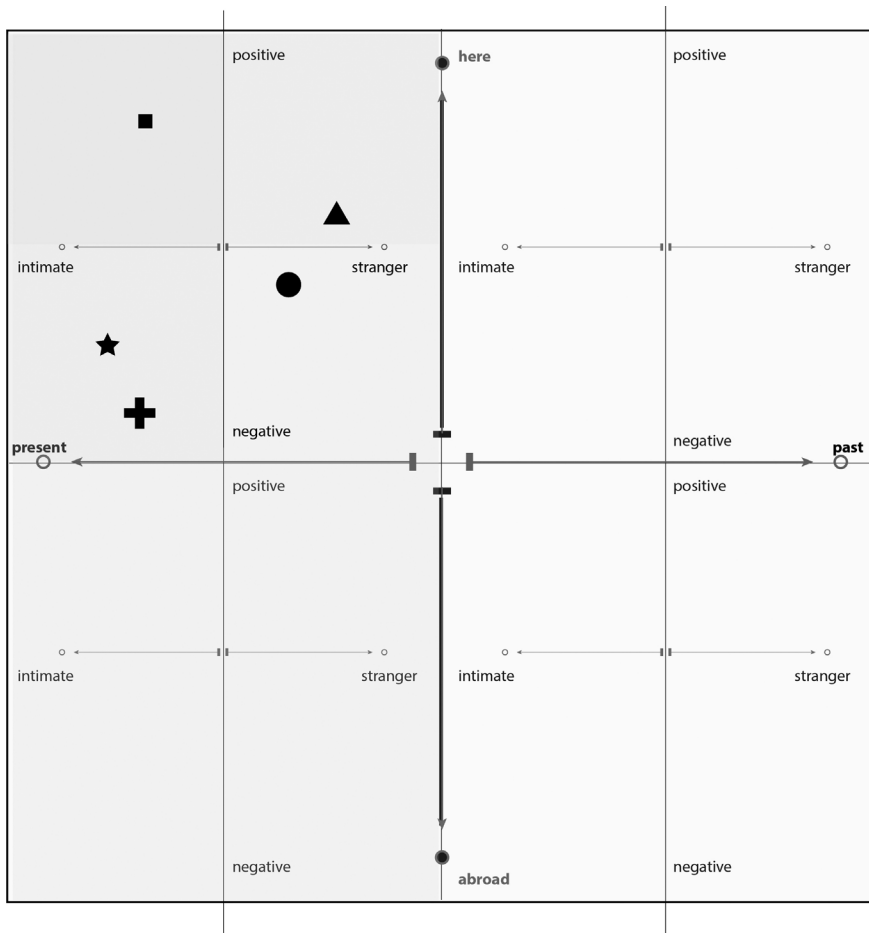


Fig. 6: *Unfolding structure.*

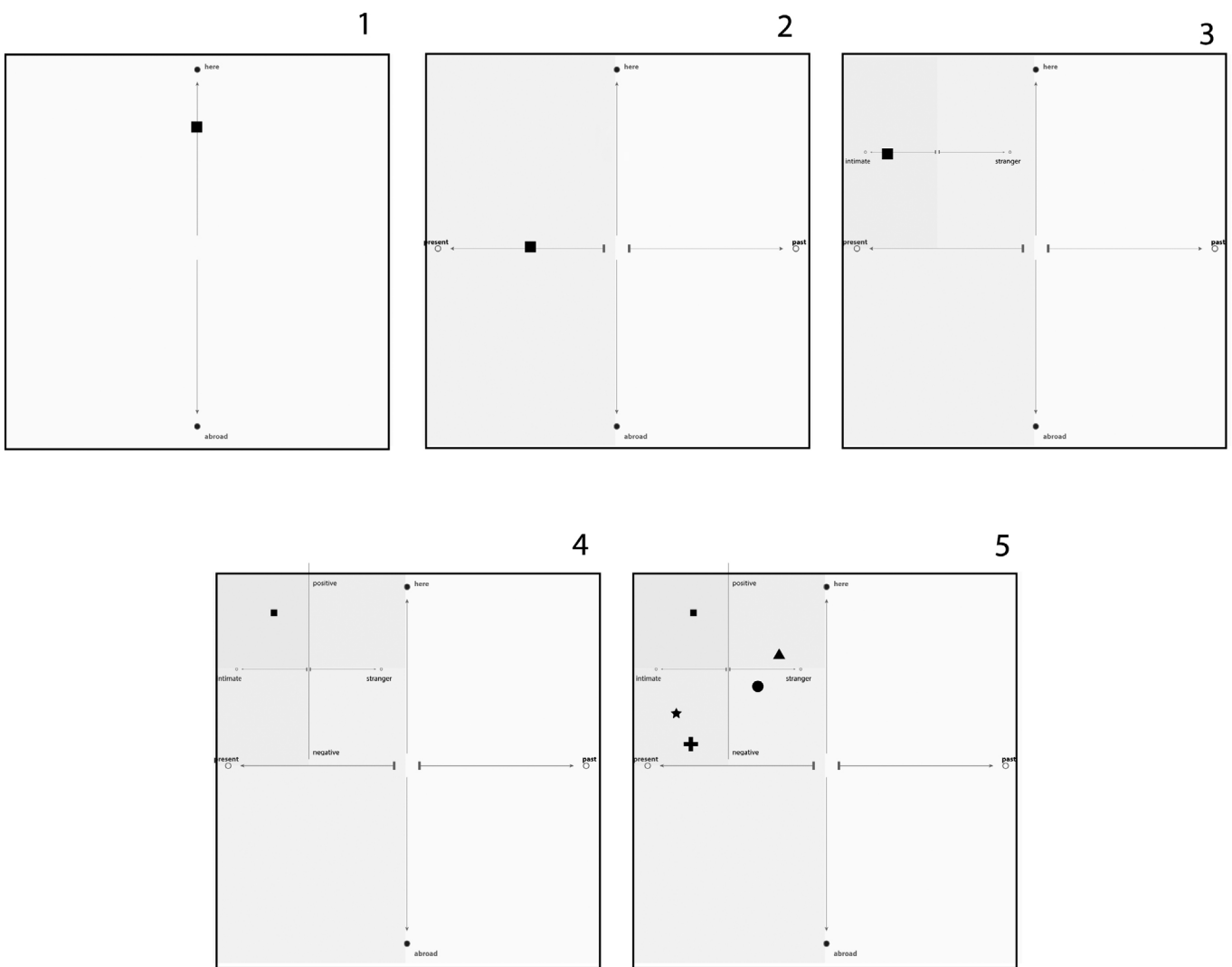


Fig. 7: Example of unfolding sequence of interaction.

4.2 Interactive Tool as Responding to Context: Application of a Schema

As an alternative, this sorting matrix is based on a schema of 'unfolding', and 'nesting' as a physical interaction. It allows for the kind of differentiation that a default method of tree-diagramming through post-it notes creates but avoids the isolation that the more linear diagram imposes through the physical separation of word/concepts, whilst creating a smaller space of interaction between a group of people. Tree diagrams, especially in the form of Post-It Notes have a particular presentation that separates, distances, and isolates, that creates large map-like presentations. A schema of folding at a much smaller physical scale invites showing and sharing in the kinds of spaces that dialogue takes place in the context of our current work (usually a table-top) via earlier observations of 'how people talk', rather than large public Post-it Note 'walls' of divergent analysis. Engagement with locals in Kefalonia for four years, has enabled immersion into, and a deeper understanding of the local/Greek culture as collectivist and dialogical, with everyday dis-

cussions typically developing intimately round a table over food or a cup of coffee. Therefore, as an alternative, 'unfolding' as an experience is within a more intimate space, where narratives generated tend to be led by the participant(s) tracing their own decision points in a more involved and conditional manner. Videotaping and audio recording are utilized to capture and record the interactions.

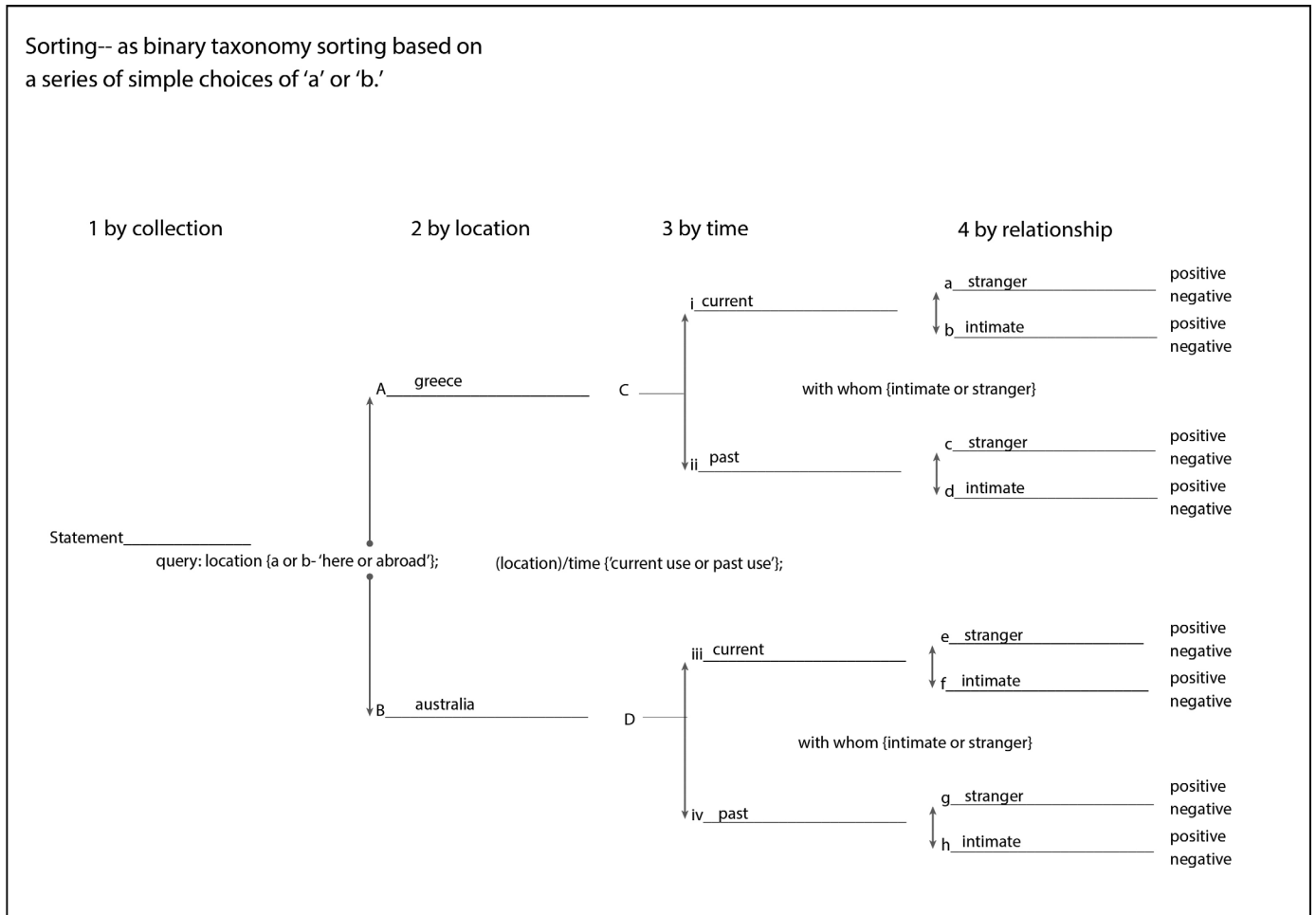


Fig. 8: *Folding schema categories presented as a standard tree diagram: categorization and sorting based on decision points.*

4.3 Interactive Tool as Responding to Context: Schema and Affordance

This more recent interaction is based on personal inventories and collections and is proposed as part of an educational activity engaging with intergenerational histories as part of a unit of instruction in a high school curriculum. It is based in part on observing the interactions in sharing personal collections as part of a reflexive process of interviewing community participants. Secondly, it also uses a “schema” based on “centre and margin” and is designed for public display and interaction (between the user and the display and with people in a group).

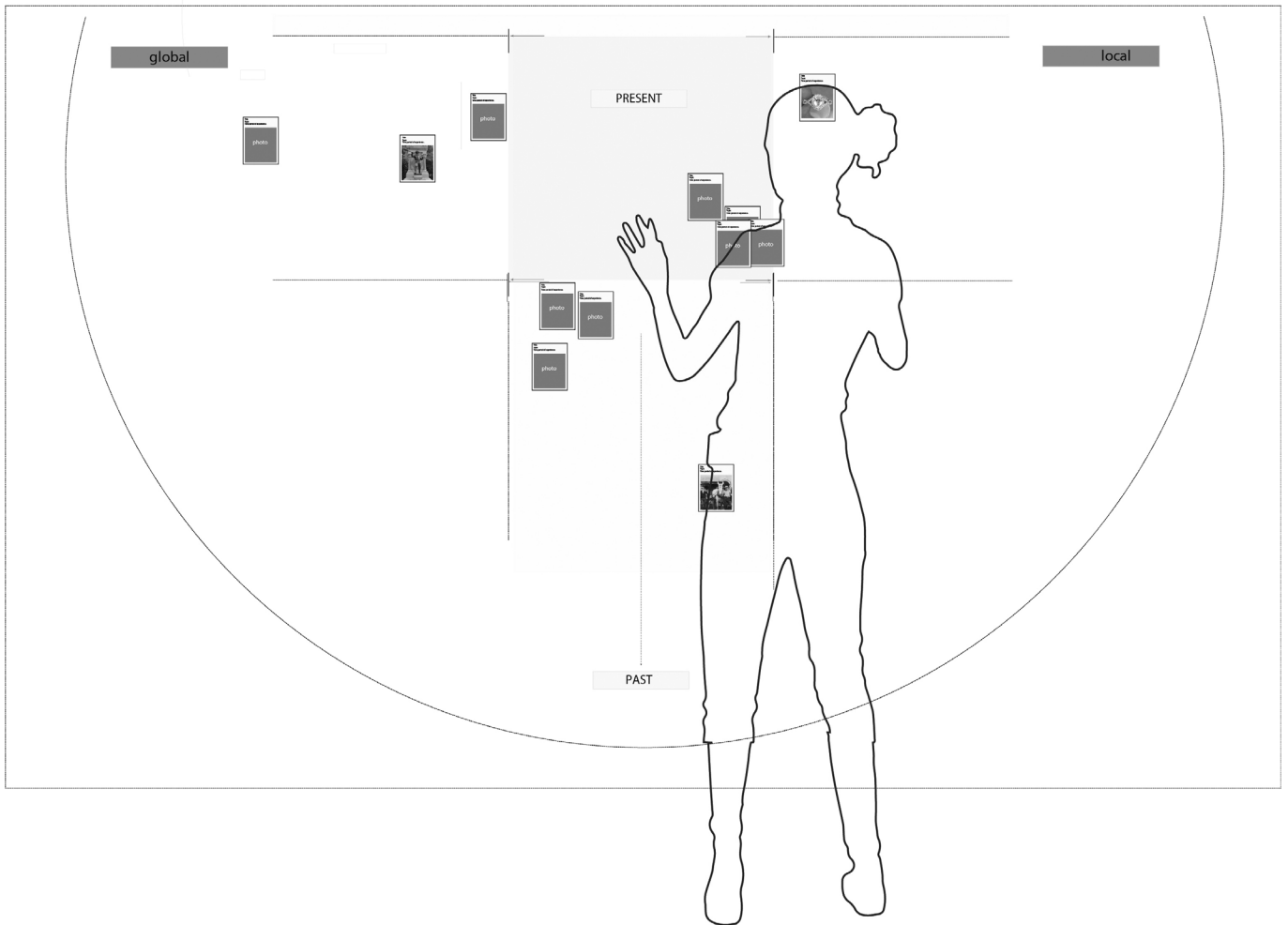


Fig. 9: *Basic structure.*

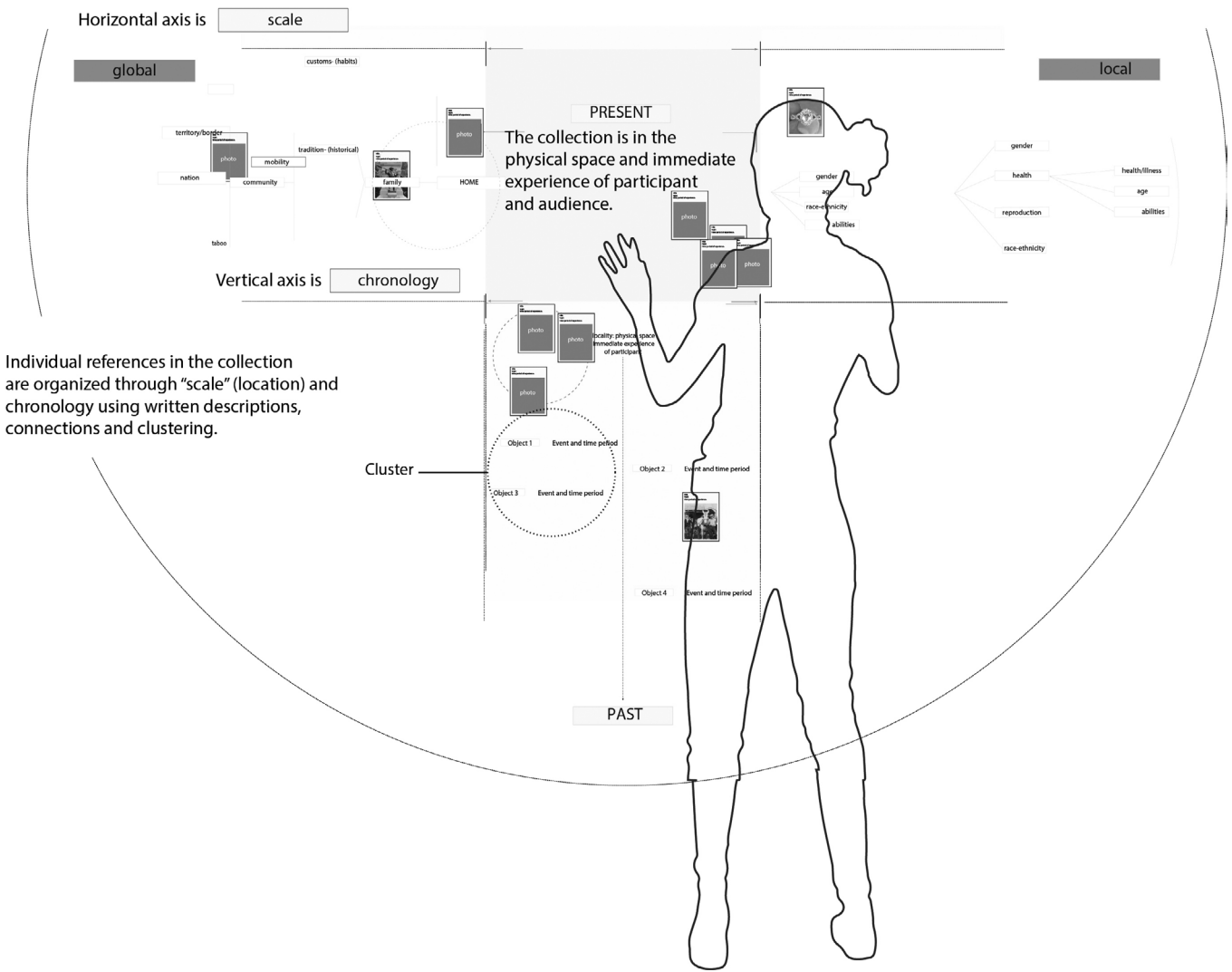


Fig. 10: Rules and organization of interaction.

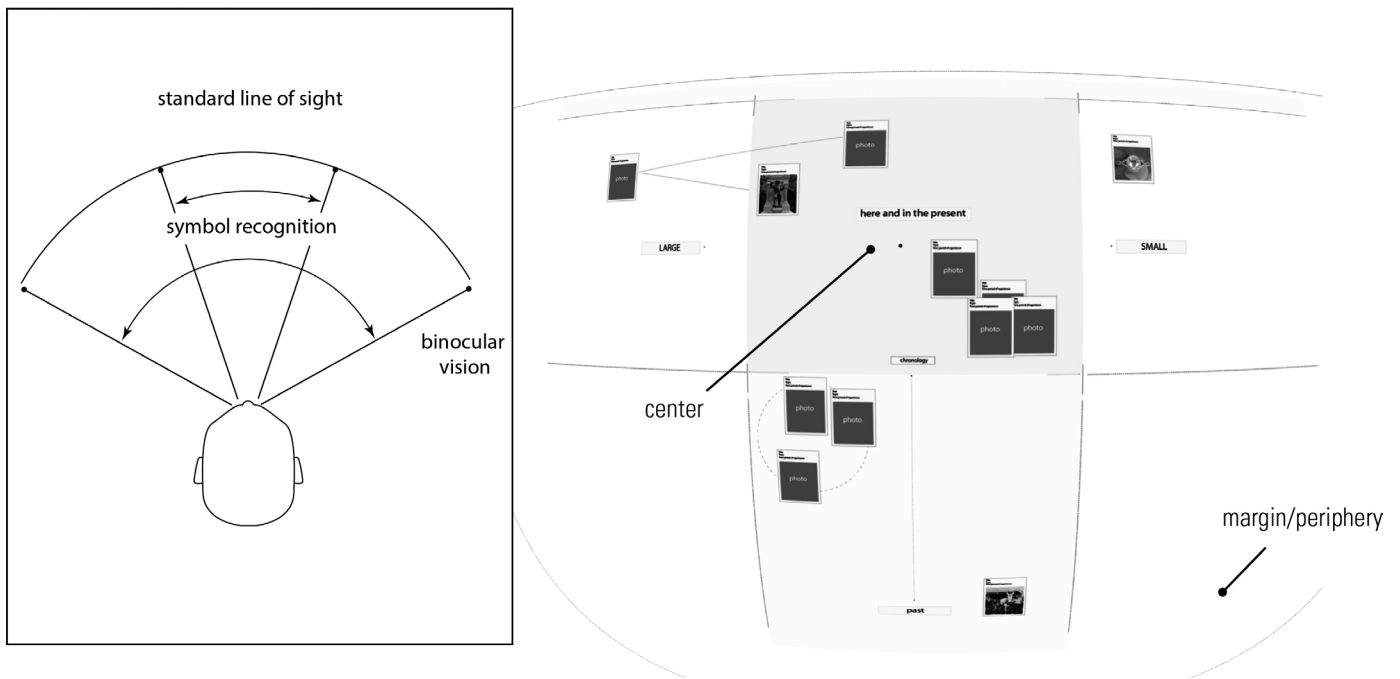


Fig. 11: Experience of physical scale utilizing margin and periphery, based on observed collection practices (image on left based on human factors).

As another level of engagement in design and social innovation work in Kefalonia, we created an ongoing study abroad course through our respective institutions. This offers design students the opportunity to participate in an ongoing research and design engagement that models the “phenomenological approach to understanding the lived context of the region.” As an immersive experience outside of the habitus of the regular curriculum, this five-week course synthesizes lectures, project proposals and research based on social sciences and design and social innovation/transition design. By emphasizing ongoing participatory design and ongoing research our work has evolved into prototyping and scenario building, inviting further participation in co-designing. Our proposals are now strategically focused on museum practices, education, as well as more user-centred proposals for connecting with diaspora communities through digital networks.

5 Conclusions

These short overviews draw on Giroux's concepts of "borderwork" and what it means to teach beyond techno-centrism: "[...] the concept of emancipatory authority suggests that teachers are bearers of critical knowledge, rules and values through which they consciously articulate and problematize the relationship to each other, to students, to subject matter, and to the wider community. Such a view of authority challenges the dominant view of teachers as technicians or public servants, whose role is primarily to implement rather than conceptualise pedagogical practice" (Giroux, 1997, p. 103). Dourish's framing of reflexivity and instrumentalised design practice is now fourteen years old. The current positivist expressions of a more democratic, inclusive, diverse, and politically engaged design practice are problematic in that a more structural level of understanding of contexts is required. Politically engaged research and design practice may seem a kind of "empathy moving in one direction", a self-congratulatory largesse where designers are still in primary control. Developing reflexivity helps to decentre such control and liberal assurance. On a very tangible level, actual change takes place through critical discovery and through foundational awareness of our ingrained and instrumentalized ways of seeing other's experiences. Design tools are not just a means to an end, but function on the level of a conceptual framing that may constrain "ways of being," yet provide the opportunity to critically theorise on how design and research may be constructed. Designing, (or "catalysing" in the words of Ezio Manzini, critically acknowledging the dilemmas inherent in this position from Bourdieu in his discussion of social capital (Bourdieu, 1986)) can create transitions through ongoing feedback and "steering" in the community or, more specifically, the designing never ends as an act of "being". Coye Cheshire, Professor at the School of Information at UC Berkeley, argues that "trust is a thing that happens between people, not things. When we talk about trust in systems, we're actually often talking about the related concepts of reliability or credibility" (Cheshire, 2012). Similarly, design "things" may support such positive social interactions and behaviours, however, they do not engender them in themselves; it is human relationships and interactions that enable such complex, emotional and cognitive responses.

References

- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed). *Handbook of theory and research for the sociology of education* (241–258). Greenwood.
- Cheshire, C. (2012, March 22). *A sociologist's guide to trust and design* [article].
<http://ethnographymatters.net/blog/2012/03/22/a-sociologists-guide-to-trust-and-design/>
- Dourish, P. (2006). Implications for design. *CHI 2006 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 541– 550. <https://doi.org/10.1145/1124772.1124855>
- Escobar, A. (2018). *Designs for the pluriverse. Radical interdependence, autonomy and the making of worlds*. Duke University Press.
- Fry, T. (2011). *Design as politics*. Oxford.
- Giroux, H.A. (1997). *Pedagogy and the politics of hope. Theory, culture and schooling*. Westview Press.
- Johnson, M. (1987). *The Body in the mind, the bodily basis of meaning, imagination, and reason*. University of Chicago Press.
- Julier, G., Kimbell, L. 2019. Keeping the system going: social design and the reproduction of inequalities in neoliberal times. *Design Issues, Volume 35, issue 4*, 12– 22. https://doi.org/10.1162/desi_a_00560
- Liebenberg, L. 2009. The visual image as a discussion point: increasing validity in boundary crossing research. *Qualitative Research, vol 9 (4)*. 441– 467. <https://doi.org/10.1177/1468794109337877>
- Manzini, E. (2015). *Design When everyone designs an introduction to design for social Innovation*. MIT Press.
- Natural Learning Initiative. *Design assistance*. (2020, May 28). <https://naturalllearning.org/design-assistance/>
- Papanek, V. (1984). *Design for the real world: human ecology and social change*. Thames & Hudson.
- Romo, J.J. & Chavez, C. (2006). Border pedagogy: a study of preservice teacher transformation. *The Educational Forum, 70*, 143– 153. <https://doi.org/10.1080/00131720608984885>
- Sanders, E. B-N, Stappers, Pieter, J. (2012). *Convivial toolbox generative research for the front end of design*. BIS.
- Sanders, E. B-N, Stappers, Pieter. (2014). “Probes, toolkits and prototypes: three approaches to making in Codesigning.” *CoDesign, Vol. 10, No. 1*, 5– 14. <http://dx.doi.org/10.1080/15710882.2014.888183>
- Smith, D. (1990). *The conceptual practices of power: a feminist sociology of knowledge*. University of Toronto Press.
- Willis, A. (2006). Ontological designing– laying the ground. *Design Philosophy Papers, 3(1)*, 80– 98. <https://doi.org/10.2752/144871306X13966268131514>
- Winogrand, T. & Flores, F. (1986). *Understanding computers and cognition*. Ablex.

Acknowledgements

NCSU graduate work group: Marcie Laird, Madeline Kelly, Nigel Jones, Sakshi Gupta and Melanie Bodane.

Communication Design Doing It Better

Keywords: Communication Design,
Design for Social Innovation,
Social innovation, Inland Territories.

Ana Melo^{a*},
Marco Neves^a

^a*Universidade de Lisboa,
Faculdade de Arquitetura,
Centro de Investigação em Arquitetura,
Urbanismo e Design*
*amelo2@edu.ulisboa.pt

The landscape of design practice and research is continually and rapidly expanding, mostly due to increasingly complex, open, and networked problems, but also due to new possibilities made available by technology and new ways of combining existing resources. Design methods and tools can expand social innovation by promoting creative and innovation processes with communities. Acting at a local level and prototyping micro experimental projects aiming for replication in other contexts, a systemic transformation becomes more feasible. Design for social innovation is a practice capable of reframing problematic situations, summoning participation, facilitating communication between stakeholders, tooling up participants, and promoting synergies between experts of various areas. This article explores how communication design, as a broad, holistic, and generative practice, can offer solutions for a community affected by population decline in a Portuguese inland territory.

1 Introduction

This article explores communication design's ability to do good in solving community problems relating to human desertification in inland territories. Doing good in a sense not only of doing what is needed in specific projects, i.e. getting the right design (Buxton, 2007), but also dedicating purposely to pressing social and environmental issues. We are in a tumultuous moment of complex problems such as climate change, refugee crises, a social and economic vulnerability concerning pandemics such as Covid-19, anti-democratic movements gaining momentum in western democracies, or ethical issues raised by new technologies like AI (artificial intelligence). Although human history has passed through many periods of profound changes and serious threats, current circumstances present singular characteristics, dictated by what Schwab (2015) calls the fourth industrial revolution, with the emergence of new combinations of digital technologies with the physical and biological realm. Globalization evolved in such ways that problems affecting society, economy, or politics are systemic and open (Murray, Caulier-Grice, & Mulgan, 2010; Sharmer & Kaufer, 2013; Ceschin, 2014; Nicholls, Simon, & Gabriel, 2015). So they present utterly new challenges to countries, institutions, companies, and individual citizens. This type of problems cannot be solved employing existing models (Emilson, 2014), and call for methods and tools that empower communities to come up with solutions that in turn will strengthen the social fabric, such as social innovation (Thackara, 2005; Murray et al., 2010; Manzini, 2015, 2019).

Population decline in Portugal's inland territories is one of such wicked problems (Buchanan, 1992) that demand innovative solutions. It encompasses aging populations, departure of young people to cities, and concentration of production and innovation on coastal regions, thus not having a simple or single answer. These, in turn, lead to a vicious circle of low birth rates, unemployment, increasingly difficult forest management, fires in rural areas (aggravated by climate change), or a growing lack of education and health services, commerce, and public transport.

About 70% of the Portuguese population lives in areas up to 50 km from the coast, and in 2018 population density of inland territories was of 0,28 inhabitants per km², while in coastal areas it was of 104,2 inhabitants per km² (Movimento pelo Interior, 2018). Disparities between coastal and inland rural areas tend to foster inequality and if they accentuate, territorial degradation and community dissolution will increase, posing threats to democratic principles such as equality of opportunities and social justice (Bandeira, Azevedo, Gomes, Tomé, Mendes, Baptista & Moreira, 2014; Movimento pelo Interior, 2018). Depopulation problems are expanding in European rural areas (Viñas, 2019), namely in southern European countries such as Spain and Italy (Camarero & Oliva, 2019; Sechi, Moscarelli & Pileri, 2020). Thus social, economic, and territorial co-

hesion is increasingly becoming a European concern (European Commission, 2017).

Regarding this context, this article is part of an ongoing research about communication design's role in social innovation initiatives, specifically on solving problems for Portugal's inland territories. Research focuses on a geographical scope: a group of small villages in Serra da Estrela (Estrela mountain, in the central region of Portugal) that make up the project Aldeias da Montanha (AM / Mountain Villages). This network aims for economic, social, and environmental sustainability and to mitigate depopulation trends. Our doctoral research intends to map particular contributions of communication design intervention within social innovation, but also to apply practice-based methods that allow for knowledge transfer that can provide value for territories and their communities.

Over time, AM has developed a series of place-branding initiatives, leveraging strategic areas such as tourism, essential for generating economic sustainability. Communication design was successfully used as an integral part of a strategic communication plan (ADIRAM, 2018) focusing on creating a visual identity, a differentiated market segmentation, and attracting temporary visitors. AM also developed a series of complementary initiatives to retain residents and attract new ones (ADIRAM, 2018) as part of a strategy to battle underlying problems leading to population decline. Ongoing research explores how communication design and its specific skills can contribute to leverage AM's efforts regarding social innovation.

Design for social innovation (DSI) can be defined as the practical application of methods and tools used by design in social innovation processes (Manzini, 2015), both in triggering initiatives, as in supporting their development and sustainability, as well as facilitating and mediating co-creation activities with communities (Hillgren, Seravalli & Emilson, 2011; Meroni, Fassi & Simeone, 2013).

DSI is distinct from “social design”, which focuses on projects dedicated to socially problematic situations such as poverty or social exclusion. DSI has a wider scope, in the sense that it “refers to social forms as such; that is, to the way in which a society is built” (Manzini, 2015, p.64). Jégou and Manzini (2008) also make this distinction, pointing out that DSI expands the meaning of the term ‘social’ and designates those activities that groups of people carry out to improve their day-to-day and which, in the process, reinforce the social fabric (Murray et al., 2010; Hubert, 2011).

Social innovation takes available resources in a community and recombines them in innovative and sometimes disruptive ways (Nicholls & Murdock, 2012). Communities are empowered to solve their problems and contribute to profoundly change socio-techno-

2 Design for Social Innovation

2.1 Recombining Resources in New Ways

logical systems (Westley & Antadze, 2010) towards sustainability (Manzini, 2015).

Available resources can have various natures and may vary between human, natural, technological, financial, or other kinds. Likewise, solutions can also come in many formats: new products, services, processes, organizational forms, business models, social movements, or pieces of legislation (Phills, Deiglmeier & Miller, 2008; Caulier-Grice, Davies, Patrick & Norman, 2012). Regardless of the type of combinations and solutions, one of the most relevant aspects of social innovation is its capability to regenerate, create or enhance social relations (Murray et al., 2010; Manzini, 2015; Mulgan, 2019). By directing motivation, intent, and agency of individuals around shared purposes and given opportunities, social innovation fosters the birth of communities of interest and communities of action (Westley & Antadze, 2010; Manzini, 2019).

Such are the examples of public libraries or fire departments (Emilson, 2014), or *Wikipedia*, based on a model of collaborative and open-sourced knowledge exchange through information technology (Mulgan, 2019). Or of Open University, which innovated by facilitating broader access to academia by implementing a distance learning model (Nesta, n.d.). During our ongoing doctoral research, we conducted a multiple case study of three Portuguese social innovation projects. These initiatives aimed to revitalize places and their communities by combining available resources in new ways, thus producing synergies and advantages for all involved parties. All three used design methods and tools to trigger community conversations around topics for change, facilitate innovation processes, mediate participants with diverse backgrounds, and communicate results to a broader community. These various stages are identified as being part of the social innovation process (Hillgren et al, 2011; Meroni et al., 2013; Manzini, 2015). Loulé Design Lab is a design incubator promoted by a local municipality that explores natural, social, and cultural regional resources, creating products that incorporate artisanal practices at risk of being lost. Laboratório Cívico Santiago (Santiago Civic Laboratory) prototyped community members' ideas to improve and strengthen social relations in a neighborhood of Aveiro city, contributing to social cohesion. Loulé Sou Eu! (I am Loulé) addressed local commerce degradation through a collaboration strategy between shop owners of a traditional downtown street, who came together to create events that could attract passers-by and revitalize the area.

2.2 Expanding Social Innovation through Design

DSI expands social innovation's transformative power by developing strategic design programs (Manzini, 2014) that serve as a guide for various specific activities over time. Design programs allow achieving project objectives more effectively, by ensuring a coherent and integrated execution of tactical steps that contribute to accomplish a global strategy and intent (Manzini & Vezzoli, 2002;

Meroni, 2008; Boyer, Cook & Steinberg, 2011). Civic laboratories are examples of this kind since they apply specific methods (Freire, 2017; García, 2018) to trigger social innovation with a voluntary but often very diverse and inexperienced group of participants. In these labs, the strategic plan, previously developed by the promoting team, guides and directs efforts during the process, avoids dispersion and deviation from project objectives and ensures prototyping within stipulated limited timeframes.

Design can also act as infrastructure (Hillgren et al., 2011) since it allows initiatives to become more robust by establishing stronger and wider networks between participants and other actors, such as business or institutional partners. Activation and fostering of such links end up developing a design network or design coalition (Jégou & Manzini, 2008). When design facilitates communication between expert and non-expert participants from various backgrounds (Gibson & Owens, 2014; Lemos, 2017), these expanded networks of stakeholders also benefit. Bearing in mind that social innovation initiatives are often characterized by low involvement of some of their actors (Manzini, 2019), it is necessary to make sure that projects are flexible, resilient, and build trust (Emilson, 2014; Manzini, 2015). It is the case with local farmer markets, where consumers play a fundamental role. However, since they have a temporary involvement that is not obligatory, they may buy one week and not in another week, according to their interest, and regardless of the initiative. DSI allows the development of a series of activities, processes, or tools to create communication materials that can advertise farmer markets to a wider customer base or create events capable of attracting more visitors.

Creation of infrastructure can also be directly related to developing support structures, such as physical spaces, websites, toolkits, communication plans, enabling platforms, among others (Manzini, 2015). DSI helps participants to become autonomous and to equip themselves with tools that allow them to manage and perpetuate initiatives, while also contributing to transferring design knowledge and skills to participating communities and citizens (Meroni et al., 2013).

DSI facilitates processes to generate innovation using ideation tools and techniques (Brown & Wyatt, 2010; Mulgan, 2014). These techniques, incorporated in design thinking methods (Kimbell, 2011), are user and human-centered and make it easier for participants who are not experts in design to experience a process that unfolds between milestones of divergent and convergent thinking (Design Council, 2005; Brown, 2009). Through a journey comprised of research phases, creative generation, selection of ideas according to criteria resulting from the strategic definition of objectives, the process culminates in a prototyping phase that is later subject to evaluation and iteration (Frascara, 2015; Stickdorn, Hormess,

Lawrence & Schneider, 2018). In this regard, DSI proves to be fundamental since this journey depends on skills in which designers have training and experience. Design process (Lawson, 1997; Swann, 2002; Dubberly, 2005; Almendra, 2010) depends on abilities to materialize physical or immaterial artifacts (such as services or systems), visual materialization, and prototyping for testing user experience, exploring and evaluate ideas and communicate them effectively (Buchenau & Fulton Suri, 2000).

In the context of social innovation, design practice and research can expand beyond an instrumental use towards marketing and commercial goals of brands, products, and services (Kotler & Rath, 1984; Mozota, 2003). Social intervention and practice aimed at the common good (Papanek, 1971; Fuller, 1998; First Things First, 2000) explores a scope of design activism (Fuad-Luke, 2009), civically committed with political and social transformation, towards sustainability.

3 An Inland Territory in the Mountains

AM is a network of increasingly depopulated rural settlements, with 41 villages located in Serra da Estrela and Serra da Gardunha (Estrela and Gardunha mountains), distributed in nine Portuguese municipalities. Although the surrounding natural landscape is the main asset, this geographical area is rich in traditions, and immaterial cultural heritage is also a valuable asset. AM project was created and implemented by ADIRAM (Association for the integrated development of Mountain Villages network) to foster economic growth and social sustainability, facing demographic desertification. All villages have extremely low population density, and most remaining residents are elderly. An inclination towards low demographic density began in this territory in the 1960s, with a double trend of population aging: fewer young people and an increase of older people over sixty-five years old (CEDRU, 2009).

Main problems, all related to population decline, include unoccupied agricultural lands lacking maintenance, a large number of abandoned run-down buildings, and limited mobility between settlements. The project addresses these challenges from a perspective of shared assets and territorial synergies since challenges are common to all villages.

ADIRAM has devised an integrated developing strategy for this territory to position it as a sustainable tourism destination, where solidarity and sharing economy are key (ADIRAM, 2018). Since 2013, this strategy has involved visual identity creation (recently subject to rebranding), a communication and marketing plan, and an animation plan based on activities leveraged in natural and cultural heritage.

More recently, the project's scope of action was expanded, strengthening partnerships with strategic stakeholders, facilitating access to technological infrastructures and digital connection, and fostering innovative uses of natural and local resources, converting them into competitive advantages. AM intends to assert villages as living laboratories, exploring and testing new models of more sustainable lifestyles. Combining strong rural tradition with design, creativity, and innovation, AM can leverage unique experiences provided by mountain settings united with opportunities to explore the production of commons, learning, and participatory experiences. This laboratory concept encompasses empowerment and engagement activities with local communities, utilizing co-creation to envision a sustainable common future. AM seeks to attract new inhabitants, support disruptive entrepreneurship, and take advantage of digital nomads' phenomenon and explore new opportunities brought by Covid-19 pandemic. Remote working generalization presents new possibilities of relocating younger citizens interested in an alternative to mainstream urban life projects.

Some particular projects in progress include creating co-working facilities in three villages, a social innovation platform for regenerating built heritage through collaboration between private investors and project proponents, and a digital museum about endogenous material and immaterial territorial resources.



Fig. 1: Coworking Cooperativa (Cooperative Coworking) are three small spaces renovated in Lapa dos Dinheiros, Videmonte and Alvoco das Várzeas, with broadband access. They are intended for use by community members, village visitors, and AM partners. Coworking spaces were designed by design studio Faunalab in collaboration with local artisans, who made furniture and decorative pieces using endogenous techniques and materials. Published with permission from ADIRAM and FaunaLab.

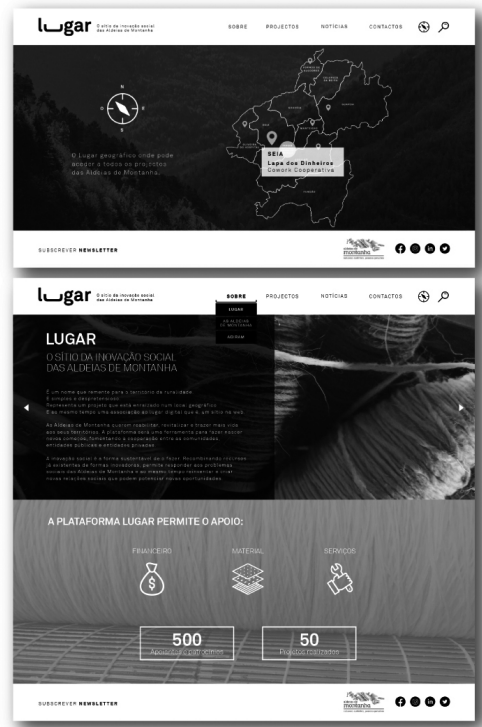


Fig. 2: Plataforma Lugar (Place Platform) is a social innovation digital platform that brings together sponsors and projects in need of funding through a crowdfunding model. The project is underway and uses VR (virtual reality) technology to engage potential investors, allowing for a 3D visualization of revitalized spaces. Published with permission from ADIRAM and FaunaLab.



ALDEIAS DE MONTANHA | Museu Digital

MUSEU DO ANTES E DO AGORA FEATURES



**Tecnologia 360°
& Realidade Virtual**



Conteúdos Multimedia
utilizando galerias de imagens,
registos vídeo e áudio



Conteúdos Educativos
para escolas, crianças pequenas e
famílias (com jogos, vídeos educativos
pelos aldeões, fichas educativas para
escolas, etc)



**Sinergia com
Operadores Parceiros**
ligação a sites de operadores parceiros
feita através da ligação ao site Aldeias
de Montanha



Desktop + Mobile
(responsive design)



Redes Sociais
Ativação de conteúdos próprios através
das redes sociais Aldeias de Montanha



ALDEIAS DE MONTANHA | Museu Digital

MUSEU DO ANTES E DO AGORA | ÁREAS TEMÁTICAS CULTURA

Modos de vida
[viver / cantar / dançar / brincar etc.]

Agricultura
[modos de fazer]

Artesanato
[artesãos, técnicas, peças de artesanato]

Vídeos-documentos
[sobre como executar as técnicas e as
peças, para que esse saber não se perca]

Histórias / pessoas
[histórias contadas pelos habitantes]

História

Lendas

Gastronomia
[pratos tradicionais / receitas. No futuro
pode explorar-se ligação com Clube de
Produtores; aponta para site Aldeias de
Montanha, com indicação dos
restaurantes onde provar as iguarias]

Festividades
[história, origens, testemunhos, filmes,
galeria de imagens, aponta para site
Aldeias de Montanha, para agenda dos
eventos a decorrer e alojamentos]

Património Edificado

Pastoreio

Transumância

Fig. 3: Serra da Estrela Digital Museum (Estrela mountain Digital Museum) is underway and will function as a repository of memories and ancestral knowledge. It will offer a searchable multimedia inventory of natural and cultural resources, as well as provide access to immersive experiences of mountain landscapes. Published with permission from ADIRAM and FaunaLab.

This set of projects reveals a place-making strategy (Manzini, 2015) towards creation of a place linked not only to geographic boundaries but to significant interest and engagement of a community (Pierce, Martin & Murphy 2011). Place-making occurs through reframing and sense-making processes (Dorst, 2012; Zurlo & Cautela, 2014). By reframing what it means to live in a rural village in the 21st century, it may be possible to create new ways of life, deeply rooted in ancestral knowledge and local resources, but also connected to global trends, in a context of cosmopolitan localism (Manzini, 2008). We hypothesize that design can be a vehicle for prototyping various types of experimental activities towards these goals.

4 Communication Design Adding Value to Inland Territories' Challenges

Communication design is one of the areas involved in DSI when developing social innovation initiatives. Communication design produces communication artifacts, mostly visual, conveying messages to a determined audience (Frascara, 2004). In the context of DSI, communication design may be considered as an expanded field of practice (Lemos, 2017), since it designs material artifacts, but also for more immaterial purposes such as experiences, services, interaction, collaboration, sociability (Davis, 2008; Sanders & Stappers, 2008; Grefé, 2011; Manzini, 2015), or co-creating with and for communities.

Social innovation initiatives call for various communication design skills to meet needs for visibility, legibility, visual materialization, or effective communication between participants (Melo & Neves, 2020), as well as to provide a visual identity and communication consistency (Sousa, Franqueira & Afonso, 2021). Also, when participating in social innovation projects, communication designers are called upon to perform tasks of mediation, facilitation, being a trigger of social conversations and enabling communities of interest and action (Hillgren et al., 2011; Meroni et al., 2013; Manzini, 2015; Manzini, 2019).

We propose several possibilities of action for communication design, after employing several methods like literature review, multiple case study and exploratory interviews with key stakeholders from AM and similar projects also dedicated to developing inland territories. These proposals consider the AM framework and objectives but could also apply to different territories facing similar challenges.

- Using human-centered design methodologies (Brown, 2009; Martin & Hanington, 2012; Stickdorn et al., 2018), undergo design research focused on understanding perceptions that residents, visitors, entrepreneurs, and investors have regarding an inland territory like AM. Using empathy maps, think-aloud protocols, and participant observation, designers can collect different meanings and get an overview of the field of possibilities these various types of stakeholders may produce. In this manner, it may be possible to identify pain points plus opportunities that can be addressed by further activities.
- Map stakeholder networks using techniques for collecting, organizing, visualizing, and presenting information (Frascara, 2015), allowing visibility of current and potential partners' systems. System mapping facilitates gaining insight and knowledge (Figueiras, 2016). It also enables visibility about previously unforeseen links, shifting perception of the whole by all its components, from ego-system to eco-system (Sharmer & Kaufer, 2013). Permitting the system to see itself can reveal blind spots and identify strategic areas of intervention.

- Map and document endogenous natural and cultural resources, as well as ancient knowledge of rural and artisanal practices using visual and multimedia devices, as a contribution to Serra da Estrela Digital Museum. Results could comprise a searchable database about assets with potential for generating innovative sustainable products and services. It will make it possible to transfer knowledge that could otherwise become lost between individuals, communities, companies, universities, and other institutions, private or public.
- Conduct individual semi-structured interviews and focus groups with experts from various strategic domains for AM. Such areas include tourism, textile industry, entrepreneurship, academic research, technology, forestry, design, crafts, or food production. The goal is to gather insights on new uses and combinations that generate innovation, harnessing specific knowledge participants hold in some areas.
- Facilitate co-creation sessions with experts of strategic areas, using design sprint methods to develop ideation and rapid prototyping of products, services, or systems that could contribute to overcoming population desertification. Although it can be a broad starting point, by creating conditions for creative synthesis through design thinking methodologies, the synergy between stakeholders from different areas who usually do not work with each other, may produce results. Sessions results would be organized, presented visually, documented in a repository, and disseminated to an extended community.
- Document all design research processes, producing material available for dissemination and implementation by others in similar contexts (Lafuente, Gómez Abad & Freire, 2018). Documentation allows for transferring knowledge, generating commons, and extending possible impacts to other inland depopulated territories.
- Implement civic laboratory (Freire, 2017; García, 2018) and design sprint methods (Keijzer-Broers & de Reuver, 2016; Knapp, Zeratsky & Kowitz, 2016), to facilitate and mediate workshops for rapid prototyping of residents' ideas for new products and services that can generate social and economic value.
- Disseminate AM goals and strategy to a wider audience of stakeholders, translating it to non-expert terms and organizing complex information in a visual and diagrammatic way. Using diagrams and other kinds of visual artifacts promotes understanding and insights (Bertin, 1983; Frascara, 2015; Figueiras, 2016) and can make information more accessible. This activity may launch debate around problems and solutions, helping to establish a hybrid community of interest, both local and digital (Manzini, 2020), and eventually give rise to communities of local action (Manzini, 2019).
- Using tools for storytelling and design-orienting scenario building (Manzini, 2015), implement co-creation workshops where community members could design scenarios and narratives

simulating possible futures (Emilson, 2015). That enables experimenting with different visions, trigger debates around what is wanted and what should be done to reach it. Results can be communicated to a broader community, utilizing digital platforms or through an event-like prototype (Meroni et al., 2013), like an itinerant exhibition.

5 Conclusions

Additional research is needed to implement and test various proposals listed above with ADIRAM and AM. Those activities do not exhaust all possibilities of action for communication design as an agent of change in inland depopulated territories, and further research can also expand on what can be done.

Nonetheless, through the implementation of described design strategies, methods, and tools, it may be possible to contribute towards extending both fields of possibility and action of the AM project. Fostering knowledge circulation, innovation processes, and collaboration between village residents, territory experts, and strategic partners may produce actionable results and amplify positive impact. Tooling up and empowering stakeholders to initiate place-making and sense-making processes may also lead to a shift from the inland idea as a place of absence to a place that bears new and sustainable possibilities.

Although other actors can facilitate and mediate these processes, design, and specifically communication design, can employ adequate skills for enhancing social innovation strategies, like storytelling, visual materialization, prototyping, documenting, or facilitating communication within a community and to external audiences.

Design can thus add value to inland development plans like those of AM and can contribute to achieve strategic objectives proposed by ADIRAM, by empowering communities in solving their problems and shaping common visions of their future. Also, solutions can apply to other interior territories with similar challenges, adapting them to local contexts.

Design for social innovation is a relevant strategic partner for doing good at inland territories, reinforcing small, multiple, and local initiatives, expanding their influence, enhancing synergies, and consequently achieving a greater potential for change at a systemic level.

References

- ADIRAM. (2018). *Plano de Ação da Rede de Aldeias de Montanha enquadrado no Eixo Experimentação – Aldeias do Conhecimento*.
- Almendra, R. (2010). *Decision Making in the Conceptual Phase of Design Processes*. [Unpublished doctoral dissertation]. Universidade Técnica de Lisboa.
- Bandeira, M. L., Azevedo, A. B., Gomes, C. S., Tomé, L. P., Mendes, M. F., Baptista, M. I., & Moreira, M. J. G. (2014). *Dinâmicas demográficas e envelhecimento da população portuguesa, 1950-2011 evolução e perspectivas*. In *Dinâmicas demográficas e envelhecimento da população portuguesa*. Fundação Francisco Manuel dos Santos.
- Bertin, J. (1983). *Semiology of graphics*. University of Wisconsin Press.
- Boyer, B., Cook, J. W., & Steinberg, M. (2011). *In Studio: Recipes for Systemic Change*. Sitra.
- Brown, T. (2009). *Change by design: How design thinking transforms organizations and inspires innovation*. Harper.
- Brown, T., & Wyatt, J. (2010). Design Thinking and Social Innovation. *Stanford Social Innovation Review*, Winter, 30–35.
- Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues*, 8 (2), 5-21.
- Buchenau, M., & Fulton Suri, J. (2000). Experience Prototyping. *DIS '00: Proceedings of the 3rd Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques*, 424–433.
- Buxton, B. (2007). *Sketching user experiences: getting the design right and the right design*. Morgan Kaufmann
- Camarero, L., & Oliva, J. (2019). Thinking in rural gap: mobility and social inequalities. *Palgrave Communications*, 5(1), 1–7.
- Caulier-Grice, J., Davies, A., Patrick, R., & Norman, W. (2012). *Defining Social Innovation*. The Young Foundation.
- Ceschin, F. (2014). *Sustainable product-service systems: Between strategic design and transition studies*. PoliMI Springer Briefs.
- Davis, M. (2008). Toto, I've got a feeling we're not in Kansas anymore... *Interactions*, 15(5), 28–34.
- Design Council (2005). *A study of the design process: Eleven lessons: managing design in eleven global brands*.
- Dorst, K.(2012). *Frame innovation: Create new thinking by design*. MIT Press.
- Dubberly, H. (2005). *How do you design? Dubberly design office*. Available from: <http://www.dubberly.com/articles/how-do-you-design.html>, last accessed 2020/01/23
- Emilson, A. (2014). Designing conditions for the social. In: Ehn, P., Nilson, E. M. & Topgaard, R. (Eds): *Making futures: Marginal notes on innovation, design and democracy*. The MIT Press.
- Emilson, A. (2015). *Design in the space between stories: Design for social innovation and sustainability: From responding to societal challenges to preparing for societal collapse*. Malmö University.
- European Commission (2017). *Seventh report on economic, social and territorial cohesion*.
- Figueiras, A. R. de P. (2016). *How to tell stories using visualization: Strategies towards narrative visualization*. [Unpublished doctoral dissertation]. Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa.
- First Things First (2000). First things first 2000. In H. Clark & D. Brody (Eds), *Design studies: A Reader*. Berg.
- Frascara, J. (2004). *Communication design: Principles, methods, and practice*. Allworth Press.
- Frascara, J. (2015). What is information design? In: Frascara, J. (Ed): *Information design as principled action: Making information accessible, relevant, understandable and usable*. Common Ground Publishing.
- Freire, J. (2017). *La emergencia de los laboratorios ciudadanos*. Retrieved December 2, 2020, from <https://juanfreire.com/la-emergencia-de-los-laboratorios-ciudadanos/>
- Fuad-Luke, A. (2009). *Design activism. Beautiful strangeness for a sustainable world*. London, Sterling, VA: Earthscan.
- Fuller, R. B. (1998). *Manual de Instruções para a Nave Espacial Terra*. Via Optima.
- García, M. (2018). *Los laboratorios ciudadanos en los sistemas de experimentación e innovación*. Hacking inside Black Book, 105–112.
- Gibson, M. R., & Owens, K. M. (2014). Making meaning happen between “us” and “them”.
- Strategies for bridging gaps in understanding between researchers who possess design knowledge and those working in disciplines outside design. In Rodgers, P., & Yee, J. (eds.) *The Routledge Companion to Design Research* (pp.386–399). Routledge.
- Grefé, R. (2011). Experience design is the only design. *Design Management Review*, 22(4), 26–30.
- Hillgren, P., Seravalli, A., & Emilson, A. (2011). Prototyping and infrastructuring in design for social innovation. *CoDesign* 7(3–4), 169–183.
- Hubert, A. (2011). *Empowering people, driving change: Social innovation in the European Union*. Bureau of European Policy Advisers, European Commission.
- Jégou, F., & Manzini, E. (Eds.). *Collaborative services: social innovation and design for sustainability*. Edizioni POLI.design, Milan (2008).
- Keijzer-Broers, W. J. W., & de Reuver, M. (2016). Applying agile design sprint methods in action design research: Prototyping a health and wellbeing platform. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 9661 LNCS, 68–80.
- Kimbell, L. (2011). Rethinking Design Thinking: Part I. *Design and Culture*, 3 (3), 285-306.
- Knapp, J., Zeratsky, J., & Kowitz, B. (2016). *Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days*. Simon & Schuster.
- Kotler, P., & Rath, G. (1984). Design: a powerful but neglected strategic tool. *Journal of Business Strategy*, 5(2), 16-21.
- Lafuente, A., Gómez Abad, D., & Freire, J. (2018). El arte de documentar. In F. Sierra, S. Leetoy, & T. Gravante (Eds.), *Ciudadanía digital y democracia participativa. Salamanca: Comunicación Social* (pp. 47–59). Comunicación Social Ediciones y Publicaciones.
- Lawson, B. (1997). *How designers think: The design process demystified*. Architectural Press .
- Lemos, J. C. (2017). *Design for communication. A collaborative practice to amplify qualities of sustainability*. [Unpublished doctoral dissertation]. University of the Arts London.
- Manzini, E. (2008). A cosmopolitan localism. Prospects for a sustainable local development and the possible role of design. In: Clark, H., Brody, D. (Eds.), *Design studies: A reader* (pp.448-453). Berg.
- Manzini, E. (2011). Introduction. In: Meroni, A., & Sangiorgi, D.: *Design for services*. Gower.
- Manzini, E. (2014). Making things happen: Social innovation and design. *Design Issues* 30 (1), 57-66
- Manzini, E. (2015). Design, when everybody design: An introduction to design for social innovation. The MIT Press.
- Manzini, E. (2019). *Politics of the everyday*. Bloomsbury.
- Manzini, E. (2020). *Covid-19 and Social Innovation: Contactless sociability and hybrid communities of place - Desis Network*. Retrieved April 17, 2020, from <https://www.desisnetwork.org/2020/04/07/covid-19-and-social-innovation-contactless-sociability-and-hybrid-communities-of-place/>
- Manzini, E., & Vezzoli, C. (2002). *Product-Service Systems and sustainability*. UNEP.
- Martin, B., & Hanington, B. (2012). *Universal methods of design: 100 ways to research complex problems, develop innovative ideas, and design effective solutions*. Rockport Publishers.

- Melo, A., & Neves, M. (2020). Communication design within social innovation. In: Raposo, D., Neves, J., & Silva, J. *Advances in design, music and arts: 7th meeting of research in music, arts and design, EIMAD 2020, May 14–15, 2020*. Springer.
- Meroni, A. (2008). Strategic design: where are we now? Reflection around the foundations of a recent discipline. *Strategic Design Research Journal* 1(1), 31-38.
- Meroni, A., Fassi, D., & Simeone, G. (2013). Design for social innovation as a form of designing activism: An action format. In: *Social Frontiers: The next edge of social innovation research*. Nesta.
- Movimento pelo Interior. (2018). *Movimento pelo Interior: Relatório final e informação complementar* Retrieved from http://www.movimentopelointerior.org/wp-content/uploads/2018/05/RelatorioFinal_Alargado_MPI_2018.pdf
- Mozota, B. B. (2003). *Design Management: Using Design to Build Brand Value and Corporate Innovation*. Allworth.
- Mulgan, G. (2014). *Design in public and social innovation: What works and what could work better*. Nesta.
- Mulgan, G. (2019). *Social innovation: How societies find the power to change*. Policy Press.
- Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. Nesta.
- Nesta. (n.d.). *Everyday social innovations*. Retrieved from <https://www.nesta.org.uk/feature/everyday-social-innovations/>
- Nichols, A., & Murdock, A. (Eds.). (2012). *Social Innovation: Blurring boundaries to reconfigure markets*. Palgrave Macmillan.
- Nicholls, A., Simon, J., & Gabriel, M. (Eds.) (2015). *New frontiers in social innovation research*. Palgrave Macmillan.
- Papanek, V. (1971). *Design for the real world: human ecology and social change*. Thames & Hudson.
- Phills, J., Deiglmeier, K., & Miller, D. T. (2008). Rediscovering social innovation. *Stanford Social Innovation Review* 6 (4), 34-43.
- Pierce, J., Martin, D. G., & Murphy, J. T. (2011). Relational place-making: the networked politics of place. *Transactions of the Institute of British Geographers*, 36, 54–70.
- Sanders, E. B.-N., & Stappers, P. J. (2008). *Co-creation and the new landscapes of design*. *CoDesign: International Journal of CoCreation in Design and the Arts*, 4(1), 5–18.
- Scharmer, C.O., & Kaufer, K. (2013). *Leading from the emerging future: From ego-system to eco-system economies*. Berrett-Koehler Publishers.
- Schwab, K. (2015, December 12). The fourth industrial revolution: What it means and how to respond. *Foreign Affairs*.
- Sechi, L., Moscarelli, R., & Pileri, P. (2020). Planning tourist infrastructures to regenerate marginalised territories: the study case of North Sardinia, Italy. *City, Territory and Architecture*, 7(5)
- CEDRU. (2009). *Seia2020: Plano Estratégico*. Retrieved from: <https://www.cm-seia.pt/index.php/consultas-online/plano-estrategico>
- Sousa, Á., Franqueira, T., & Afonso, A. (2021). Branding for social innovation: The importance to communicate consistently. In: Martins N., & Brandão D. (Eds.): *Advances in Design and Digital Communication. DigiCom 2020*. Springer Series in Design and Innovation, vol 12. Springer.
- Stickdorn, M., Hormess, M., Lawrence, A., & Schneider J. (Eds.). (2018). *This is service design doing*. O'Reilly.
- Swann, C. (2002). Action research and the practice of design. *Design Issues* Vol 18, 2, 49-61
- Thackara, J. (2005). *In the bubble: Designing in a complex world*. The MIT Press.
- Viñas, C. D. (2019). Depopulation processes in european rural areas: A case study of Cantabria (Spain). *European Countryside*, 11(3), 341–369
- Westley, F., & Antadze, N. (2010). Making a difference: Strategies for scaling social innovation for greater impact. *The innovation journal* 15 (2), 3-20
- Zurlo, F., Cautela, C. (2014). Design strategies in different narrative frames. *Design Issues* 30(1), 19–35

Acknowledgements

This work is funded by Programa de Bolsas de Doutoramento through University of Lisbon and Lisbon School of Architecture, University of Lisbon.

Equity, Justice and Inclusion

Designing the Arqive: Queering the Common

Zachary Vernon, Cynthia Wang

Theorizing a Queered Design and the (Im)Possibility of Design for the Common Good

Isabel Prochner

Queering FADU: Designing and Redesigning University Spaces from a Gender Perspective

Griselda Flesler

Designing the Arqive: Queering the Common

Keywords: Queer, LGBT,
Pedagogy, Interdisciplinary.

Zachary Vernon^a,
Cynthia Wang^{a*}

^aCalifornia State University – Los Angeles
^{*}cwang68@calstatela.edu

Individuality is often portrayed as the antithesis to commonality - uniqueness and difference as antagonists to solidarity and unification - but it is our individual differences, when shared, that create opportunities for mutual benefit and growth. This foundational principle is how we approached the idea of the *common good* when designing *The arqive*, a digital, interactive map of user-generated LGBTQ narratives, events, and resources from around the globe. *The arqive* also intersects with the questions around education and curriculum for designing for the common good through interdisciplinary student collaboration among multiple university departments. These collaborative efforts make *The arqive* a useful case study on how one may both teach and implement design through a critical, social justice framework. By expanding - and challenging - the canon of history to include queer voices and perspectives, *The arqive* serves the 'common good' of a more equitable, representative, diverse, and inclusive society.

1 Introduction

Individuality is often portrayed as the antithesis to commonality - uniqueness and difference as antagonists to solidarity and unification - but it is our individual differences, when shared, that create opportunities for mutual benefit and growth. This foundational principle is how we approached the idea of the 'common good' when designing *The arqive* (thearqive.com), a digital, interactive map of user-generated LGBTQ narratives, events, and resources from around the globe. Posts on the site can be anything from historical events (e.g., Stonewall), to personal happenings (e.g., first queer kiss), to LGBTQ-specific resources provided by local community organizations, thereby increasing the visibility and accessibility of LGBTQ experiences around the world, currently and historically. By expanding - and challenging - the canon of history to include queer voices and perspectives, *The arqive* serves the "common good" of a more equitable, representative, diverse, and inclusive society.

As an interdisciplinary project at Cal State LA, the design of *The arqive* deliberately invites voices of marginalized individuals and communities to tell their stories, while providing a platform for those stories to be shared and seen by anyone. Because many LGBTQ individuals experience stigma and social isolation in their communities of origin, digital and social media have become important platforms to seek connectivity and community. This effort seeks not only to decrease social isolation and give LGBTQ individuals a visual connection to a larger historical consciousness, but also to connect activists, organizers, resources, and community spaces, both intellectually and socio-politically, around an ethos of solidarity amongst local groups and between international communities advocating for LGBTQ rights.

The arqive also intersects with questions around education and curriculum for designing for the common good. The making of this particular project was intensely interdisciplinary, involving students and educators from Cal State LA's Computer Science, Art, and Communication Studies departments, each with their own roles in designing and developing the platform itself as well as a public relations campaign to amplify this work. Throughout this paper, we will discuss the considerations that went into the development of this platform, as well as the implications of an interdisciplinary and pedagogical approach in its design.

2 Geolocated Digital Participation as Common Good

Using geographical location to conduct cultural and ethnographic work has become increasingly popular as the technology behind geo-location becomes more prevalent. Previous scholars have discussed using maps as a way to represent political or social dynamics at the time; as for example, through the perspective of cartographers in Peru during a dispute over resources (Orlove, 1995). From a research perspective, Brennan-Horley et al (2010)

discuss “how geographic information systems (GIS) were used to enhance ethnographic methodologies within a cultural research project,” (Brennan-Horley et al, 2010: 92) linking mental mapping from interviews to real-world locations, using geolocate technology to display these links in meaningful ways. They focus on the practices of creative industries in a city in Australia. Hence, maps have been used as a way to integrate meaningful experiences to physical geolocated spaces.

The physical locating of queer stories is particularly important in LGBTQ communities. Combining such endeavors with digital media potentially yields benefits for research, social activism, and individual well-being. With the proliferation of digital technologies, LGBTQ individuals have been able to use the Internet to seek community and decrease social isolation. Being LGBTQ often affords a certain modicum of invisibility, for better or worse (Gross, 2001) - an ability to “pass” as straight, if one so desires. As such, especially in places that are less open to discussing different manifestations of sexualities, it can sometimes feel like one is the only person who has “unacceptable” or “deviant” desires. One aspect that *The arqive* seeks to do is to lift the veil of invisibility by presenting stories from all over the world, both globally and locally, in order to decrease that sense of social isolation, showing people, through the visibility and the telling of stories on the site, that while they may be unique, they are not alone. They could very well find not-so-straight stories and LGBTQ resources right in their own neighborhoods. Indeed, these stories are not only available to those who identify as LGBTQ, but also to the general public, thus increasing the visibility of different experiences and creating a space for empathy of a common humanity.

The arqive is certainly not the only LGBTQ mapping site that is active. In the spring of 2017, Lucas LaRoche, a Montreal-based designer, launched a site called Queering the Map (Echenique & Boone, 2018). On it, users can anonymously post short snippets of stories about their experiences of being queer located in specific places on the map. Similar to *The arqive*, Queering the Map provides a way for queer individuals to “reclaim some of the traditionally queer space that has been lost,” (Echenique & Boone, 2018) including bars that have since closed. In February 2018, the site was hacked by Trump supporters, and the site was offline for a few weeks as the administrators tackled the issue by making the site more secure. Since, the site has achieved great prominence and continues its work of mapping out queer stories in bite-sized, anonymous posts. The simple elegance of the site invites users to easily contribute content, lowering barriers to documenting queer stories and spaces. *The arqive* complements this work by situating stories within an easily searchable historical context with functionalities that allow for community/historical stories as well as local resources and community spaces.

Much research focuses on how digital media and new technologies shift and reconfigure social relations, cultural practices, and power dynamics. *The arqive* is a tool which helps us consider the ways in which online storytelling and social networks change perceptions of LGBTQ individuals and communities on both local and global levels. As such, *The arqive* allows viewers to learn about their own space and place, while also giving rise to transnational perspectives on the potentials for LGBTQ communities from around the world. This opens up opportunities for communities to learn from and support each other across geographical distances and national boundaries, creating a dialogic space for political and social activism, and acting as a site of historical narrative for these socially marginalized groups. The project thus addresses the need to build connections, both locally and globally, for LGBTQ individuals, communities, and initiatives, while also capitalizing on the Internet's ability to ease transnational communication and flows of knowledge through the process of storytelling. Hence, *The arqive* also ultimately provides LGBTQ communities around the world ways to look beyond their own locally-restricted conditions and participate in diverse spheres of discourse, cultivating sentiments of solidarity and togetherness both within and across borders.

3 Functionality

LGBTQ+ bodies and communities throughout history have been marked by their invisibility within society, within media (Gross, 2001), even as Queer people come up with the clever ways to find and create communities (Meeker, 2006). As LGBTQ rights have become an ever-pressing social issue around the world, with the legalization of same-sex marriage in certain parts of the world and other policies that protect the rights of LGBTQ+ people, it is important to remember that there are still places where homosexual behavior is illegal and designated a capital crime. *The arqive* creates a space for people to share their not-so-straight stories in an effort to increase the visibility of LGBTQ people and stories, as well as to generate sentiments of solidarity across geographical distances and historical temporalities.

As part of our research into and development of the user experience (UX) and user interface (UI) for the website, different user personas were created and discussed by the teams. These personas reflected the diversity of our potential user base through general archetypes: e.g., young LGBTQ individuals searching for community, information, and resources, and queer academics and researchers using the website as a resource and database for their work. By analyzing, anticipating, and addressing common needs and motivations among our potential demographics, as well as specific needs of extreme circumstances, the teams were able to create UX best practices that provided a cohesive, universal experience without ostracizing or calling attention to edge-cases. For example, while anyone can easily set up a user profile to post stories, one does not need to be signed into the site to read stories - in-

creasing the accessibility and visibility of the stories - and all registered users have the option to post anonymously. This functionality was provided due to the safety concerns for Queer individuals living in countries where homosexuality is criminalized (e.g., Saudi Arabia, Nigeria, Iran, etc.), but it also works for less extreme circumstances, like those individuals in more progressive areas who are “closeted” or just don’t want a specific story associated with them. When treated equally, these diverse user cases provide a foundation of inclusivity and empathy built into the overall structure and experience of the website that is core to the brand and purpose of *The arqive*.

Stories and the sharing of information are the centerpieces of *The arqive*. As such, the processes for posting, reading, and searching for stories and posts needed to be as simple and accessible as possible. Posting a story can be done in two simple ways: by right-clicking on a location on the map, or by clicking on the “create a post” icon in the upper lefthand corner of the map (Figure 1).



Fig. 1: Screenshot of thearqive.com main map and stories. Taken January 4, 2021.

Because stories are location-based, if the user opts to click on the “create a post” icon, they are prompted to input an address (Figure 2). Addresses do not have to be exact (e.g., “Florida”), and to protect the safety of individuals and organizations, posters can also set an ‘anonymity radius’, which randomizes the location within a number of miles from the specified location (up to 50). Because of

the locative capabilities of *The arqive*, one of the considerations of the design was how to allow for approximate locating on the map. For example, in countries where LGBTQ visibility comes with the risk of bodily harm or death, we do not want to geographically pinpoint figuratively underground locations that would reveal safe spaces for LGBTQ individuals. The variety of precautions taken provides different opportunities and levels of safety and security, accommodating a range of user needs and knowledge.

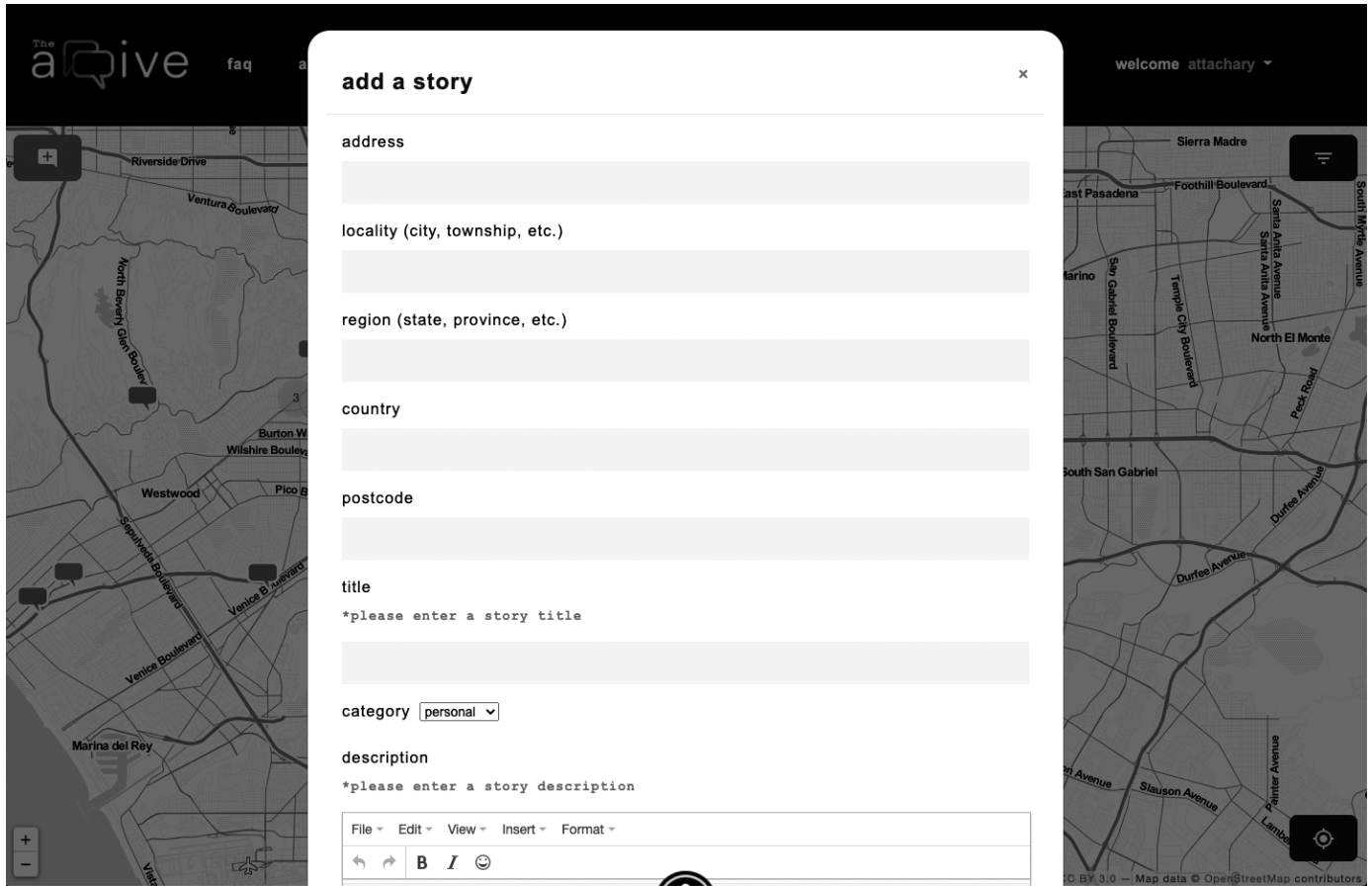


Fig. 2: Screenshot of *thearqive.com* "create a post" functionality. Taken January 4, 2021.

In order to capture a variety of content in each story, a rich-text editor allows the user to insert external links and images into the post in addition to text. The accommodation for diverse content creates the ability to tell more layered stories and provide more information through connecting other sources and resources.

Posted stories auto-populate on the main map in the form of small chat bubbles (pins), which generate based on location. Clicking on a story pin opens a preview of the story in a sidebar, which then leads to the main story. While other queer mapping projects,

like *Queering the Map*, provide a more “discovery” style of approach for finding stories, *The arqive* specifically focuses on the searchability of content as a major feature. Not only can a user “discover” stories through scrolling around the base map or jumping to various locations via the map search bar, they can also quickly search for specific content through a filtering search system (Figure 3).

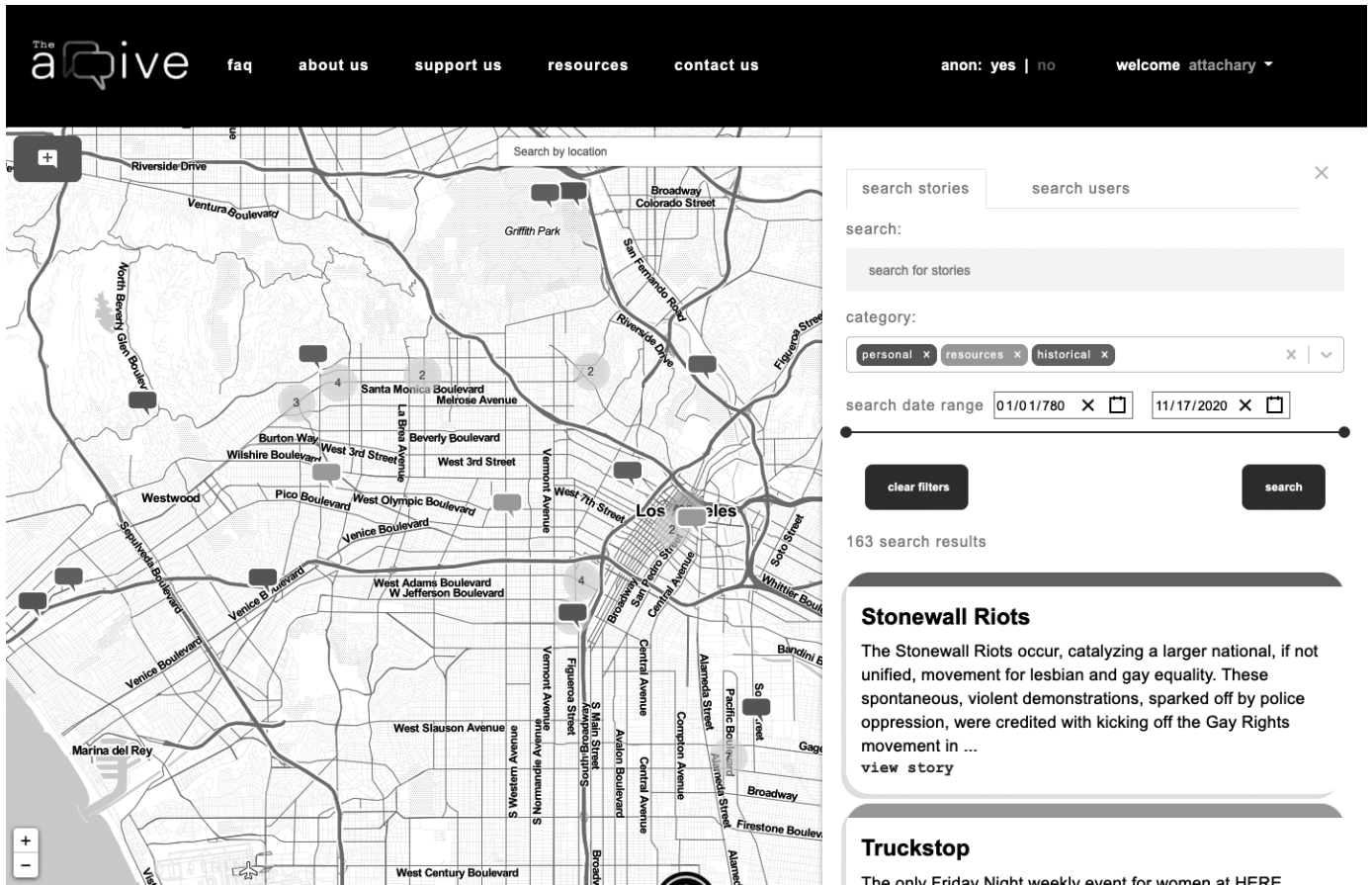


Fig. 3: Screenshot of thearqive.com search functionality. Taken January 4, 2021.

Stories can be filtered by event date, user account, category tags (personal, historical, and/or resources), and general content, regardless of location. By increasing the accessibility of stories beyond chance discovery within a locality, we provide a greater reach for diverse stories that share common themes or subjects. An individual exploring the history of Pride celebrations, for example, could see not only posts from San Francisco and New York, but potentially Atlanta, Rio de Janeiro, Shanghai, Berlin, Sydney, and Johannesburg. This increased visibility of diverse stories in turn expands the user’s possible frame of reference for content and increases that feeling of solidarity with LGBTQ people around the globe and throughout history.

We also wanted to provide reasons for users to revisit the site and utilize it as a resource. To accomplish this goal, we included the ability to save, or “bookmark,” stories and posts for future reference. Whether an academic collecting resources for a research paper, or a young queer person wanting quick references for local LGBT organizations or spaces, users can easily access saved stories through their *archive* profile (Figure 4).

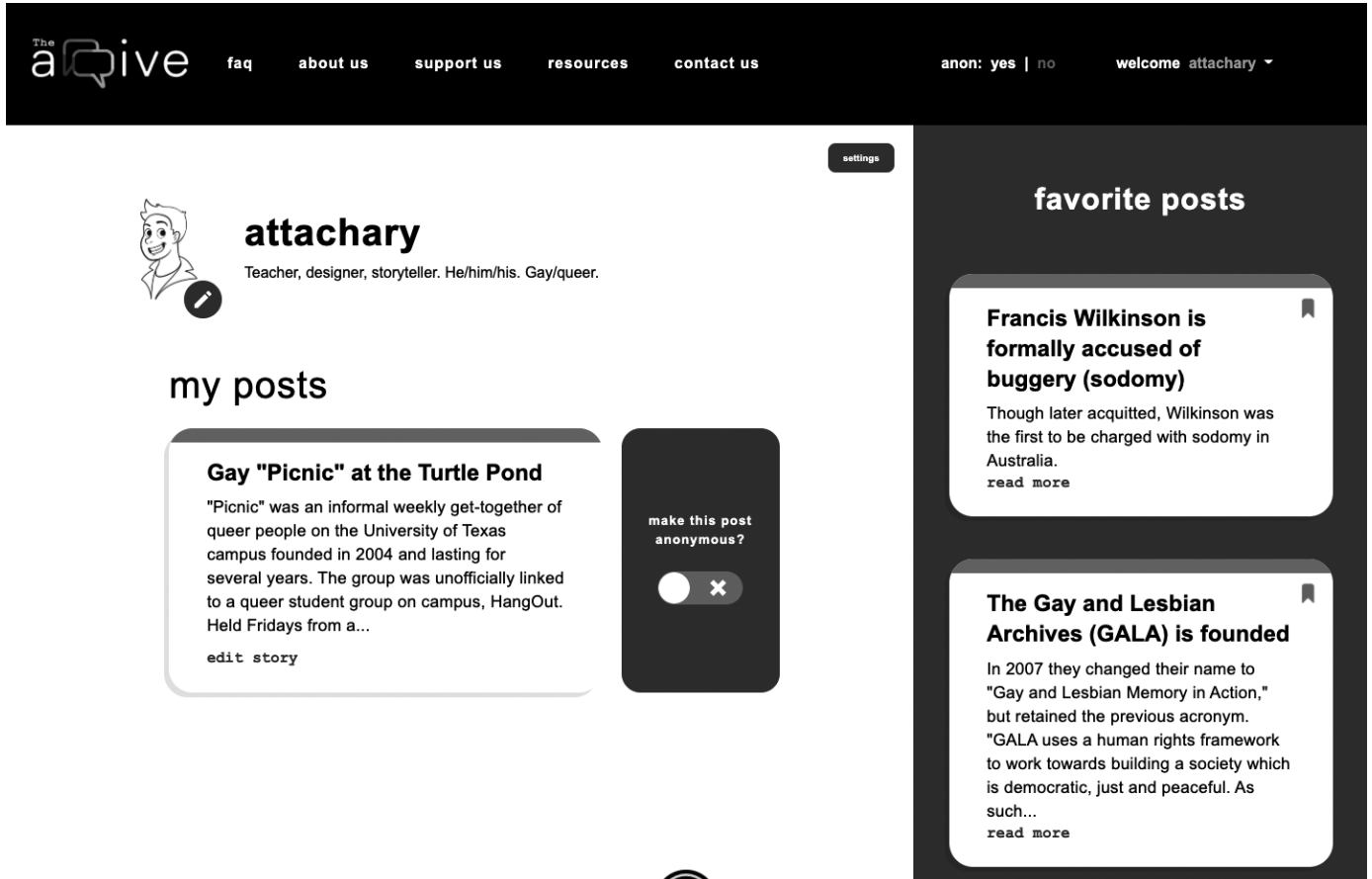


Fig. 4: Screenshot of thearqive.com profile page. Taken January 4, 2021.

Profiles serve a dual function on the site: providing a space for the user to manage their posted stories and bookmarked stories, as well as providing opportunities for community-building. Managing stories includes the ability to edit any aspect of the story, as well as to turn the story 'anonymous' - meaning the story will not show up on that user's profile, but will still remain visible on the site without attribution - or “public” at any time. Through others' profiles, users can check sources and find other stories by individuals with whom they can relate. Since *The archive* is more about creating a collective narrative and resource, our focus for the functionality was on the stories, not the individuals; hence we did not include functionality around messaging and individual communication.

That said, users can interact by commenting on each others' stories, adding their own perspectives and thoughts to bring diverse viewpoints and histories to any post.

Narratives and storytelling are a powerful way to not only share experiences, but make sense of one's place in the world (Fisher, 1984). Moreover, the act of sharing and listening to stories creates and reinforces (or subverts and shifts) our beliefs and values. LGBTQ individuals have been historically marginalized, only enjoying a modicum of visibility and acceptance in predominantly Western societies in the last couple decades or so. By soliciting and excavating stories, and then storing them in a digital repository for public consumption, *The arqive* gives voice back to these marginalized communities and contributes to legitimizing their presences. When diverse groups of people tell their stories, we as a society potentially become more inclusive as we grow to understand people who may be different from us.

4 Interdisciplinary Collaboration and Pedagogical Implications

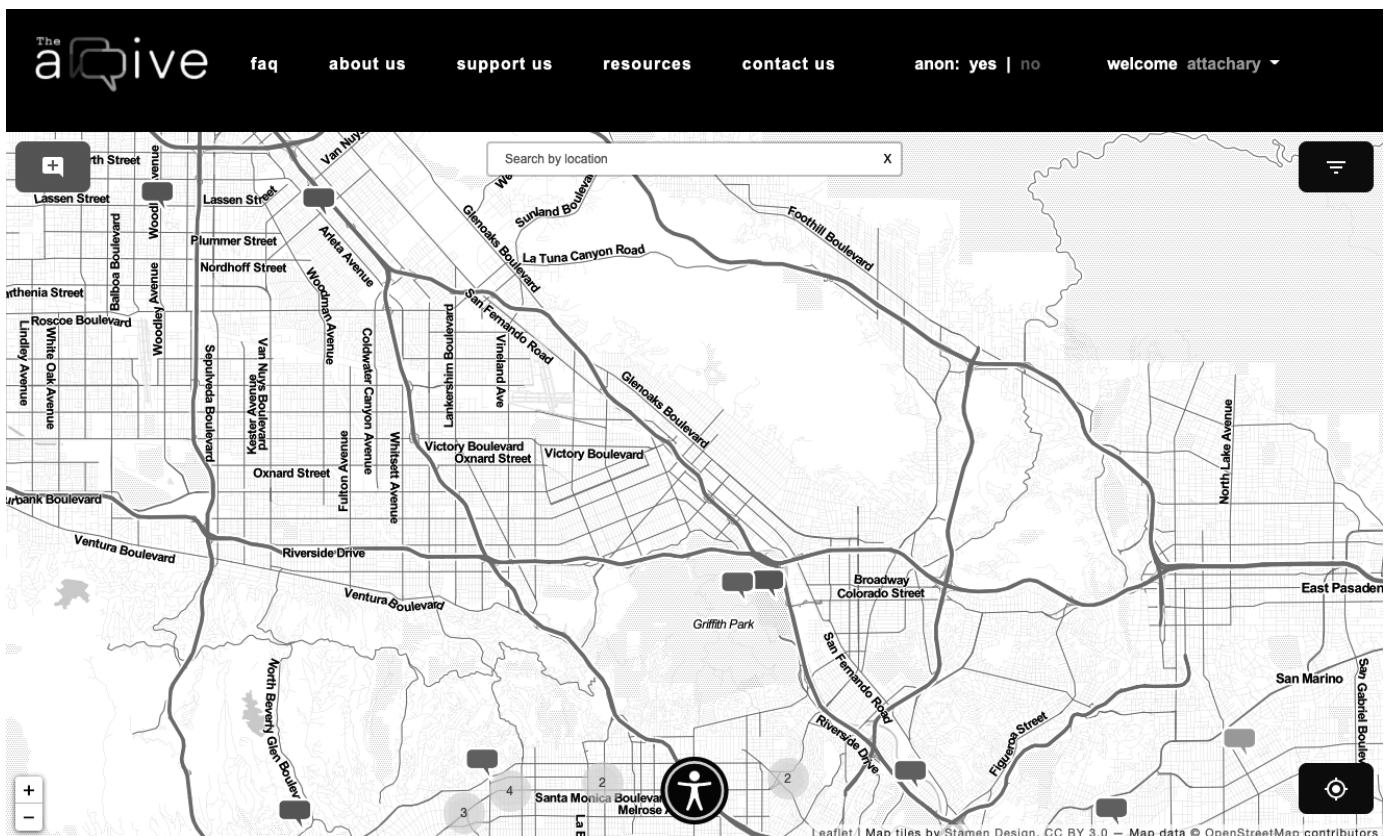
As it stands, existing professional expertise, on its own, is insufficient to solve societal problems (Tonkinwise, 2019). Since the initial development of *The arqive*, it was abundantly clear that this platform had to be a collaborative process between creators across multiple disciplines in order to reach any measure of success. In 2019, through the support of Institute for Interactive Arts, Research, and Technology (InART) and the College of Engineering, Computer Science, and Technology at Cal State LA, *The arqive* began to work with Cal State LA Computer Science graduating seniors as part of their Senior Design Project (CS-SDP). To date, there have been 25 students involved with this project - 14 from Computer Science, four from Art, and seven from Communication Studies. *The arqive* hence provides a unique opportunity for students from these fields to work across disciplines and job descriptions, learning how to delegate, collaborate, and communicate with colleagues outside of their fields of expertise.

Throughout this interdisciplinary collaboration, trust was given to each different discipline to know how best to proceed with the development process. Faculty leads for each discipline were respected as the authority on their subjects, setting examples for trusting in the expertise and knowledge of others. Especially potent was the agency given to the students to lead and problem solve, especially where their own disciplines were concerned. The student lead from the Computer Science team helped organize, delegate, and run the development of the platform, taking advice and feedback from the student lead from Art on design implementation, while responding to the Art team's questions with technical answers and potential pitfalls. The Art lead, in turn, worked hand-in-hand with the student lead from Communication Studies on branding and communication strategies, both giving and taking instructions on deliverables. Each team was given autonomy, with

faculty serving merely as 'clients', advisors, and sounding boards when needed. When questions arose, students were directed to the other student teams first, with faculty stepping in only when necessary.

These cross-discipline perspectives played an important role in expanding each student's understanding of the project and its subject matter. For example, queer studies is generally not taught in Computer Science courses, yet our Computer Science team had to consider the privacy and security implications of the telling of queer histories online due to the dangers that queer people face in less progressive areas around the world. Discussions centered around privacy concerns and security were elevated from a practical technological challenge and lesson to a deeper level of critical engagement, analysis, and understanding of why those functions were necessary. Beyond simple identity security, students quickly recognized - through discussions among each other and faculty - that their work could potentially help protect people's physical safety. This also applied to the art (design) students, who had to ensure that the website looked and 'felt' safe from a design standpoint. The idea of turning the entire map 'dark' when in 'anonymous mode' and changing the profile name to 'anonymous' as signifiers of privacy was one result of these conversations and collaborations (Figures 5 and 6).

Fig. 5: Screenshot of *thearchive.com* home map while logged in and public. Taken January 4, 2021.



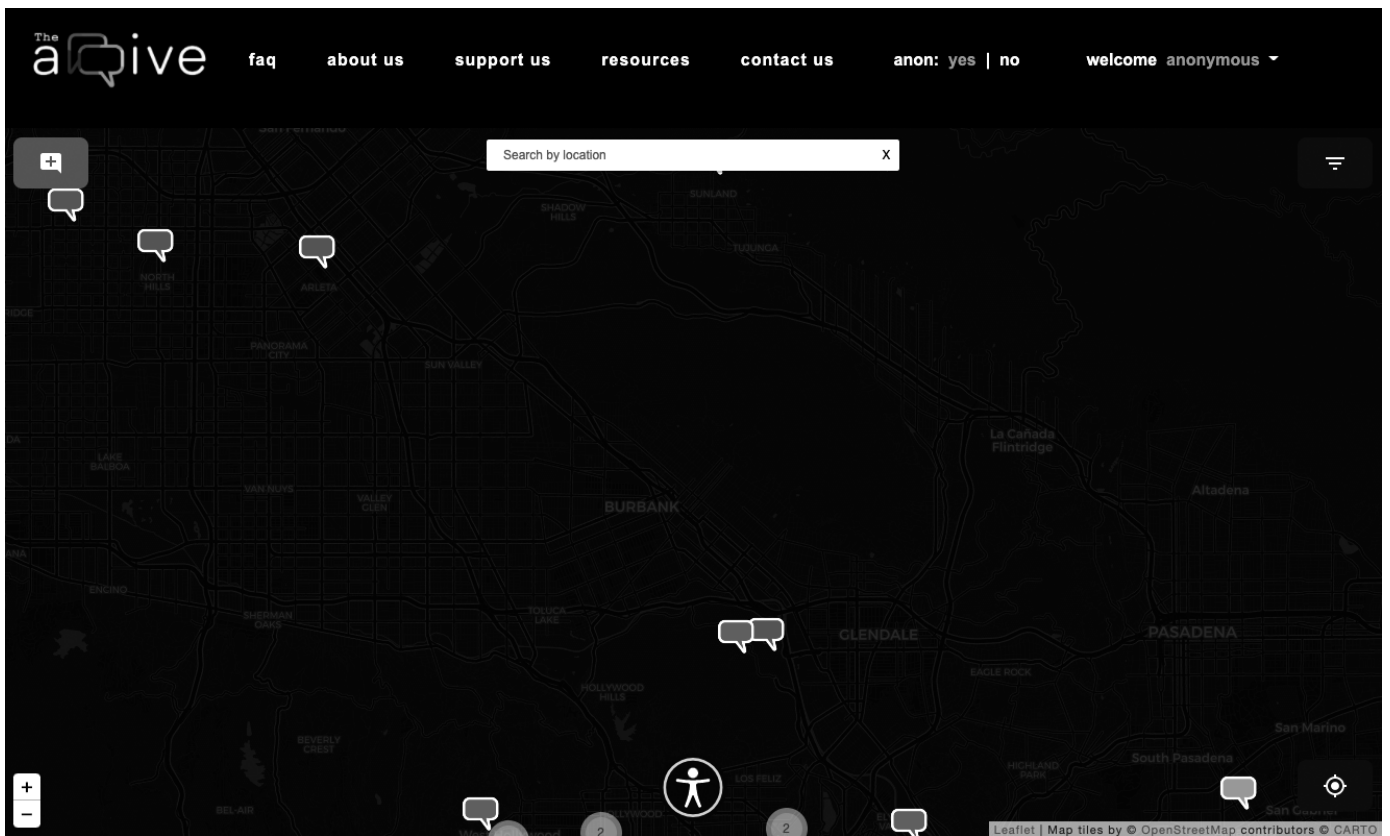


Fig. 6: Screenshot of thearqive.com home map while logged in and anonymous. Taken January 4, 2021.

Another interesting topic we had to tackle as a team was dealing with how to flag inappropriate posts. We had a discussion around why some terms that might seem offensive and derogatory (e.g. 'fag', 'dyke') are important to Queer expression as forms of resistance, re-appropriation, and identity formation, resulting in our Computer Science students recognizing that they needed to consider cultural context within their technological designs. This conversation around language also involved the Communication Studies team working on public relations and marketing strategies, and the Art team who joined them in working on brand language and tone. Each aspect of the project affected each discipline, creating opportunities both planned and unplanned by the involved faculty for engaging cross-discipline discussions and deeper engagement not just with the project and the other students, but with the content and subject matter of the project.

5 Conclusion

As with any project of this nature, there are certain limitations in the impacts to which this platform aspires. For one, the platform at this juncture functions predominantly in the English language, and does not yet have translational capabilities. While *The arqive* is designed to display stories written in any language, stories can only be consumed by viewers who read and understand the source language. At even such a fundamental level of language, this compels us to consider additional features, expansions, and adaptations in the design of *The arqive* in order to continually strive to be an accessible space for the common good.

Privacy remains one of the most significant challenges to this project, as we note above. How do we design a platform that simultaneously proves the presence and locality of Queer bodies and experiences, while also masking exactly those bodies and experiences for fear of retribution? This is a question that we predict will be an important guiding framework as we expand this platform, as well as a learning experience not just for the students, but for the faculty as well. We all try our best, and know that mistakes will happen. It is our acknowledgement of these possibilities and dedication to learn, grow, and respond quickly that pushes us to be as open to outside expertise as needed. We ask our students to do their best and provide potential solutions, but assure them the responsibility is on the faculty for this project, not the students. We are also beginning to look at collaborations beyond the university, bringing in professional experts when needed.

Another major challenge of this project, particularly as we think about geographically located information and stories as a way to shift society into a mindset of acceptance, diversity, and inclusion, is getting as much content as possible uploaded onto the site. The more content available on the site, the more powerful a resource it can be, both for community/activism purposes and research. Just because a tool like *The arqive* is built for anyone to use does not mean that anyone will use it. As such, the deployment of interdisciplinary teams that focus not just on the building of the tool (Computer Science and Art), but also how to make the tool visible and accessible (Art and Communication Studies), as well as focusing on long-term sustainability (Computer Science and Business), become valuable processes that aid in mitigating these challenges.

Regardless of the eventual popularity (or lack thereof) of *The arqive*, the pedagogical process of interdisciplinary collaboration itself is a way of outreach and increased diversity. This project brings humanistic study and topics to the forefront of Computer Science, introducing Computer Science students to topics typically reserved for Humanities and Liberal Arts. The collaboration with Art (Graphic Design/Visual Communication) has also provided new ways to understand the development of websites not just through a developer's eyes, but through the audience's, as well as the ability to

collaborate with a design team as they would in the industry. Likewise, students from the humanities gained a deeper understanding of the potentials and limitations of technological development within a social framework.

It is this bringing together of different voices, knowledge sets, and perspectives that makes *The arqive* a success in promoting a common good. Common good itself is contextual, and often something that is commonly good for some people may not be good for others. The flexibility of *The arqive* in that stories may be consumed in one's neighborhood, city, country, or the world at large potentially provides a space for each context to negotiate what is meant by "good". Moreover, the "good" of this site, we feel, does not lie in the mere obvious use of the site itself. We have seen that principles and strategies of diversity, inclusion, and acceptance, as well as contextualized critical thinking around Queerness, are taught through the process of building the site itself. The hope is that, through these conversations, we can make the world a safe and accepting place for LGBTQ individuals, one story at a time.

References

- Brennan-Horley, C., Luckman, S., Gibson, C., & Willoughby-Smith, J. (2010). GIS, Ethnography, and Cultural Research: Putting Maps Back into Ethnographic Mapping. *The Information Society*, 26(2), 92–103. <https://doi.org/10.1080/01972240903562712>
- Boone, M. E., Alastair. (n.d.). A Crowdsourced Map of the Queer World. Retrieved October 1, 2018, from <https://www.citylab.com/life/2018/02/an-effort-to-queer-the-map-comes-under-attack-and-fights-back/552824/>
- Fisher, W. R. (1984). Narration as a Human Communication Paradigm. *Communication Monographs*, 51.
- Gross, L. P. (2001). *Up from invisibility: lesbians, gay men, and the media in America*. New York: Columbia University Press.
- Meeker, M. (2006). *Contacts Desired: Gay and Lesbian Communications and Community, 1940s-1970s*. Chicago, IL: University of Chicago Press.
- Orlove, B. (1993). The Ethnography of Maps: The Cultural and Social Contexts of Cartographic Representation in Peru. *Cartographica: The International Journal for Geographic Information and Geovisualization*, 30(1), 29–46. <https://doi.org/10.3138/B427-3Q83-4463-474P>
- Tonkinwise, C. (2019). "Is Social Design a Thing?" in *Social Design Reader* edited by Elizabeth Resnick. Bloomsbury Visual Arts, 9–16).

Acknowledgements

The authors would like to acknowledge the excellent work and support of the involved faculty, administrators, and especially the students who participated in this project. None of this would have been possible without our amazing, dedicated, and supportive team of collaborators.

Theorizing a Queered Design and the (Im)Possibility of Design for the Common Good

Keywords: Queer, Design, Common Good, Critique.

Isabel Prochner^{a*}

^a*Syracuse University*
^{*}*iprochne@syr.edu*

Queer critiques can radically undermine social structures, bringing attention to hidden and not so hidden biases. This makes a queer perspective highly valuable for design, potentially able to inform much-needed design transitions and major projects like design for the common good. However, is it appropriate to employ a queer lens in this way? This paper grapples with these issues, exploring what queering design might mean and how it may inform design for the common good. The study is based on a review and analysis of queer theory literature and writing at the intersections of queer and design. The conclusions stress the radical, chaotic, and deconstructive potential of queerness and queer theory in design, argue that it should be employed authentically, and note that it will not solve design problems. The results also argue for the impossibility and undesirability of design for the common good.

1 Introduction

Queer critiques can radically undermine social structures, bringing attention to hidden and not so hidden biases, especially those related to gender and sexuality. Designers need this perspective - we need it so badly!

We know that social practices and norms infiltrate design since “all design is political. [...] A design cannot be disconnected from the values and assumptions in which it was created” (Pater, 2016, p.2). We also know that design has an integral place in people’s lives and has a broad reach and deep power. So, design has potential to reinforce these norms and assumptions. As Peter-Paul Verbeek explained, “artifacts are active: they help to shape human actions, interpretations, and decisions, which would have been different without the artifact” (2008, p.95). It follows that gender and sexuality norms are embedded in design artefacts and these artefacts can reinforce problematic myths.

In fact, design can be understood as a technology of gender, as defined by Teresa de Lauretis (1987). In de Lauretis’ work, technology is shown to include things like design and the cinema. According to her, these technologies are some of the major structures that “produce, promote, and ‘implant’ representations of gender” and these are often normative or restricted conceptions (1987, p.18). In terms of gender and sexuality norms in design, consider, for example, the ‘pink it and shrink it’ approach in product design, spacial segregations reinforced in architecture (e.g. washrooms), or assumptions about couples in heteronormative or homonormative artefacts (e.g. wedding cake toppers).

This leads me to wonder if queered design could be a driver for much-needed design transitions and major projects like design for the common good. Its social critique and challenge to gender and sexuality norms could contribute valuable perspectives. However, I also wonder if a queer lens can be employed in this way (i.e. operationalized for our needs and applied selectively). And, what might happen at the confrontations between queer and design? This paper grapples with these issues, exploring what queering design might mean and how it might inform design for the common good.

This is a theoretical investigation that draws on a review of queer theory literature and writing at the intersections of queer and design coming from designers and/or queer theorists. Not all literature in either category is included in this review. While I attempted to read all works with the keywords queer and design, queer theory writing is extensive and incredibly diverse. Rather than focusing on mastery and providing a definitive response, my goal was to develop a better understanding of these issues to help myself and other designers more fully grasp the implications and incredible complexity, fluidity, and rebellion of queerness. I started

my review of queer theory writing by reading books by core theorists like Butler, Edelman, Halberstam and Muñoz. I then expanded my reading based on questions that arose (e.g. on contrasting visions of queer futurity or queer perspectives on identity). The first two sections of this paper introduce some existing literature on queer theory and queer and design, and the final two sections include my analysis and reflections on queering design and its implications for design for the common good.

I am writing this paper as a Canadian industrial designer and design researcher that has worked at the intersections of feminist and queer theory for most of my career. Much of my previous work has explored feminist activism in design but has not engaged as thoroughly with queerness until now.

2 Queer and Queer Theory

Queer is a process and intellectual stance based on the critique and subversion of normativity. It is rooted in refusal, resistance, chaos, unpredictability and deconstruction. It is not stable and evades definition: “[q]ueerness is always being made, remade, being done, being redone, and being undone. It is the quotidian refusal to play by the rules” (Jones, 2013, p.12). Indeed, seeking a more precise definition of queerness or queer theory can be seen to go against this ethos and process. Even associating queer theory with antinormativity can be problematic and risks anchoring queer theory with this identification (Jagose, 2015).

This paper egregiously oversimplifies queerness and queer theory, and my descriptions do exactly what I’ve said to avoid: defining queerness or queer theory. However, sometimes we designers need a little help understanding what’s happening in other fields. So, here it goes: queer theory is typically understood to challenge gender and sexuality norms like gender binaries and heteronormativity, but also to engage in broader forms of critique (e.g. social, cultural, economic, technological). In this sense, queer can be a “political metaphor without a fixed referent,” addressing normalization more broadly and showing the pervasiveness of gender and sexuality norms (Eng, Halberstam & Muñoz, 2005, p.1). Warner notes: a goal is to “make theory queer, not just to have a theory about queers” (1993, p.xxvi).

Queer theory is anarchic and oppositional but can’t be said to follow a logic of opposition. In *No Future: Queer Theory and the Death Drive*, Edelman (2004) rejects reproductive futurism, the narrative that reproduction is all-important and key to our future. Edelman argues that reproductive futurism is based on and reinforces heterosexual social structures. Beyond this broader discussion, his introduction illuminates some operations of queer critique. Edelman explains that his work takes on “the impossible project of a queer oppositionality that would oppose itself to the structural determinants of politics as such, which is also to say, that would

oppose itself to the logic of opposition" (2004, p.4). He further notes that queer theory and critique shouldn't become clearer with time, since they also oppose linear accounts of history.

Queer theory is critical of identity, viewing identities as regulatory and limiting (Ryan, 2020). They are also complex, multiple, continually evolving, and contextually dependent, so any attempt at defining an identity would be incomplete (Ryan, 2020). As Edelman notes "queerness can never define an identity it can only ever disturb one" (2004, p.17). As such, queer critiques challenge limitations of LGBT identities and refuse the possibility of a queer identity, even though this self-description has become increasingly prevalent.

Edelman explains that queer theory does not work toward "some more perfect social order - such a hope, after all, would only reproduce the constraining mandate of futurism" (2004, p.4). Indeed, queer theory is generally more focused on critique than developing a future vision. As Green aptly explains "'deconstruction' does not mean 'reconstruction,' nor does it mean 'selective deconstruction' for a 'selective reconstruction'" (2007, p.40). That said, Muñoz has argued that "queerness is primarily about futurity. Queerness is always on the horizon" (2006, p.825).

Queer thinking is also continually evolving, and this process helps respond to its own normativity and exclusions (Butler, 1993). As Eng, Halberstam and Muñoz explain, "[t]he operations of queer critique [...] can neither be decided in advance nor be depended on in the future" (2005, p.3). Butler further notes that queer will remain "never fully owned, but always and only redeployed, twisted, queered from a prior usage and in the direction of urgent and expanding political purposes, and perhaps also yielded in favor of terms that do that political work more effectively" (1993, p.19).

Queer action can take many forms and *The Queer Art of Failure* by Halberstam (Halberstam & Halberstam, 2011) introduces some processes. In this book, Halberstam positions failure as a form of queer dissent; failing to follow social conventions and expectations (e.g. family life, reproduction, pursuing a standard career path, accumulating wealth) highlights norms and explores alternatives. Failure can take many forms depending on its points of critique. It could include getting lost (metaphorically and literally), thinking negatively or cynically, resisting sentimentality and romanticism, and/or embracing silliness. As Halberstam describes elsewhere "[i]n each case, the under-privileged category [e.g. negativity vs. positivity] actually sustains purposive and intricate modes of oppositional knowledge, many of which can be associated with and linked to forms of activity that we have come to call 'queer'" (2008, p.141). In other cases, queer activity can involve challenging hegemonic

knowledge, re-opening closed debates, and resisting mastery (Halberstam & Halberstam, 2011).

3 Literature on Queer and Design

There is a range of work that engages with queering design and it seems to come from a few dozen authors. This work mostly addresses design processes and considerations revolving around design artifacts. Canlı's impressive doctoral work (2018) is a major contribution to this area. Their project explores intersections between queer and design, focusing particularly on how design artefacts reinforce normative structures. They argue for the potential for undoing and queering these norms through creative practices including design. Canlı states:

"[A] queer turn in design does not mean 'design for queer people' as a new marketplace for production or to make an inventory of 'queer designers.' Nor does it deem queerness in design to be a stylistic umbrella for all marginalised identities or merely being genderless or 'unisex.' A queer turn in design, however, is first to acknowledge design's direct and ruthless impacts on bodies through its artefactual, spatial, sartorial, discursive or digital segregations; and how bodies, in turn, reiterate and reactivate the meanings embedded in these materialities by performing, embodying or inhabiting them every day." (2018, p.95).

Other writing in the field helps exemplify design's negative impact on bodies. For example, Prado (2016) explores how medications are employed to manage and normalize gender and sexuality, giving the example of the birth control pill. Prado also argues that pill packaging enables external surveillance over intake by a partner. Denz and Eggink (2019) and Boulez (2013) also contribute to this discussion, exploring how design artefacts constitute and reinforce gender and sexuality norms. Denz and Eggink critically examine many artefacts through a queer design workshop discussed in their paper (2019). An example includes a feminine coded lip balm deemed to be preparing lips for a sexual encounter. Boulez further stresses the potential of queer design to develop degenerate artefacts that can encourage alternatives (2013).

Halberstam himself also explores queered architecture in a recent article titled "Unbuilding Gender" (2018). He is excited by some works of deconstructive architecture, which might be better described as contemporary art. He stresses the need to focus on what is present in our environments and what is absent, where examples could include the absence of accessible design or design for people from different social classes.

Like Halberstam's exploration of architecture, queer and feminist scholar Ahmed explores use in a recent book called *What's the Use?: On the Uses of Use* (2019). This text has important implications for design, as Ahmed theorizes queer use: using things in unintent-

ed ways or when an unintended user engages with the artefact. Importantly, she notes that designers can support queer use: “Buildings can be built with queer uses in mind, which is to say, with a commitment to a principle that not all uses could or even should be foreseen” (Ahmed, 2019, p.200).

Other works make the leap from design artefacts to design processes. In “Disputing Ergonomics, Deconstructing Users. A Queer Perspective on Design,” Brulé and Kazi-Tani explore the queering of design norms and representations of bodies in design. In their view, such projects “capture and recondition the potency of a technical, aesthetic and semantic apparatus, usually dependent [on a] hegemonic power” (2015, p.17). They provide examples of two student projects where one case includes architectural drawings of fictional spaces and users. The design project engages with issues including otherness, domesticity, and visibility.

Canlı’s doctoral work also highlights many other ways of queering design processes (2018). This could include unlearning and relearning methods; thinking critically about positionality; and recognizing the site, body, context and time-specificity of design work. All this said, queerness in design isn’t stable (Canlı, 2018). Like queer theory, it will continually evolve and evade definition, and cannot be predicted in advance.

4 Insights on Queering Design

As much as queerness cannot be pinned down, my reflections on these readings highlight a few possible tenets about queering design. These are important to recognize since it is all too easy to misinterpret its ethos and employ it in fundamentally unqueer ways. First, queerness and queer theory are deeply radical. In my view, they are even more radical, chaotic, and deconstructive than we currently see in design. There is space to challenge more assumptions and disrupt the profession and practice; disciplinary boundaries; relationships between design and the economy; models of production and distribution; understandings of users; conventional aesthetics and taste; taken for granted theories and concepts; design education, etc. Thinking more concretely, I can also imagine rich explorations on topics like the possibility of universal design, perceptions of gendered competence or incompetence, and (de)sexualization in design for healthcare and accessible design. Second, Canlı cautions against commercializing and appropriating queer thinking, giving a related example of clothing companies that produce rainbow flag merchandise (2018). Queer thinking should be applied in authentic ways by people who truly embody it, and probably not for commercial gain. Last, remember that queer theory is more focused on critique than an ideal future vision. In my view, it cannot help solve our design problems, it can only highlight them.

5 Implications for Design for the Common Good

Drawing on my queer lens and insights from the readings, not only do I abstain from imagining a common good, but I think the concept of design for the common good is problematic. Transitioning from thinking about individual and narrow needs to thinking socially is promising. However, we can't fully know what others need. As Butler explains in "Giving an Account of Oneself" (2001), "when we claim to know and present ourselves, we will fail in some ways that are nevertheless essential to who we are [...]we cannot expect anything else from others (2001, p.28). She further notes: "it will be important not to expect an answer that will ever satisfy. By not pursuing satisfaction, and by letting the question remain open, even enduring, we let the Other live" (2001, p.28). Further, there is too much multiplicity and complexity to define a common good, regardless of scale. In my view, prescribing and working toward a common good through design has a high risk of being normalizing and hegemonic.

We might assume, for example, that design for the common good is based somehow on sustainability. However, sustainability can be considered normalizing and hegemonic in itself. It involves working toward common future goals and is based on a modified vision of the violent and normative development program (see, for example, Escobar, 1995).

I don't think queer interventions contribute to a common good either. Queer futurity is vague and queer critics would likely oppose working productively and cohesively toward some kind of shared vision. Further, radical queer perspectives don't work toward the common good as the concept is typically understood. For instance, they can challenge things that many hold dear like the family, value in childhood, esteem for education and career development, trust in financial investments, and even hope and optimism.

All this considered, a queer lens won't guide design transitions or present a vision for design for the common good, but it can contribute through its critique by engaging critically with design goals, challenging their assumptions as I've done here, and exploring where and how design could open to greater multiplicity. However, it's important to re-state that this process needs to take place carefully as critiques must be authentic and queer thinking should not be appropriated.

6 Conclusion

Drawing on an analysis of queer theory literature and work at the intersections of queer and design, this paper explored what queering design might mean and how it could inform design for the common good. I stressed the radical, chaotic, and deconstructive potential of queerness and queer theory in design, argued that it should be employed authentically, and noted that it will not solve design problems. I also argued for the impossibility of design for the common good as it risks being normative and regulatory. However, I noted that a queer lens can contribute to design for the common good by engaging critically with design goals, challenging their assumptions, and encouraging greater multiplicity in design.

References

- Ahmed, S. (2019). *What's the use?: On the uses of use*. Duke University Press.
- Boulez, F. (2013). La sexualisation par les objets : Vers un queer design ? [Sexualization by objects: Towards a queer design?]. In B. Lafargue and S. Cardoso (Eds.), *Philosophie du design* [Philosophy of design] (pp.303-318). Presses universitaires de Pau et des pays de l'Adour.
- Brulé, E., & Kazi-Tani, T. (2015). *Disputing ergonomics, deconstructing users. A queer perspective on design* [Paper presentation]. Design History Society, San Francisco. <https://hal.archives-ouvertes.fr/hal-01246059>
- Butler, J. (1993). Critically queer. *GLQ: A Journal of Lesbian and Gay Studies*, 1(1), 17-32.
- Butler, J. (2001). Giving an account of oneself. *Diacritics*, 31(4), 22-40.
- Canli, E. (2018). *Queering design: Material re-configurations of body politics* [Doctoral dissertation, University of Porto]. <https://repositorio-aberto.up.pt/handle/10216/111267>
- de Lauretis, T. (1987). *Technologies of gender: Essays on theory, film, and fiction*. Indiana University Press.
- Denz, S., & Eggink, W. (2019). *Queer-sensible designing: Challenging normative gender through an industrial design practice* [Paper presentation]. Academy for Design Innovation Management Conference, London. <https://research.utwente.nl/en/publications/queer-sensible-designing-challenging-normative-gender-through-an>
- Edelman, L. (2004). *No future: Queer theory and the death drive*. Duke University Press.
- Eng, D. L., Halberstam, J., & Muñoz, J. E. (2005). Introduction: What is queer about queer studies now? *Social Text*, 23(3-4), 1-17.
- Escobar, A. (1995). *Encountering development: The making and unmaking of the Third World*. Princeton University Press.
- Green, A. I. (2007). Queer theory and sociology: Locating the subject and the self in sexuality studies. *Sociological Theory*, 25(1), 26-45.
- Halberstam, J. (2008). The anti-social turn in queer studies. *Graduate Journal of Social Science*, 5(2), 140-156.
- Halberstam, J. (2018). Unbuilding gender. *Places Journal*. <https://placesjournal.org/article/unbuilding-gender/>
- Halberstam, J., & Halberstam, J. (2011). *The queer art of failure*. Duke University Press.
- Jagose, A. (2015). The trouble with antinormativity. *Differences*, 26(1), 26-47.
- Jones, A. (2013). Introduction: Queer utopias, queer futurity, and potentiality in quotidian practice. In A. Jones (Ed.), *A critical inquiry into queer utopias* (pp.1-20). Palmgrave MacMillan.
- Martins, L.P.D.O. (2016). *Pills, genders and design: Speculations on queer materialities*. Aalto Winter School. https://www.academia.edu/24586798/Pills_genders_and_design_Speculations_on_Queer_Materialities
- Muñoz, J. E. (2006). Thinking beyond antirelativity and antiutopianism in queer critique. *MLA/Publications of the Modern Language Association of America*, 121(3), 825-826.
- Pater, R. (2016). *Politics of design: A not so global manual for visual communication*. Bis Publishers.
- Ryan, J. M. (2020). Queer theory. In N. Naples (Ed.), *Companion to sexuality studies* (pp.79-94). John Wiley & Sons.
- Verbeek, P. (2008). Morality in design: Design ethics and the morality of technological artifacts. In P. Vermaas, P. A. Kroes, A. Light and S. Moore (Eds.), *Philosophy and design* (pp.91-103). Springer.
- Warner, M. (1993). Introduction. In M. Warner (Ed.), *In fear of a queer planet: Queer politics and social theory* (pp.vii-xxx). University of Minnesota Press.

Queering FADU: Designing and Redesigning University Spaces from a Gender Perspective

Keywords: University Space, Appropriations, Feminisms, Sex-Generic Dissidence.

Griselda Flesler^{a*}

^a*Faculty of Architecture,
Design and Urbanism,
University of Buenos Aires*
^{*}griselda.flesler@fadu.uba.ar

[1] The primary purpose of this paper is to present some initial outcomes of this research into the uses and appropriations of the spaces at the Faculty of Architecture, Design and Urbanism of the University of Buenos Aires (FADU-UBA) in light of the feminist and sexual dissidence 'agenda'. In the first section, I compile the main contributions of authors who discuss the relationship between gender and appropriated spaces. The second section focuses on the affective dimension and place-attachment, and the last section contains some 'notes of the pandemics' as a device to reflect on our relationship with university space. I identified a growing demand for the intervention of university spaces by different university actors. However, validated data on the contents of these claims, on the existing possibilities and experiences of design and redesign of university spaces with an emotional and gendered perspective remain to be obtained – in an approach geared to everyday wellbeing.

[1] This paper is part of the doctoral thesis in Social Sciences at the University of Buenos Aires, drafted by the author, supervised by Dr Rafael Blanco and co-supervised by Dr Carolina Spataro. It is also part of two research projects: (a) "Re/Designing the University of Buenos Aires Campus to be Gender Inclusive in Argentina" of the Gendered Design in STEAM Project of Carleton University, Canada, directed by Spataro and Flesler; and (b) UBACyT "Feminist Demands, Sexual Dissidences, and the University. Recent Transformations in Knowledge, Spaces and Everyday Social Life at the University of Buenos Aires" developed at the Instituto Gino Germani-UBA, and directed by Blanco and Spataro.

1 Introduction

"Pleasure is reduced to a concession; in other words, it is reduced to a diversion whose role is subsidiary. The most appreciable share of life is given as the condition of productive social activity."
George Bataille

"Me adueño así
Superficies de placer
Dejo crecer
Mi tremenda timidez"
Federico Moura & Roberto Jacoby

Recently, discussions around feminisms and sex-generic dissidences have acquired social relevance in different sectors of Argentina –legislative, educational, and the media, among others. At the public universities of Argentina, this agenda has been characterized by the demand for institutional tools to deal with gender violence^[2]; the increasing inclusion of "gender issues" in university activism; the demands for "gendered" education; and the interventions of the university space aimed at expanding the rights and promoting new ways of inhabiting university spaces (Blanco and Spataro, 2019).

Following the latter train of thought, the primary purpose of this paper is to present some initial outcomes of this research on the uses and appropriations of the spaces at the Faculty of Architecture, Design and Urbanism of the University of Buenos Aires (FADU-UBA) in light of the feminist and sexual dissidence 'agenda'. In the first section, I compile the main contributions of authors who discuss the relationship between gender and appropriated spaces; the second section focuses on the affective dimension, and the last section contains some 'notes on the pandemics' as a device to reflect on our relationship with university space.

In my analysis of gendered university spaces, three areas intertwine in order to form the basis to examine the use and appropriations of space: studies on design and space; studies on genders and sexualities; and the social-semiotic perspective that understands space as a signifier.

[2] To date, 54 public universities of Argentina have protocols to deal with violence and discrimination based on gender and/or sexual orientation. Source: Red Interuniversitaria por la igualdad de género y contra las violencias (<http://ruge.cin.edu.ar>).

Different studies by Argentine academics have focused on the analysis of sexual and gender regulations of the university experience, and allow us to conclude the heteronormative and cis-sexist character of daily social life at the universities (Blanco, 2014; Radi and Pérez, 2014). However, little attention has been given to university spaces under the present gender agenda. An exception is the paper by Rafael Blanco, dealing with the construction of private and public intimacies at the bathrooms and in the parties sponsored by different universities, as an example of how "appropriations are usual in university life: the university space is considered a space that is intervened and signified 'beyond' institutional mandates" (2014:80).

I draw on the concept of social theorist Henri Lefebvre (1992): "(Social) space is (socially) produced". In other words, each person is agentic and responsible for creating, occupying, and enacting space. Space is not absolute or fixed in the Kantian sense but is constantly produced in how it is all at once created, conceived, and lived. With the notion of space as signifier as a starting point, I propose to make a socio-semiotic reading of this environment that was constructed precisely as having been designed and planned solely for academic uses –contrary to other facilities of the University of Buenos Aires.

In the particular case of the UBA Campus (in Spanish, known as Ciudad Universitaria), the first ideas for its construction emerged during the debates in the late 1930s. Then the urbanists, architects and the authorities started to think of an autonomous university hub built under new zoning and differential space postulates, as opposed to the traditional projects that sought to incorporate the university buildings to the existing urban landscape (Grementieri and Schmidt, 2010).

The idea to build a university campus detached from the central urban landscape responds to "rational" and "modern" urban planning initiatives (Romero and González Bracco, 2014), which – together with the notions of "functionality", "zoning", "efficacy" and "integrality" were the guiding principles of the Modernist Movement in Architecture, whose main influence was the so-called International Style (Hitchcock and Johnson, 1932).

The notions of "efficacy", "rationality" and "functionality" were challenged by Postmodernist Architecture (Venturi, 1972; Ambasz, 1972). Venturi questioned the functionalistic paradigm of "less is more" with the slogan "less is a bore". Also, Ambasz's proposes to extend the concept of design to an instance that includes the user as an active part of a process that is now redefined by two different terms: design and use. In recent decades, gender and queer studies started to analyze the role of architecture and geography in the experience of gendered bodies. Feminist geography proposes that spaces are not neutral, but that they have been marked by

the distinction between men and women (Mc Dowell, 2000; Massey, 2005; Brown and Browne, 2016; Soto, 2017).

It is not the objective of this paper to delve specifically into queer theory. However, I believe that a brief introduction to this perspective is useful to observe the "margins", norms and hegemonies of the field of design.

Queer movement has its origins in the United States and the United Kingdom in the early 1990s with organizations such as Queer Nation, Act Up and Outrage. It aims in a radical way to modify the hegemonic sexual imaginary rooted in the institutionalized policies carried out by the gay and lesbian movement. Since then, this movement has committed to a policy of disidentification, questioning the rigid boundaries between sex-generic identities and targeting coalitions based on common interests. Parallel to activism, a field of academic reflection was also developed - called Queer Theory or Queer Studies- oriented towards the criticism of those Feminist Studies that only concentrated on women as the essential subject of feminism, and gay and lesbian studies based on non-critic notions of identity.

Far from being a unitary and coherent compendium, Queer Theory is an assemblage of conceptual tools and political strategies that attempts to subvert the cultural stereotypes used to "read" dissident sex-generic identities. It challenges the framework of sex-generic intelligibility of modernity, that is, heteronormativity (Warner, 1993).

Likewise, I understand the queer perspective as a critical methodology capable of undermining the identity of the disciplines. In this sense, the verb "queering" applied to FADU, operates as a way of rethinking the edges of the disciplinary field, as well as deconstructing the binary present in the prevailing ways of designing space.

Queer studies have coined the term "queer space" (Betsky, 1997) to refer, on the one hand, to the appropriated territories and spaces used or claimed by queer persons (Ingram, 1997; Rupp, 1999), and, on the other hand, to describe spaces whose conventional characteristics have been twisted. In other words, these are spaces that evidence the troubles of dualities such as materiality/representation, indoors/outdoors, and private/public (Halberstam, 2005; Baydar, 2012; Longhurst, 2003; Hill, 2003).

In this continuum, there are studies focused on the material design of "trans architecture" (Crawford, 2015), and others focused on the uses – more specifically on twisted uses or queer use (Ahmed, 2019).

With these theories in mind, we may pose the following research question: How does the 'feminist' and sexual dissidence 'agenda' impact on the design of planned spaces and their original aspiration to productivity, functionality, and 'proper use' of the facilities?

When talking about uses, I refer to preset or prescribed uses, as compared to twisted uses. However, we could also legitimately ask ourselves what levels of transgression or diversions are possible within the university institution. My goal is to explore how instructions of use also shape and model these transgressions, in the sense that there are limits and conditions of possibility also for diversions, even of our bodies in their working and academic roles.

In the research that supports this paper, as study points, we considered, on the one hand, both institutional and non-institutional material interventions, and, on the other, the uses of spaces according to the sex-generic logics regulating them, and their diversions.

A sign on the wall with the picture of a feminist march interrupts the orderly grid of landmark architectural pieces arranged at the staircase landing. Binary pictograms intervened with stickers. Green bandanas symbolizing the fight of Argentine feminists for abortion in the Student Help office. A workbench intervened with a stencil that states "Do not be quiet. Report", and the legendary "Think about your cis privileges" painted on the wall of a bathroom. These are only some of the examples of how, in recent years, the spaces of public universities have been marked, intervened by the so-called "feminist wave" While these marks are made outside of the institutional planning, the university space starts to be intervened according to an officially approved agenda, in a planned way and as agreed by the different members of the university community. Since 2015, the feminist and sexual dissidence agenda has also materialized as Gender Unit Office. This instance, receives complains of gender-based violence cases, provides sexual health advice, red benches, creates all-gender bathrooms, baby changing tables in bathrooms, lactation rooms, murals, safe paths, among others. In other words, two types of marks co-exist –sometimes in tension: non-institutional and institutional.

Further to these interventions –both authorized and unauthorized– we may find uses that are diverted from the instructions of use of university spaces. To "No smoking", "No food or beverages", we may add "When I need to use the bathroom, I choose the closer one irrespective of the sign on the door". "I pump my breast milk at the office or in the toilet; the lactation room is way too far for me", "It is well known that you go there to fuck".

We aim to identify and to propose a genealogy of the uses and interventions that, when articulated, create a differential map of the university space and the ways to inhabit it.

2 Form Follows Failure: Functionality Resignified

In his color studies, Goethe asked himself: "Is a red dress still red when no one is looking at it?" Space is such when inhabited, used, correctly used, incorrectly used, read, signified. According to Guy Di Méo (1999), space is "lived space." Under this perspective, we may conclude that space has no sense before it is used; sense is shaped with use. This phenomenological view is a direct challenge to deterministic discourses that maintain that the design of spaces is what determines the practices of individuals in them. This situates bodies, their experiences, and individual and collective practices in a specific space-time axis.

In the last decades, queer studies have coined the term "queer space" (Betsky, 1997) to refer, on the one hand, to the appropriated territories and spaces used or claimed by queer persons, and, on the other, to describe spaces whose uses or characteristics have been twisted.

Michael Warner (2002) proposed the notion of counter publics, which spans those othered, queered publics that refuse heteronormativity. The regulation of bodies into binary genders takes place within public and private spaces in varying ways. In interviewing non-traditional-gender-presenting women, Jen Jack Giesekeing described how the private space of the bathroom becomes a space for public regulation in their regulation or judgment (2013).

Henry Petroski (1994) reframes the slogan of the Modernist Movement in architecture "form follows function" as "form follows failure". The idea of failure, of diversion, refers to the impossibility to meet preset expectations of those who plan and design a space and their instructions for proper use. To paraphrase Michel de Certeau, this is the relationship between Production with a capital P – the products of major institutions– and the production hidden behind the word "use" or "consumption", i.e., a secondary production. This secondary production does not work with its products, but uses the products of the former. It is then interesting to examine the characteristics of this "witty production, that is disseminated but that leaves traces everywhere, in a silent, almost invisible way" (2000, p.XLIII). In this line, Émile Benveniste (1966) proposes to think enunciation as an individual act of appropriating language. Going back to the appropriation of spaces, we may define it as the act of appropriating of something that was designed by another individual but that is mediated and signified by the individuals and their uses of them. In this sense, the author compares the act of walking with the act of speaking, an act of appropriation of the topographic system by pedestrians "in the same way as the speaker appropriates and takes over the language"(2008, p.6).

According to Blanco, "in university spaces, there are practices and uses that are in tension (to a lesser or greater extent, from bargaining to open conflict) with the official uses prescribed by the institutions" (2014, p.79) –prescriptions which also involve the gendered approach to space. In other words, there are instructions for proper use of the facilities –where to study, where to work, where to eat, where to smoke, where to rest– a “proper use” of equipment, boundaries between public, semi-public, private and intimate lives, restrictions on who are allowed to access specific spaces, to name but a few. At the same time, we may find the uses that Sara Ahmed (2019) calls “queer uses”, and which may be thought as a reuse, i.e., something that is used in a new way or for another purpose as the one for which it was designed, and also by someone for whom it was not designed. Ahmed also proposes a resignification of the notion of “vandalism” to mean the material interventions as traces that build a record of resistance, claims and expressions of acknowledgement and desire presented to these institutions.



Fig. 1: The gender-neutral bathroom has been in operation at the FADU since 2017.

3 Surfaces for Pleasure: Affection and Diverted Uses

Leonor Arfuch (2002) explains that spaces are transformed by experiences, so much so that the physical or geographic spaces become *biographical spaces*. Under this perspective, the university space may be read as a narrative plot, a territory inhabited by marks and transitoriness, of experiences in which the affective dimension is inseparable of materiality.

In recent times, there have been abundant research studies that resort to emotions, affects, and feelings to rethink the setting-up of the body, subjectivity, and social relations. This “affective turn” is based on the premise that bodies are defined by their ability to affect and to be affected. These bodies that are always

situated bodies develop an affective relationship with space (Davison, Bondi y Smith, 2007; Tuan, 2007; Soto Villagrán, 2013).

Challenging the conventional oppositions between emotion/reason, and discourse/affect, the “affective turn” have explored and reconfigured political and ethical (mis-)appropriations of emotions; the complex relation between power, subjectivity and emotion; the affective dimension of the normative and the emotive and affective investment in social norms as a constitutive mode of subjectivation (Athanasidou, Hantzaroula, & Yannakopoulos, 2008).

Within the project with the research team of the GDS Program at Carleton University, we created a self-administered survey entitled *Spaces and Daily Life at the UBA Campus*, which was conducted in November 2020[3]. The goal of this survey was to identify the emotions and feelings evoked by different spaces of the campus among institutional actors (students, professors, researchers, workers and employees) that use them day after day. Using categories such as love, pride, happiness, indifference, rejection, discomfort, shame, and hate, the survey allows us to identify these actors' perceptions regarding (a) the recently-remodelled spaces to add the gender perspective (such as the gender-neutral bathrooms), (b) the spaces of daily use; and (c) to identify the spaces that are considered unsafe, dangerous or that instil fear. The outcomes should inform institutional strategies to develop gender policies at the universities, ultimately aimed at designing university spaces that are more accessible and inclusive[4].

Among the spaces included in the survey, we may find those that we may call "surfaces for pleasure": the yard containing the foundations of the never-built Pavilion IV, and emergency staircases. In this research, I intend to place particular focus on those “undercover”[5] places, given that some prior studies have reported on their "twisted" uses. These are spaces that are usually chosen, among other things, for sexual encounters and smoking. I aim to examine enjoyment and pleasure in association with university spaces which, initially, are not intended for these activities as part as their expected uses. In order to analyze this issue, I believe that the ideas of bell hooks on desire and pedagogy are useful. “Trained in the philosophical context of Western metaphysical dualism, many of us have accepted the notion that there is a split between the body and the mind. Believing this, individuals enter the class-

[3] The survey was designed by Rafael Blanco, Carolina Spataro, and Sebastián Sustas with the collaboration of Paloma Carignani, Valeria Durán, Griselda Flesler, Ana Quaglino, Florencia Scalise, and Paula Soto Villagrán. No conclusions have yet been compiled from there. At the date of publication of this paper, the survey is still underway.

[4] To date we are analyzing more than 2000 answers, and the results will be published during 2021.

[5] Blanco claims that normativity operates to differentiate “undercover” from “open” spaces (2014:98).

room to teach as though only the mind is present, and not the body" (Hooks, 2016, 3).

The UBA Campus was designed with a functionalistic and productivist approach, detached from downtown, but also far from all distractions, excesses, diversions, and pleasure. Perhaps rethinking its spaces in light of our present context will allow us to design an interpretation framework in which we may meaningfully locate our experiences.



Fig. 2: Emergency staircases are spaces where other practices are tolerated.

4 Notes of the Pandemics – Final Considerations

As a final consideration, I would like to highlight how the emotional aspect of university spaces acquired visibility with the COVID-19 pandemics. On the social media platforms of the community of both schools located at the UBA Campus that were ethnographically examined in 2020, there were many expressions showing nostalgia for the spaces. Pictures of empty pavilions and expressions of nostalgia for some spaces made up an unheard-of phenomenon. Here are some examples of these posts: “Many will certainly miss having a rest on the sun, sitting on the lawn surrounding Pavilions 2 and 3 of #UBACampus” (posted with a picture of the lawn around pavilions, @uba_ar, July 2020); “The most awful and beautiful chaos in the whole universe. The chaos one misses the most [...]” (posted with a picture of the central yard of Pavilion III during final presentations, @fundamentalistadeciudad, September 2020); and many “going back” messages resignified with pictures of members of the university community riding their bikes in the campus, as well as many selfies of people with face masks inside the empty pavilions.

In this research, we also identified a growing demand for the intervention of university spaces by different university actors –institutional initiatives that seek to answer to these issues, and a greater institutionalization of this area. However, validated data on the contents of these claims, on the existing possibilities and experiences of design and redesign of university spaces with an emotional and gendered perspective remain to be obtained –in an approach geared to everyday wellbeing.

Why should university spaces be thought under a feminist perspective? Maybe because resignifying university practices would mean enabling the erotic dimension that has been relegated not only –as taught by hooks– by the philosophical context of Western metaphysical dualism but also by regulating and disciplining feminism that seeks to protocolize socio-affective relations. Shedding light over spaces amounts to shedding light unto bodies, their limits and their excesses. Bodies that matter, and those which do not matter, and that are intercepted by the sex-gender-desire system of heteronormativity (Butler, 1990, 1996). Bodies that, as situated bodies, may not be thought as dissociated from space, as much as space may not be thought without the bodies that inhabit it.

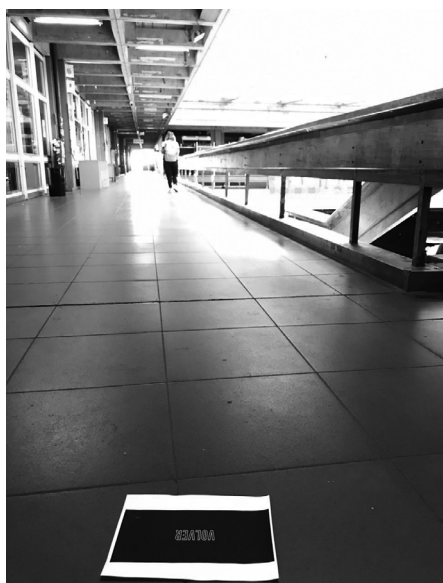


Fig. 3: Empty hallways are abundant on social media throughout 2020.
Photo: Paloma Carignani.

References

- Ahmed, S. (2019). *What's the Use?: On the Uses of Use*. Durham: Duke University Press.
- Ambasz, E. (1972). *Italy: The New Domestic Landscape*. Nueva York: MOMA.
- Arfuch, L. (2002). *El espacio biográfico. Dilemas de la subjetividad contemporánea*. Buenos Aires: Fondo de Cultura Económica.
- Athanasiou, H, & Yannakopoulos (2008). Towards a New Epistemology: The "Affective Turn". *Historien*, 8, 5-16.
- Baydar, G (2012) Sexualized productions of space. *Gender, Place and Culture* 19(6): 699-706.
- Benveniste, É. (1966 & 1974). *Problemas de lingüística general I y II*. Mexico: Siglo XXI.
- Betsky, A. (1997). *Queer Space: Architecture and Same -Sex Desire*. (New York: William Morrow).
- Blanco, R. (2014). *Universidades íntimas y sexualidades públicas. La gestión de la identidad en la experiencia estudiantil*. Buenos Aires: Miño y Dávila.
- Blanco, R. and Spataro, C. (2019). "Con/contra las estrategias institucionales: percepciones de estudiantes universitarios ante iniciativas contra violencias sexistas", *Nómadas* 51 (10): 173-189.
- Brown, G. and Browne, K. (2016). *The Routledge Research Companion to Geographies of Sex and Sexualities*. Nueva York: Routledge.
- Butler, J. (2007) [1990]. *El género en disputa. El feminismo y la subversión de la identidad*. Barcelona: Paidós.
- . (2018) [1996]. *Cuerpos que importan*. Buenos Aires: Paidós.
- Crawford, L. (2015). *Transgender Architectonics. The Shape of Change in Modernist Space*. Londres: Routledge.
- Davison, J.; Bondi, L.; Smith, M. (eds.) (2007). *Emotional Geographies*. Londres: Ashgate Publishing Limited.
- De Certeau, M. 2000 [1980]. "La invención de lo cotidiano" In: *I Artes de hacer*. Mexico: Universidad Iberoamericana.
- . (2008). "Andar la ciudad". *Revista Bifurcaciones*. 7: 6.
- Di méo, G. (1999). "Geografías tranquilas de lo cotidiano: Un análisis de la contribución de las ciencias sociales y la geografía al estudio de las prácticas espaciales". *Cahiers de Géographie du Québec*. 43 (118): 75-93.
- Gleeskin, J. J. (2013). A Queer Geographer's Life as an Introduction to Queer Theory, Space, and Time. In Lasse Lau, Mirene Arsanios, Felipe Zúñiga-González & Mathias Kryger (Eds.) *Queer Geographies*. USA, McNaughton & Gunn, Inc. 14-21.
- Grementieri, F. & Schmidt, C. (2010), *Arquitectura, educación y patrimonio*, Buenos Aires, Pamplatina.
- Halberstam, J. (2005). *In a Queer Time and Place: Transgender Bodies, Subcultural Lives*. New York: NYU Press.
- Hill, J. (2003). *Actions of Architecture: Architects and creative users*. Londres: Routledge.
- Hitchcock, H. R. y Johnson, P. (1932). The extent of modern architecture. In *Modern architecture*. Nueva York: MOMA, Retrieved October 1, 2020, from <https://www.moma.org/calendar/exhibitions/2044>.
- Hooks, B. (2016) [1994]. "Eros, erotismo y proceso pedagógico", In: *Pedagogías Transgresoras*. Córdoba: Bocavulvaria ediciones, 1-12.
- Lefebvre, H. (1992). *The Production of Space*. Malden, MA: Wiley-Blackwell.
- McDowell, L. (2000). *Género, Identidad y Lugar, Un estudio de las geografías feministas*. Cátedra.
- Petrosky, H. (1994). *The evolution of useful things*. (New York: Vintage).
- Radi, B. & Pérez, M. (2014). "Diversidad sexo-genérica en el ámbito educativo: ausencias, presencias y alternativas". *Actas de las XXI Jornadas sobre la enseñanza de la Filosofía*. Buenos Aires: FFyL-UBA.
- Romero, L. y González Bracco, M. (2014). La creación de ciudad universitaria de Buenos Aires (1958-1966): proyección de una ecología común para la transformación de la vida académica en la Facultad de Ciencias Exactas y Naturales. *REDES*, Vol. 20, (39): 115-137. Bernal: Universidad Nacional de Quilmes.
- Soto Villagran, P. (2013). "Entre los espacios del miedo y los espacios de la violencia: discursos y prácticas sobre la corporalidad y las emociones", en *Cuerpos, Espacios y Emociones. Aproximaciones desde las ciencias sociales*: coord. Aguilar, M. A. y Soto Villagran, P. Mexico, UAM. 197-219.
- Tuan, Y.F. (1977) *Space and place: the perspective of experience*. London, Edward Arnold.
- Venturi, R.; Scott Brown, D. y Izenour, S. (1972). *Learning from Las Vegas*. Cambridge, MIT.
- Warner, M. (1993). "Introduction." In *Fear of a Queer Planet: Queer Politics and Social Theory*, ed. Michael Warner and Social Text Collective, vii-xxxi. Minneapolis, MN: University of Minnesota Press.
- . 2002. *Publics and Counterpublics*. New York: Zone Books.

**Self-Awareness: a Participatory Design
Methodology for the Co-Creation
of Empowerment Images**
Sérgio Pires, Pedro Bessa

**Design as a Facilitator
for Social Inclusion**
Hina Shahid

**Conversational Spaces in the Craft
for Empowerment System in Pakistan**
Gwendolyn Kulick

Self-Awareness: a Participatory Design Methodology for the Co-Creation of Empowerment Images

Keywords: Participatory Design, Communication Design, Empowerment photography, Non-Normative Gender Issues, Self-Awareness.

Sérgio Pires^a,
Pedro Bessa^b

^a*Department of Communication and Art,
University of Aveiro, Portugal*
^b*pbessa@ua.pt*

Non-normative sexualities and gender expressions are still taboo subjects in Portugal, despite recent improvement in legislation. Due to associated stigma, many youths, whether or not going through a coming-out process of acknowledging their non-normative identity, avoid the subject, and may experience feelings of guilt and/or internalized homophobia. A research in progress at the University of Aveiro, started an advertising campaign in order to promote a message of self-confidence and celebration of individual difference among teenagers and youths. Using methodologies associated with participatory design and co-creation processes, it was possible to involve together designers and youths (coming from various Portuguese regions), from beginning to end. Despite adverse circumstances caused by the current COVID19 pandemic, this first phase was achieved with relative success, having been possible to organize a set of relevant themes, and to create and test a few prototypes.

1 Introduction

Society lives in a constant flux, where new generations have a more open mind when it comes to social rules and, by natural consequence, distance themselves from norms and values considered traditional. Many adolescents and young adults in western societies can be significantly impacted on their transition from adolescence to adulthood by issues related to personal identity, with psychosocial developmental difficulties having been noted, e.g., among sexual minorities (Hallman et al. 2018; Rosario et al., 2011; Erikson, 1968). If, on one hand, people increasingly expand their limits of identity and gender expression (Sultana & Shahriar, 2017, p.1), this new reality is faced with multiple forms of social violence - that can go from simple exclusion to insults, injuries and bullying - directed against anyone who does not belong in the norm (Grave *et al*, 2019, p.96).

The stereotype can travel between generations, as long as it is present in the socialization and education of the people. That is why it is referred that

“there is little social space to experience, with freedom, non-normative gender expressions, because, in gender issues, there is an essentialist social thought about the identities of male/female binarism that delimits identification based on behaviors, gestures, attitudes and clothing essentially polarized [in heteronormative terms].” (Grave *et al*, 2019, p.96).

The concept of gender and its problematic relationship with biological sex, gender relations as power relations, the dangers of gender-based binarism, in which the concepts of feminine/masculine that are limited to reproducing the former women/man, have been approached by multiple authors (Butler, 1999; Pinto & Alvarez, 2014; Fausto-Sterling, 2019).

Notwithstanding, diversity of gender expression, as well as the existence of non-normative sexualities, are still taboo subjects in Portugal, despite the recent progress achieved in legislation (Bento 2018). Not much discussed in schools^[1] or among most health professionals (Saleiro, 2017, Moita, 2006), one can still find plenty of stereotypes and pseudoscientific notions linked to this topic (Alves & Mota, 2015; CEP, 2013).

[1] Cf. the recent “Petition for the subject of Citizenship Education be optional” (*Público*, 1/10/2020), following a manifesto signed by personalities such as the former Portuguese President Cavaco Silva, the former Prime Minister Passos Coelho and the Cardinal Patriarch of Lisbon (*Público*, 1/9/2020).

Due to associated stigma, many youths and teenagers, whether or not going through a coming-out process of acknowledging their non-normative gender identity and sexual orientation, avoid talking about the subject, even when they are interested, and may experience increased feelings of guilt and/or internalized homophobia (Hallman et al. 2018).

In a way, gender always leads to a dilemma, a choice between binary differences, socially constructed, but at the same time “natural” (Filho, 2005, p.136). Only those who resist determinism and propose the deconstruction of gender, e.g., the *non-normative* sexualities and gender expressions (Grave et al, 2019) work, in this context, as a challenge to the binary model, where an individual has to learn behaviors before being able to discover its own *self*.

This need to challenge the conventional, deconstruct the instilled thought and appeal to the acceptance of difference, through egalitarian and honest inclusion, was the basis to the present study, developed at the University of Aveiro. A research in progress, it intends to study the suitability of an advertising campaign, under the guidance of participatory design (van der Velden & Mörtberg, 2014, p.2) and communication design, resorting to concepts and methodologies associated with co-creation processes (Manzini, 2016; Halskov & Hansen, 2015, Holmlid, 2009). Simultaneously, it is important to understand that the campaign is not intended to target only individuals who identify as female/male, but to represent a fluidity in what is socially considered feminine, masculine and non-binary. There isn't only one way to express gender, nor are there only two genders.

2 Starting a Campaign

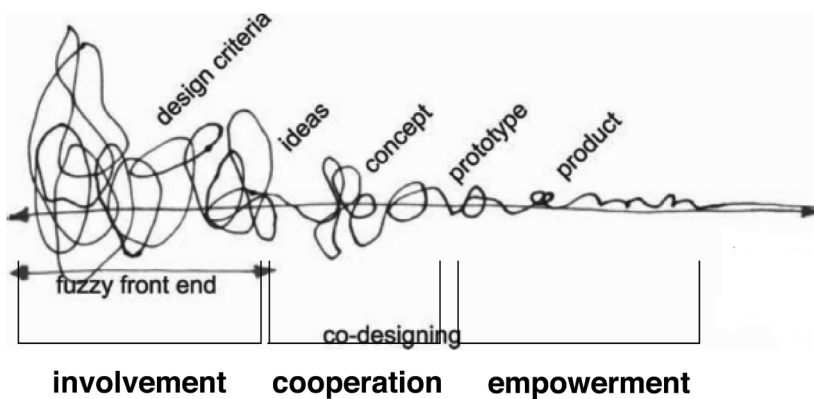
From a methodological perspective, our advertising campaign was inspired by the cocreation process of Sanders & Stappers (2008). Thus, one considers that participatory design projects should cover three themes: involvement of the participant, cooperation and emancipation (Holmlid, 2009, p.1906). An advertising campaign aimed at (co)creating and communicating a message of empowerment for a young community, should be concerned with design processes which may facilitate cocreation and inclusion.

The participant must, therefore, be seen as such an important actor as the designer, and not as someone who performs a secondary role, who only helps in a phase of the project. The participatory component must be present during the entire design process, from conception to prototyping.

In the image below (fig.1) we can see the model introduced by Sanders & Stappers (2008, p.6), meanwhile adapted to include the three phases that were idealized for this campaign. The first phase corresponds to the involvement: the participant is introduced to the project and questioned about his/her personal opinions, values

and ideas regarding the theme. The second phase aims for cooperation: the interaction between participants, with exchange of thoughts and also visualization - introducing the visual image can benefit the clarifying of ideas in the participants minds. The third phase, where the prototypes are usually made, brings the emancipation or empowerment. This occurs not only because of the *photographic empowerment* (Niina Savolainen, 2014) which, in our specific case, was used as a method for creating prototypes, but also from interaction between the participants. It is important to emphasize that, since we are dealing with participatory design, these phases are not rigid but work merely as orientation guides.

Fig. 1: Crossing of the idealized phases for the advertising campaign with Sanders & Stappers (2008) presented co-creation model.



2.1 Qualitative Questionnaires

Qualitative methodology was used, which emphasizes interpretation and analysis by the researcher, as responsible for the results generated by the research, without resorting to statistical data (Santos, 2019, p.77). As an additional advantage, it allows for the personal opinion of the investigated subject regarding the phenomena being studied (Bogdan & Biklen, 1994). A content analysis was also used (Bardin, 2006; Vala, 1986), e.g. the occurrence frequency of some terms, to access relevant aspects that are not as easy to identify in the multiple answers.

This gathering of information was made by using questionnaires, based on the snowball sampling technique, where the participants, on a study, indicate new people from among their acquaintances to participate and those new people, in its turn, indicate new people successively (Goodman, 1961). The initial recruitment was made by using online discussion groups there are associated

with gender identities and expressions (Sultana & Shahriar, 2017, p.2), but there wasn't an obligation for the participant to belong to the LGBTQ+ community. On the other hand, an attempt was made to obtain a sample covering the largest possible number of Portuguese districts.

The questionnaire, aimed at teenagers and young adults, required them to be between 18 and 25 years old, and the participants were also informed of the theme of the questions and intended purpose, and consented to their participation. 33 responses were obtained from all the regions of the country, with the exception of the Madeira island and the districts of Faro, Beja, Setúbal, Portalegre and Guarda. The obtained information was transcribed by using fictional names, in order to preserve anonymity.

This gathering of information intended to investigate deficiencies or negative aspects on the actual communication of the theme, but also to understand the viability, or initial reaction, to the proposal of an advertising campaign. Regarding the first aspect, two major topics were identified: the lack of information and the problem of online communication. All the interviewees have knowledge (or experience) of discrimination regarding the LGBT+ community, despite feeling some progress in terms of law protection, compared to previous years, when the fight for equal rights was still at an early stage.

Older age groups are identified as one of the main reasons for current discrimination. Without excluding the discrimination made by women, 10% of the interviewees considers that older men are the main cause of discrimination - something that takes us back to the taboo topic, and the way that this type of knowledge, or rather the lack of it, is transmitted from parents to children and from grandparents to grandchildren. On the other hand, it could also be considered that, in a patriarchal society, gender expressions/ alternative sexualities (Grave et al, 2019) are more easily tolerated in girls than in boys, as the former are not considered a direct threat to the ideal of hegemonic masculinity (Connell, 1987; Connell & Messerschmidt, 2005).

The difference between rural and urban areas was also highlighted. In rural areas, the information is not so well known. In addition, the notorious aging of rural populations reinforces the trend towards greater discrimination. In urban areas, on the contrary, there is greater diversity and population density and, usually, greater access to information.

One of the participants referred the existence of discrimination inside the community: “There aren’t people as judgmental as the ones of the LGBT+ community. If you don’t respect a certain pattern you’re automatically cut off, seen as a joke, as the ‘shame of this community’ (Diogo). This reinforces the importance of an educational campaign, and the influence it can have even on the way LGBTQ+ members accept each other, so often dependent on stereotypes about what is correct or nonproblematic.

The LGBT+ community members do not feel safe, inside or outside their own community. Beside the already mentioned internal discrimination, the spaces traditionally frequented seem less safe, due to the recent “populist” drift: “Although I’ve done it in the past, right now [...] I don’t openly express my sexuality in public, out of fear of what might happen to me and also to my girlfriend. I also have anxiety about going to our safe spaces (as pubs and LGBT+ associations), because you never know who will be there” (Maria). Some refer the fear of simply walking in public: “We can’t walk down the street holding hands or show affection in public [...]” (Ana).

When asked what aspects should be addressed in a campaign on the LGBT+ community, the word “education” occurs 7 times, followed by “representation” (5), “stigma” (4) and “respect” (3). That is, the importance of explaining, informing, but also overcoming invisibility is highlighted. The theme of education can be seen as comprehensive (even when addressed to the community itself), with the ultimate goal of fostering the acceptance of diversity.

An important aspect is showing the different gender identities/expressions and sexualities, deconstructing essentialist ideologies. It is stressed, however, that this information needs to be public and also scientific: “It has to be explained to the entire population, by means of scientific and irrefutable sources, that the LGBT+ community are not “freaks”, they’re as normal as any other person, and represent no danger to others” (Ana).

The concern with information addressed to everyone and publicly disseminated tries to remedy the problem of the online, which tends to function in a closed circuit. The scientific side is also important, as to be able to refute false information, providing a strong foundation for the credibility of what is communicated^[2].

By answering the question about what types of communication they have already experienced or know, what the interviewees most refer is that online information is very abundant, but there is little in physical support. In addition, online information works in a closed circuit, is too proselytizing or “filtered” to please those who

[2] Cf. concept of “gender ideology”, vulgarized by Bolsonaro, but also used by the Portuguese Episcopal Conference (CEP, 2013).

will read it, resulting in generalist and little useful messages. I find information on all sorts of forms, [but] usually more related with events than with education.” (Lucas). [There’s] information online, produced by the organizations or by LGBT+ ‘influencers’, but that information doesn’t reach everyone. On the streets, can’t find anything other than posters for the LGBT+ march and *Arraial Pride* [Lisbon]” (Susana).

There is a need of explaining, in a more substantiated, scientific and concise way, concepts related to gender identity/expression. Although there is great abundance of online content - just a click away - the topic remains a kind of taboo: always present but invisible, as if it were not in front of people’s eyes. One realizes it is not enough to communicate/ publicize, but to be intelligent in the way one communicates: not to choose only one type of support and to devise strategies that may reach teenagers and young adults.

Finally, keep in mind that this type of messages will always encounter some kind of resistance - e.g., certain religious or conservative media. In this sense, the campaign has the function, at first glance, to confront these individuals. Through visual shock, surprise, etc. but always in a respectful and positive way, one may lead them into self-questioning and, eventually, change the prejudiced behaviours they might have.

2.2 Prototypes

By the special circumstances of COVID19’s pandemic, this stage was developed mainly by the designer, meaning that, on one hand, the execution time decreases, but on another hand, inevitably, the project gains a more personal character - apparently, the opposite of what was intended. It is important to emphasize, however, that in the design of these prototypes a concern of fidelity to the principles of participatory design was maintained, namely in the treatment of content.

Nowadays, the digital has a huge weight in communication, due to how easily information travels and reaches people. Hence the option for a web platform, as a “depository” where information can be stored with purpose of disseminating content, e.g., theoretical information on the themes that the campaign addressed, providing hyperlinks for more detailed reading. From a more technical perspective, Landa’s (2010) content design considerations were used, e.g., integrating support design with brand identity, guaranteeing information hierarchy, offering a rich experience and following ADA Standards for Accessible Guidelines for Web Design.

The campaign aims to raise awareness about a certain topic, but at the same time provide educational content about it. The first page, then, takes on the role of helping to raise awareness

and explain the reason why the campaign exists, while the second page allows you to explore theoretical information and references for those who want to know more.

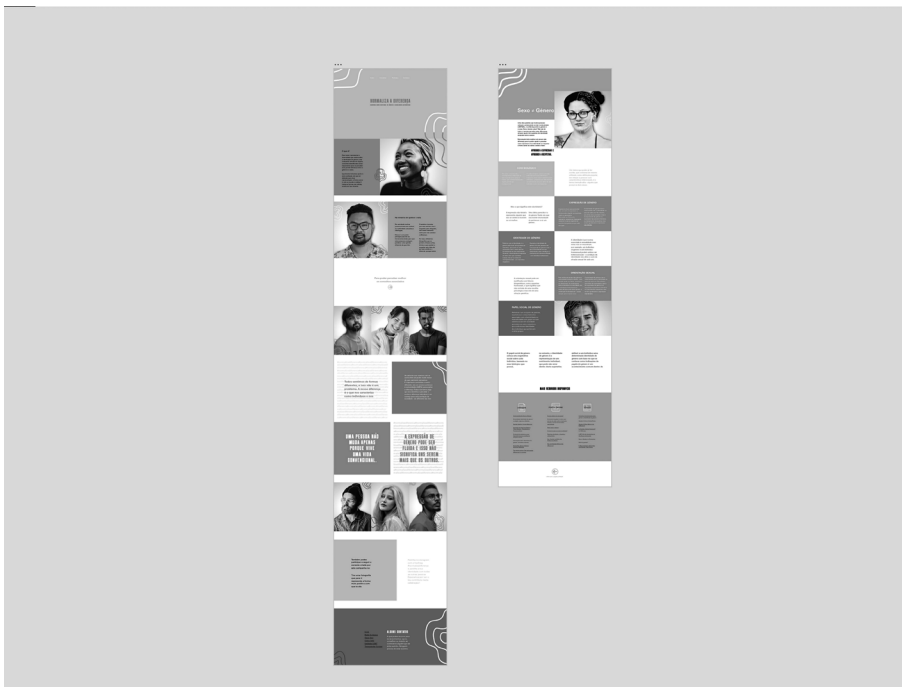


Fig. 2: First prototype of the web platform.

The physical support is seen as a more typical approach to a campaign. There is an opportunity here to create information catalysts, taking advantage of the streets and public spaces to place small information points, MUPI/ outdoor information panels, as well as flyers left in cafes, bars, cultural spaces, etc. - that end up having a different function from the web platform, but also contribute to publicize the existence of the latter.

As with the digital support, it was taken into account that the information/text has to be reduced in these physical supports, since we intend to use them as catalysts for the search of information (e.g., attractive phrases, which summarize the content). It is important that the viewer realizes the support and maintains eye contact with it. Smaller media - flyers - have to concentrate even less information and have a more striking phase, to which is added an indication for the web address and a QR code for a mobile phone, allowing access to more information.



Fig. 3: Applied variants on the physical supports.



Another advantage, in physical supports, is the opportunity to design different versions, not only because they may be adapted to different locations, but also because they allow to expand the participatory component of the usability test. With the final execution of these first prototypes, different versions of each support are presented, somehow exploring the placement or interconnection of the elements that were thought to include.

2.3 Participatory Component and Usability Testing

With the enunciation of the campaign supports, and the consequent visualization of prototypes, it seems pertinent to proceed to the usability review/test. This phase corresponds to an attempt of incorporating, or reinforcing, the element of participation in the campaign, since, due to the conditions mentioned above, the first prototypes had to be made only by the designer.

By defining the supports to incorporate in the campaign, we move on to the study of its implementation: understanding how pertinent the supports are regarding the message we want the campaign to transmit - and this reflection becomes way richer if we include the participatory element.

Due to the pandemic situation, the review/test was needed to be thought out in a safer way, which led us to remote usability testing. An additional advantage with this relies on the comfort the participant has - one does not have to move onto a strange new environment but stays inside their own house. This is something that can, in fact, determine a more positive receptivity and less constraint during the first contact with the prototypes. This way, less biased results are obtained in the answers.

In order to formalize the revision planning and also organize a questions script, the good practices for remote testing (Morales, 2020) were used, namely:

- Context questions - designed with the purpose of reassuring the participant, in order to relate his/her to the test theme in question, in this case, the visualization of a campaign.
- Tasks and scenarios - conceiving hypothetical situations to situate the participant on the product or service that is being tested.
- Experience questions - understanding the opinions about the prototypes; confirming positive and negative aspects and also reflect on possible motives that allow for the participant to share this campaign with closest people.

The participatory and usability review component was divided into two phases:

- Visualization of the web platform, with analysis of the content organization and perception of the interactive functionality designed, in order to analyze points to be incorporated or changed.
- Visualization of prototypes for physical supports, by presenting images/mock-ups built from real photos, in order to try to 'transport' participants to a place where they would ideally cross with them.

To view the web platform, we used a program to build the prototype, i.e., Adobe XD, in which there is the possibility of using a hyperlink, so that anyone can see it. As for physical supports, the problem of how to get mock-ups to the participants was raised. After studying the various possibilities (email, Skype, screen sharing), we opted for the creation of an account on the social network Instagram, which served as a repertoire of images. As an unexpected consequence - but valid, by reinforcing the participatory component

of the project - this action instilled in the participants the idea that social networks might also be used to advertise the campaign. From here, two groups of participants were conceived: designers and non-designers. It was intended to understand if there was any difference in argument and content of answers – keeping in mind, however, that the objective was not to separate, but to conjugate, to perceive points of connection between the two groups.

The pandemic situation also determined changes in the interaction of participants and groups. Ideally, they would meet in a single room, creating an opportunity for dialogue between participants, and it would also be easier to see points of convergence. The impossibility of this scenario required a greater *a posteriori* analysis, by the researcher, of the collected material.

In the web platform tests, many aspects were highlighted by the participants: easy and intuitive interaction, succinct and well-explained content, animations that work very well to capture the curiosity of those who are watching, leading to wanting to discover more about the topic. “The messages are very clear, and with great impact.” (Maria). “[...] you can see the topic was treated with immense sensitivity” (Carla).

Some suggested improvements refer to the graphic aspects: increasing of the text, aligning as much as possible, bigger spacing between website segments. “The titles on concepts might be perhaps larger, so that one realizes there’s an introduction.” (Gonçalo); “the [background] text composed with hashtags gets a bit confusing with the other text on top” (Isabel).

Regarding the physical supports, the MUPI were complemented by its colors: the more striking the color and the contrast between the lettering, the more captivated is the audience. As for the flyers, it was decided they work better if there is a picture in the composition and not only text: “Using photography makes for a better job at captivating the interest and curiosity, [people] wanting to know more about what the campaign has to tell” (Isabel); “the one with photos causes instant curiosity; [...] only text might not be interesting enough” (João).

For the horizontal outdoors there were identified two types of situations:

- More restrict spaces, e.g., Lisbon underground: if there is too much visual noise, a simple contrast of background colour and text is enough to break that noise and captivate.
- In wide outside context, such as streets, the outdoor with black-and-white photography (fig.3) “makes for a better communication, it has [...] a more direct function due to the few elements

of colour and also becomes way more explicit to the person who is seeing it for the first time” (Marco).

After reviewing the prototypes, it was then possible to implement second prototypes, based on the changes suggested by the test participants. The concern with amplifying the participatory component led to the invitation of new participants to the campaign, whose function was to take pictures of themselves (and/or friends) in a *photographic empowerment* strategy (Niina Savolainen, 2014). The photographic capture is a key element of the new prototypes, establishing an opportunity for the empowerment of these participants.

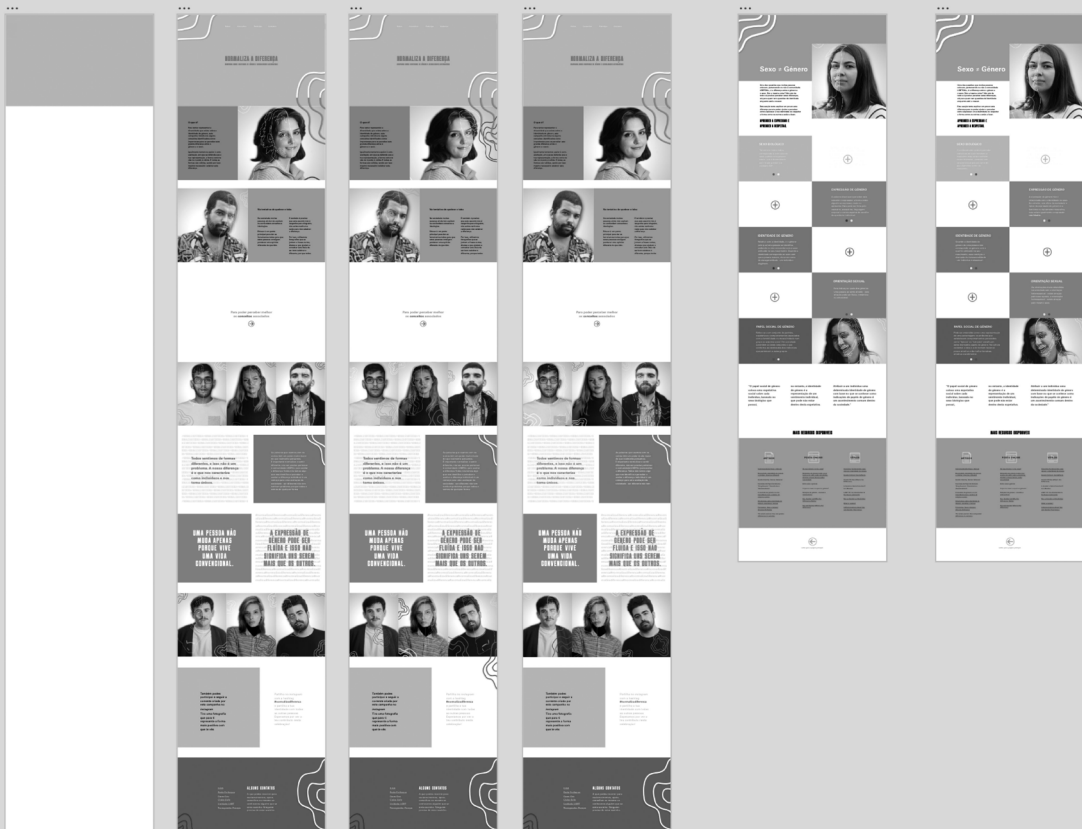


Fig. 4: Final prototype of the web platform.



Fig. 5: Final prototypes of the physical supports.

3 Conclusion

With the evolution of societies, gender identity and non-normative gender expressions became increasingly current topics, and they are addressed in conversations with young people, despite a certain taboo that still surrounds the topic.

The realization of qualitative questionnaires to a small sample of Portuguese teenagers and young adults allowed to realize there is a clear awareness of the stigma, as well as to identify a concern in the LGBT+ community with the way this theme is communicated, e.g. problems of lack of clarity and assertiveness. The available information needs to combine facts (scientific data) with brief and succinct explanations, so it can reach the largest possible audience.

Through the co-creation process, three stages of project development were conceived - *involvement, cooperation and empowerment* - providing inter-help between participant and designer in the elaboration of an advertising campaign. Despite the difficulties posed by the pandemic context, it was possible to carry out participatory reviews on initial prototypes, promoting key aspects for better transmission of messages and acceptance of difference. These contributions resulted in a second set of prototypes (fig.4, 5), which are closer to a final version, where this participatory coalition is fully expressed.

The exploration of participatory and communication design, through an advertising campaign, is reflected here in a work still in process, whose main purpose is to contribute to the discussion on the inclusion of participants in design projects, that address gender identities and non-normative sexualities.

References

- Alves, P., Mota, C. (2015). Identidade de género e orientação sexual na adolescência. Natureza, determinantes e desordens. [Gender identity and sexual orientation in adolescence. Nature, determinants and disorders]. *Revista Eletrónica de Educação e Psicologia*, 2, 45-61. Retrieved from http://edupsi.utad.pt/images/PDF/revistaN2/identidade_de_genero_e_orientacao_sexual_na_adolescencia.pdf.
- Bardin, L. (2006). *Análise de conteúdo [Content analysis]* (L. de A. Rego, A. Pinheiro, Trad.). Lisboa: Edições 70.
- Bento, D. 2018. Autodeterminação do género legal: consagrar o direito a existir [Legal gender self-determination: consecrate the right to exist.] *Sociedade Portuguesa de Sexologia Clínica*. Retrieved from <https://spsc.pt/index.php/2018/05/07/autodeterminacao-do-genero-legal-consagrar-o-direito-a-existir/>.
- Bogdan, R. C. Biklen, S. K. (1994). *Investigação qualitativa em educação [Qualitative investigation in education]*. (M. J. Alvarez, S. Bahia dos Santos, T. Mourinho Baptista, Trad.). Porto: Porto Editora.
- Butler, J. (1999). Gender trouble: Feminism and the subversion of identity. Ed. rev. New York: Routledge.
- CEP (2013). A propósito da ideologia do género, Carta Pastoral da Conferência Episcopal Portuguesa [Regarding gender ideology, Pastoral Letter of the Portuguese Episcopal Conference], 14.11.2013. Retrieved from <http://www.conferenciaepiscopal.pt/v1/a-proposito-da-ideologia-do-genero/>.
- Connell, R. W. (1987). Gender and power: society, the person and sexual politics. Sydney Boston: Allen & Unwin.
- Connell, R. W.; Messerschmidt, J. W. (2005). "Hegemonic masculinity: rethinking the concept". *Gender & Society*. 19 (6): 829-859.
- Erikson, E.H. (1968). Identity: youth and crisis. New York: Norton & Co.
- Fausto-Sterling, A. (2019). Gender/Sex, Sexual Orientation, and Identity Are in the Body: How Did They Get There?. *The Journal of Sex Research*, 56(4-5), 529-555.
- Filho, A. (2005). Uma questão de género: onde o masculino e o feminino se cruzam [A gender issue: where the masculine and the feminine intersect]. *Cadernos Pagu*, 24, 127-152.
- Grave, R., Oliveira, J., Nogueira, C., (2019). Desidentificações de género: performances subversivas [Gender disidentifications: subversive performances]. *Ex Aequo*, 40, 89-104.
- Goodman, Leo A. (1961). «Snowball sampling». *The Annals of Mathematical Statistics* 32 (1): 148-170.
- Hallman, J., Yarhouse, M., Suárez, E. (2018). Shame and Psychosocial Development in Religiously Affiliated Sexual Minority Women. *Journal of Psychology and Theology*, 46(1), 3-21.
- Halskov, K., Hansen, N. (2015). The diversity of participatory design research practice. *Int. J. Human-Computer Studies*, 74, 81-92.
- Holmlid, S. (2009). Participative, co-operative, emancipatory: From participatory design to service design. *First Nordic Conference on Service Design and Service Innovation*, Oslo. 105-118.
- Landa, R. (2010). *Advertising by Design: Generating and Designing Creative Ideas Across Media*. 2nd ed, John Wiley & Sons, Inc.: Hoboken, New Jersey.
- Manzini, E. Design Culture and Dialogic Design. *Design Issues: Volume 32*, 1, 52-59.
- Moita, G. (2006). A patologização da diversidade sexual: Homofobia no discurso de clínicos [The pathologization of sexual diversity: Homophobia in the discourse of clinicians]. *Revista Crítica de Ciências Sociais*, 76, 53-72.
- Morales, J. (2020, March 17). Remote Usability Testing 101 & Getting Started. [Web blog post]. Retrieved from <https://xd.adobe.com/ideas/process/user-testing/remote-usability-testing/>.
- Pinto, T., Alvarez, T. (2014). Introdução. História, história das mulheres, história do género. produção e transmissão do conhecimento histórico [Introduction. History, history of women, history of gender, production and transmission of historical knowledge]. *Ex Aequo*, 30, 9-21.
- Rosario, M., Schrimshaw, E. W., & Hunter, J. (2011). Different patterns of sexual identity development over time: implications for the psychological adjustment of lesbian, gay, and bisexual youths. *Journal of sex research*, 48(1), 3-15.
- Saleiro, S. (2017). Diversidade de género na infância e na educação: Contributos para uma escola sensível ao (trans)género [Gender diversity in childhood and education: Contributions to a gender-sensitive school]. *Ex Aequo*, 36, 149-165.
- Sanders, E., Stappers, P. (2008). Co-creation and the new landscapes of design. *CODesign*, 4(1), 5-18.
- Santos, M. (2019). *Dança em formação: Um estudo comparativo entre Portugal e Brasil [Dance in formation: A comparative study between Portugal and Brazil]* (Unpublished master's thesis). University of Aveiro, Aveiro.
- Sultana, N. Shahriar, H. (2017). *Understanding the Impact of Gender-Neutral Communication on Brand Image*. Lund University School of Economics & Management, Lund.
- Vala, J. (1986). A Análise de Conteúdo [The Content Analysis] in Silva, A. S.; Pinto, J. M. (eds.), *Metodologia das Ciências Sociais*, Porto: Afrontamento.
- van der Velden, M., Mörtberg, C. (2014). Participatory Design and Design for Values. In: van den Hoven, J., Veermas, P., van de Poel, I. (eds). *Handbook of Ethics, Values, and Technological Design*. Springer, Dordrecht.

Acknowledgements

We would like to thank every Portuguese teenager and young adult who agreed to participate in the making of this project, from start to finish. Their contributions were crucial to the thoughts surrounding the campaign here idealized.

Design as a Facilitator for Social Inclusion

Keywords: Social Inclusion,
Design for Pluralism, Capacity Building.

Hina Shahid^{a*}

^a*Project Pluralist*

*hinashahid.me@gmail.com

This paper explores the use of design - process, methods and pedagogy to promote social inclusion and pluralism among the youth. It makes the case that design's opportunity-driven approach combined with abductive reasoning and thinking is better suited to tackle uncertain, ambiguous and ever evolving wicked problems such as exclusion - bias, discrimination and hate. It further discusses the work of a design-led social impact initiative based in the United States that uses design and creative facilitation to develop programs intended to cultivate a culture of inclusion in schools and classrooms. This paper outlines the use of systemic and individual behavior change strategies predominantly by; 1) developing learning modules, 2) cultivating pluralist competencies in students, and 3) capacity building for educators, providing facilitation tools and training for implementation at scale. Tested with more than 100 students and six educational institutes, the paper talks about the measurement and impact of the learning modules.

1 Introduction

This paper seeks to explain how design process, methods, and pedagogy were used to create preventive measures to social exclusion / prejudice, discrimination and hate. It delves into the role design can play in capacity building that lends to capability building. The paper explains the development process by outlining; 1) social exclusion and its causes, 2) the need for social inclusion and pluralist competencies as it relates to SDG (sustainable development goals), 3) the design and development of the educational programs / learning modules utilizing experiential and project-based learning approaches and 4) impact and measurement of the learning modules.

1.1 Defining Social Inclusion

At times inclusion is defined as the goal or the process to overcome exclusion. Hence it is imperative to define exclusion first. In the context of this paper, exclusion is defined as an attitude or a behavior that denies economic, political and, or social participation of individuals based on their ethnic, cultural, religious or gender-based identities. The emphasis here is also on the social and interpersonal aspects of exclusion / lack of physical as well as psychological safety. Generally, when exclusion is mentioned we tend to think about explicit examples such as racism or xenophobia that are widely talked about. But some experts suggest that implicit exclusions or bias are more rampant (Banaji & Greenwald, 2013). However, others suggest that exclusionary behaviors are more mainstream than we think, that explicit racism and bias is widespread which people are very much aware of but do not confess to (Davidowitz, 2017).

Inclusion on the other hand means every individual has an equal opportunity for economic, political and social participation regardless of their ethnic, cultural, religious, and gender-based identities, or any other identities that might be deemed disadvantageous. Giving each individual an inherent ability to belong and to become. Belonging as in social inclusion and becoming as having the agency “to be able to do and to be” (Nussbaum, 2011).

“To be able to do and to be” comes from Martha Nussbaum’s human capabilities approach that frames social inclusion as capabilities, or real opportunities that all individuals in a society must have as a foundational threshold. Meaning, as much as social acceptance is essential to inclusion, so is having the opportunities to reach one’s full potential.

Human capabilities, the term initially coined by Amartya Sen, Martha Nussbaum takes it further by defining 10 of its central capabilities. She frames dignity, equality and non-discrimination among the foundational requirements, or opportunities, highlighting the link between belonging and becoming. Just as true belonging is not possible if an individual is barred from realizing their full potential, social acceptance can only go so far if the individual does not have the ability to reach their full potential.

1.2 Social Inclusion and the Global Development Imperative

A fair amount of global conflicts and challenges are either rooted in, or related to diversity, inclusion or lack of pluralism. Particularly inequality and exclusion driven by ethnic, cultural, religious or gender-based differences. This lack of pluralism permeates every aspect of human capital - economic, healthcare, social, political, and more. Additionally, in the environment of exclusion and inequality, freedom and agency are rendered void, having an adverse effect on human capabilities. Hence, inclusion is an underlying theme for United Nation's 2030 SDG (Sustainable Development Goals), as well as a distinct goal in itself. In the words of UN Deputy Secretary-General Amina Mohammed:

"In the framework of the United Nations, and our current global Agenda - the Sustainable Development Goals (SDGs) - we have embedded the principle of inclusion, a word that is largely synonymous with pluralism. In fact, one of the 17 Goals is dedicated to building peaceful and inclusive societies. I would say that the two are not separate goals, but that societies are more peaceful because they are inclusive." (Mohammed, 2019).

The SDG number four speaks to providing the knowledge, skills and values required by citizens to lead productive lives, make informed decisions and take active participation in resolving local and global challenges. For which education that promotes global citizenship, peace and human rights, intercultural and cross-cultural understanding is crucial. In that regard cross-cultural education is not only important for global citizenship but is also crucial within the context of cultural diversity of a country. One of the targets for this goal is to ensure that all learners acquire the knowledge and skills needed to for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity.

Additionally, SDG number ten is focused on reducing inequality within and among the countries. One of the targets of this goal is to empower and promote the social inclusion of all - irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

Additionally, SDG measures the indicators in four ways (1) national education policies, (2) curriculum development, (3) educator education, (4) student education. In short, the SDG number four and ten pertain to social inclusion - appreciation of diversity and a culture of peace, non-violence, and are about building human capabilities. Project Pluralist's work directly responds to these indicators of developing human capabilities by developing curriculum and building competencies of students and providing resources for educators.

2 Design and Social Inclusion

In the past, design has not played a role in facilitating social inclusion or promotion of pluralism unless it is at behest of, or in service of a corporation, client or customer target group. And for that design has been criticized, and rightly so for the role it has played in acceleration of consumer culture that is far from inclusive. As asserted by Margolin: "Design must disengage itself from consumer culture as the primary shaper of its identity and find a new terrain where it can begin to rethink its role in the world." (Margolin, 2002). In the last decade and a half, the definition of 'design as form giving', has expanded to, 'design as a specific way of thinking, doing and facilitation'. Where the design process, methods and pedagogy have been extracted in the name of design thinking to mobilize profits and create business value. The same design process, methods and pedagogy can be used to build desire and aspirations for a new culture of social equality and inclusion, and to build human capabilities that benefit the entire society rather than a few.

Societal challenges such as inequality and exclusion driven by ethnic, cultural, religious or gender-based differences can be referred to as "Wicked problems". A term coined by Horst Rittel and Melvin Webber, both urban planners at the University of Berkeley in California, as they co-authored an article, "Dilemmas in a General Theory of Planning". They observed that there is a whole host of social planning problems that cannot be successfully tackled through the traditional linear and analytical approaches. Wicked problems according them, are ill-defined, ambiguous, dynamic and contextual, with strong stakeholder dependence. And due to that very nature, they cannot be solved through conventional linear and analytical processes such as the scientific or systems-engineering approaches (Rittel & Webber, 1973).

As Jeff Conklin writes: "wicked problems need more than studying - that little can be learned about a wicked problem by objective data gathering and analysis. Wicked problems demand an opportunity-driven approach that involves - creating experiments, testing prototypes, and launching pilots." (Conklin, 2001). In essence learning by doing. The opportunity-driven approach requires abductive reasoning and thinking, and is better suited to tackle uncertain, ambiguous and ever evolving problems. This approach of 'problem solving' is especially suited to tackle wicked problems because it

requires shifting the focus from 'solving existing problem' to 'facilitating or creating desired future state'.

Thus, making design and its ability to 'facilitate or create desired future state' especially suited for social impact and innovation. The key differences that sets design apart from the traditional (rational, scientific or systems-engineering) policy focused research to legislative efforts are its ability to; 1) de-construct the problem from the human lens, 2) apply opportunity-driven approach that takes human desirability in to consideration, 3) imagine and frame alternative possibilities, and 4) create tangible and testable experiments and prototypes that could be launched and learned from in the real world context. Additionally, design has the power to move and engage people on an emotional level.

3 Utilizing Design for The Development of Learning Programs

Project Pluralist, a design-led non-profit based in the United States is dedicated to creating a culture of pluralism where people with different beliefs, identities and viewpoints can belong together. Its core programs are focused on tackling social exclusion - bias, discrimination and hate by promoting inclusion and pluralism among youth. The organization wanted to develop programs (curriculum / learning modules) that instill what they call as pluralist skills of empathy, inclusion, equality, curiosity, collaboration, and efficacy. The organization utilized design to; 1) understand the problem of exclusion from the human lens, 2) imagining and framing alternative possibilities, and 3) developing testable and measurable programs.

3.1 Social Exclusion Through the Human Lens

The general view in the U.S, including that of educators is that as younger generation is racially, ethnically and religiously more diverse than the previous American generations, as a result 'they are wired to be inclusive'. But the data suggests otherwise. Incidentally there has been an uptick in exclusionary behaviors - various forms of discrimination, as well as hate crimes in the U.S schools. Where approximately 30 percent of young people admit to bullying others in surveys, and 70.6 percent of young people say they have seen bullying in their schools (NCES, 2007). With new mediums in use 15 percent of students ages 12-18 have experienced cyberbullying (CDC, 2017). This problem of discrimination has been compounded by the high number of juveniles committing hate crimes (Comstock, 2020). In a survey of over 10,000 K-12 educators, 90 percent said that school climate has been negatively affected since the 2016 election cycle, and 80 percent expressed increased anxiety on the part of minority students - students of color, Muslims, immigrants, LGBTQ (SPLC, 2017). FBI's hate crimes data from 2017 shows that schools and colleges are the third-most common location for hate crimes (Modan, 2019). This shouldn't come as surprise for the youth are observing and mirroring the times, they live in. In the words of James Baldwin: "Children have never been very good

at listening to their elders, but they have never failed to imitate them." (Baldwin, 1961).

Yet, most schools and college campuses lack the tools to address the issue of intolerance and hate on their campuses. Moreover, data suggests that Young Americans do not differ too much from their parent's generations when it comes to implicit exclusions or bias (Banaji & Greenwald, 2013). Proving that simply putting different kinds of people in proximity to each other without meaningful interactions does not reduce implicit bias or exclusionary behaviors. Some suggest that exclusionary behaviors and attitudes have morphed over time, or are well concealed but have not disappeared, even among the younger generations (Davidowitz, 2017).

While social exclusion - prejudice, discrimination and hate in the United States are not new problems, they have intensified, and part of that intensity is focused towards influencing youth. This has been a result of extrinsic conditions as well as intrinsic motivations. Extrinsic factors such as seismic changes in economy and demographics, combined with alternative media platforms and unprecedented uncontextualized connectivity are creating frictions and an environment of anxiety - giving rise to discrimination and hate (Shahid, 2018). The intrinsic motivations - in-group superiority, conformity and rigidity, heightened in-group empathy, perceived lack of agency, exclusion and isolation, and a desire for purpose and or retribution become vulnerabilities are a combination of existing societal prejudices and the extrinsic factors (Shahid, 2020). In the digital age, these vulnerabilities are easily exploitable making individuals an easy target for hate groups.

In the past the immediate social circle was the biggest influencer, something that parents had some level of control over. But that has changed with the advent of ubiquitous devices, social media, combined with the personalized content and recommender algorithms. Making it easier for hate groups to reach young minds quickly and easily with a click and a scroll. The upward trend of inflammatory and hateful online content has become the great radicalizer of today (Tufekci, 2018). Much of the mediums and the messages are targeted towards youth. Filtering the content could go only so far, as the recruiters of these hateful ideas and ideologies find new ways as new technologies emerge.

In the above-mentioned context, the exclusionary behavior comes as an emotional response to the extrinsic factors, combined with the existing, or historic bias towards marginalized groups. Hence, looking at social exclusion as a human condition and a human experience enables to see the problem through a different perspective, making a case for tackling it through new approaches.

3.2 Imagining and Framing Alternative Possibilities

The default solution to tackle social exclusion - racism, xenophobia, hate crimes would be to stop people from such behaviors. By telling them what not to do and enforcing that by either setting new rules or putting policies in place. However, new insights into human behaviors tell us otherwise. Project Pluralist employed these new insights from the field of psychology, behavior economics and anthropology in developing the programs (curriculum and learning modules):

- Desirable behaviors & new competencies; To change an existing behavior new behavior needs to be introduced. Humans choose behaviors and attitudes based on the existing ones that surround them, learning from and mimicking them. New behaviors are built with new skills and competencies. To imitate and reinforce the new behaviors, new competencies and skills need to be developed. The organization's ongoing research had identified skills necessary to cultivate inclusive and pluralist culture. The curriculum was designed as such to promote and instill the pluralist skills of empathy, collaboration, curiosity, kindness and efficacy.
- Provoking human curiosity about the 'other'; By encouraging to see the 'excluded others' in a new light with positive imagery and associations can stop exclusionary perspectives. And highlighting similarities between the various groups, bringing out the human elements that unite everyone. The curriculum is designed to build a sense of exploration to discover and to understand other cultures, perspective, ideas, thinking and seeking new learning experiences.
- Reflection and complexity; Exclusion feeds on simplistic and reductionist narratives. The more awareness of complexity of identities, perspectives and issues, the less is the risk to fall into negative stereotyping, otherization and scapegoating. Tolerance for, and appreciation of cultural diversity where multiple and diverse expressions of identities are celebrated enables people to move away from labeling, categorizing, and classifying people. The above-mentioned pluralist competencies build the ability to understand the complexity of the world and ambiguity of some of the pressing challenges it faces today. It was imperative to design student exercises and projects that would develop the skills and address complex issues.
- Individuals actions, systemic reach; Individual exclusionary behaviors and choices overtime get embedded in institutions and policies that in turn create exclusionary systems that become impossible to dismantle with individual choices alone. It is clear that while individual behaviors have an enormous impact, sweeping cultural change is not possible without considering systemic interventions. With that in mind the classroom and schools were not just seen as venue for youth engagement but rather an important part of the youth ecosystem. As the youth (13-18 years old) spend most of their time on online

media and entertainment sites, followed by the time spent in school with teachers and their peers. This made school, peers and teachers an important and influential stakeholder in the youth ecosystem.

This strategy resulted in development of two programs a 'one-day immersive workshop' and a 'modular toolkit' geared towards ages of 13-21, middle to high school students focused on servicing the entire classroom' addressing both systemic and individual behavior change. Both programs include; 1) activities, exercises and projects for students, 2) cultivating pluralist competencies in students, and 3) capacity building for educators providing how-to's, facilitation guides and training.

The workshop acts as a primer and a short-term engagement by schools and teachers, while the modular toolkit is a long-term participation by teachers and schools. One key aspect of both programs was the focus on 'Learning by Doing' where creative facilitation plays an important role in nudging students to think, question, seek and act. The curriculum provides opportunities for active learning - simulations, role play, problem solving exercises and collaborative projects. The focusing shifts from "how to teach youth" to "how to involve them" and instead of treating them as 'passive information-seekers', the idea is to engage them as 'active solution-seekers'.

3.3 Developing Testable and Measurable Programs

The curriculum of the 'one-day-workshop' and the 'modular toolkit' was developed by employing the design process, methods and pedagogy. Each program is designed to take students through the design process - Learn, Understand, Ideate, Share and Reflect as a way to understand and cultivate new behaviors.

Additionally, the design studio model of learning and teaching emblematic of design pedagogy is one of the most prolific examples of experiential, active and project-based learning. The experiential learning takes place by experiencing a new phenomenon, reflecting upon it, conceptualizing the experience into a new knowledge and then applying it to further their knowledge (Kolb, 1984). As a highly practice-based discipline design is taught through experience and practice. Each specialization within design shares this inherent commonality of learning by doing.

As in David Kolb's experiential learning model, students learn with concrete experience, by engaging in a project or a task - experiencing a new phenomenon. In turn reflecting upon that experience - by pausing the "doing" and stepping back from the project / task to review. This is followed by conceptualizing what they have experienced into new knowledge. The last stage is applying the learning taking the new understanding and translating it into predictions on which actions will refine or revise the project / task.

Incorporating this design pedagogy enables students to learn by doing projects, asking questions, reflecting on ideas, and interacting with each other. Inherently using the design methods of perspective taking, collaboration and solution making.

The workshop and modular toolkit were initially developed as prototypes and tested with students, teachers and school administrators. From the first iteration to the most recent one, over 90 students from middle and high school students have participated in the workshop, ensuring robust feedback was collected in terms of facilitator training and the workshop content. The students responded well to critical and complex concepts, and enthusiastically participated in most the activities and projects. The objective of the prototype testing was to gather insights around; 1) the workshop content and structure, and 2) measurement tool to evaluate the impact.

As expected, the iterations had to be made to the content and structure by simplifying some of the activities, giving more time to discussions and process information. The strength of the workshop and toolkit modules depends on the teacher's mastery of creative facilitation. Their ability to guide discussions around sensitive topics, nudge students to think, collaborate and reflect, and allowing students to make their own conclusions while balancing the act of directing them towards constructive and positive outcomes. These abilities are not a given for most K12 teachers or school staff and for that reason special attention was paid to teacher training materials.

Beyond the student and teacher feedback the learning modules needed evidence of impact. After the iterations and final development of the programs, an instrument was developed to measure the impact. Two existing measurement scales, Interpersonal Reactivity Index (Davis, 1980) and General Self-Efficacy Scale (Schwarzer & Jerusalem,1995) were studied and adapted to create a consolidated evaluative instrument. The adapted measurement instrument, a self-reported survey has a four-point scale. The survey measures the following:

- Perspective Taking; the tendency to adopt the point of view of others.
- Empathic Concern; assesses feelings of sympathy and concern for others
- Personal Distress; assesses personal anxiety and unease in tense interpersonal settings
- Efficacy; assessing an individual's ability to cope with daily hassles as well the ability to adapt after experiencing stressful life events or adversity.

The workshop participants were asked to take the pre-participation survey in the beginning. Upon completion of the program they were asked to take the survey again.

4 Program Impact

The measurement does not yet have a statistical weight as it is in the early stages of adoption. However, as more student participation takes place, a better picture of impact will pan out. Efforts are underway is to implement the toolkit in multiple schools, which may garner a more long-term impact compared to a one-day workshop. So far in the initial rounds, the program made the following impact on the students:

- The self-reported survey indicated a relative increase in perspective taking, empathy and efficacy.
- At an average the student engagement during the entire length of the toolkit and workshop was 70-90%.
- Teachers reported positive behaviors in their classrooms.
- Increased interests among the students in engaging on civic and social issues.

Some quotes from the participating teachers, school administrators, students and their parents:

- Making a difficult subject accessible: "We have had assemblies on suicide prevention and bullying prevention, but students always come off as jaded or not wanting to engage because it's too personal. But in a setting like this with activities and projects they are free to express themselves and discuss even hard topics like racism and hate openly." –Middle school teacher

"The format engages them more so because it is delivered by not just their teacher or a facilitator. They are watching other people telling their story, it makes a huge impact." –Highschool teacher

- Beyond passive information: "I have to attend anti-bullying assemblies ... don't pay attention to what they are saying ... if it was a smaller group like this where we could talk (discuss) and ask questions it would be interesting." –Participating high school student.

"I never thought bias and hate was something I could change or solve." Participating middle school student. Beyond superficial training: "In the last few years on and off there has been a push for D&I trainings, they generally, devolve into tensions between the teachers and staff without any impact on the classroom or students." –Highschool teacher

"We have an opportunity to effect real change through this long-term engagement rather than one offs." –Middle school principal

- Need of today: Even though the parents were not part of the discovery research, we got encouraging feedback from them. One parent said, "This is the need for the day. Our kids are growing up different than us. We don't always know what happening behind closed doors. This is needed in every school."

"I want her (my child) to be exposed to this. I see it as a leadership building program." - Parent of a middle schooler.

5 Conclusion

The organization's goal was to design programs with the potential to impact and improve youth interactions and facilitate social inclusion. Overall the programs have been received well by schools, teachers and even parents. The participating students felt encouraged to be part of the solution rather than regurgitating the problem. Unlike traditional anti-hate / anti-discrimination programs, the learning modules were able to reframe the problem of "how to teach youth" to "how to involve them" by inviting youth in solution making. Participation in solution design shifted the perspective from passive 'information-seekers', to 'engaged solution-seekers' and equipped the youth with confidence. The workshop and the modular toolkit were able to help teachers, and school administrators tackle sensitive issues surrounding social exclusion and helped them in working towards cultivating an inclusive culture in their classrooms.



Target
4.7

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development



Target
10.2

By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

Extrinsic Factors

Difficult life conditions
Changes in economy & demographics
Political polarization
Targeted through alternative media
Uncontextualized connectivity

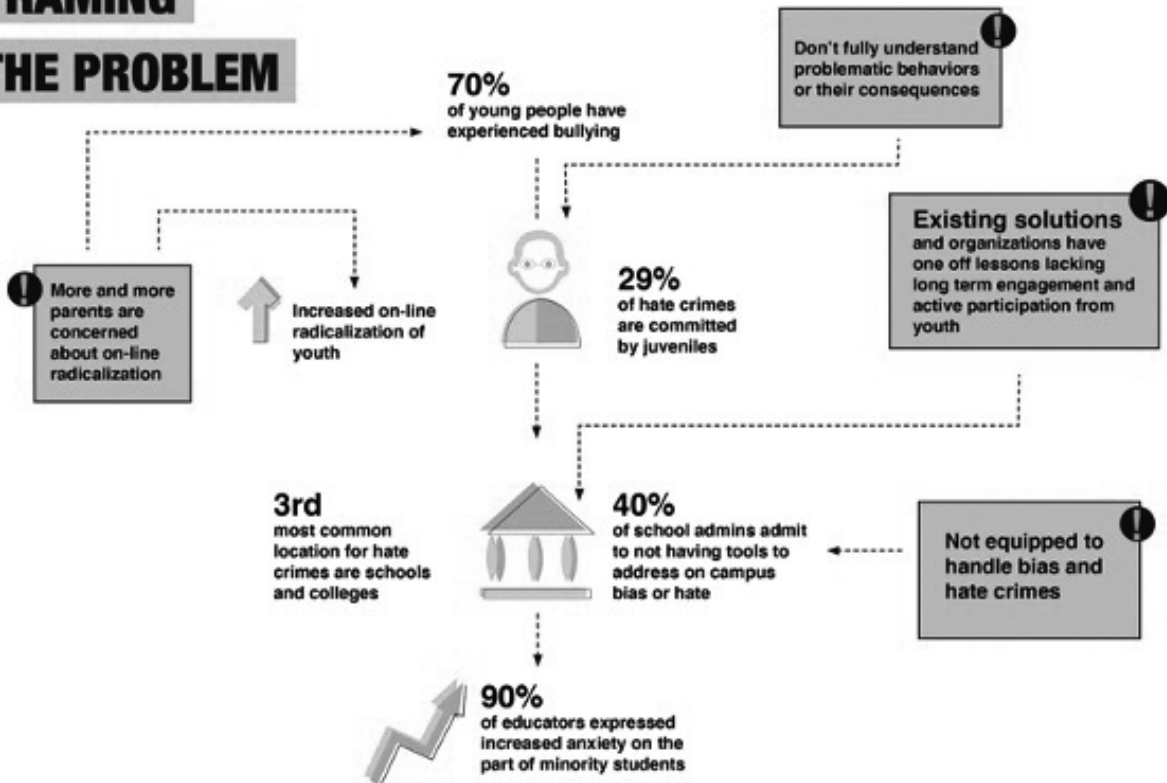
Vulnerable Traits

In-group superiority
Conformity
Heightened in-group empathy
Perceived lack of agency or loss of power
Exclusion and isolation
Desire for purpose and or retribution

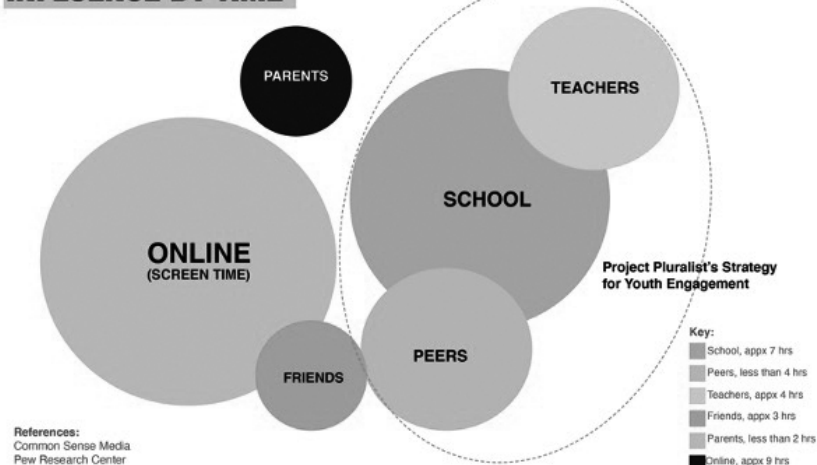


FRAMING

THE PROBLEM



INFLUENCE BY TIME



1 TEAM BUILDING

GOAL

- Team building
- Recognize differences
- Appreciate differences

SKILLS

- Inclusion
- Empathy

PRE SURVEY

Assessment

DURATION: 10 MIN

2 LEARN

GOAL

- Core concepts (of discrimination & extremism)
- Discern extremist content
- Discern discriminatory behaviors
- Videos of former-extremists' journey in and out of extremism

SKILLS

- Critical Thinking
- Interpersonal communication
- Collaboration
- Perspective taking

DURATION: 40 MIN

3 UNDERSTAND

GOAL

- Internalize the information
- Map former-extremist's journey in and out of extremism
- Identify reason for becoming extremists
- Identify reason for leaving extremism
- Inspirational video of individuals (rejecting extremist ideologies)

SKILLS

- Interpersonal communication
- Collaboration
- Perspective Taking
- Critical Thinking
- Inclusion

DURATION: 30 MIN

4 IDEATE

GOAL

- Frame problem statements
- Generate solution ideas

SKILLS

- Critical Thinking
- Interpersonal communication
- Cooperation
- Inclusion
- Fairness
- Resilience

DURATION: 30 MIN

5 SHARE

GOAL

- Present your idea
- Listen to other ideas

SKILLS

- Interpersonal communication
- Collaboration
- Empathy
- Resilience
- Efficacy

DURATION: 40 MIN

6 REFLECT

GOAL

- Sense making
- Internalize learning

SKILLS

- Critical Thinking
- Resilience
- Efficacy

DURATION: 10 MIN

POST SURVEY

GOAL Assessment

DURATION: 10 MIN



Design Process

For problem & solution definition



Adapted D school Model

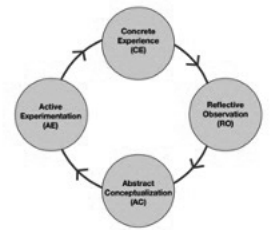
Design Skills

To cultivate resilience traits



Design Studio

As an experiential & project-based learning model



Redrawn Experiential Learning model (Kolb, 1984)

Directions for completing the survey: Students fill out this four point survey by checking the statements that apply to them.

	Never	Rarely	Sometimes	Always
I can always manage to solve difficult problems if I try hard enough				
If someone opposes me, I can find the means and ways to get what I want				
It is easy for me to stick to my aims and accomplish my goals				
I am confident that I could deal efficiently with unexpected events				
Thanks to my resourcefulness, I know how to handle unforeseen situations				



References

- Banaji, M. R., & Greenwald, A. G. (2013). *Blindspot: hidden biases of good people*. New York: Delacorte Press.
- Baldwin, J. (1961). *Nobody Knows My Name: More Notes of a Native Son*. New York, NY: Dial Press.
- Center of Disease Control. (2017). *Bullying in classroom report*.
- Conklin, J. (2001). *Wicked Problems and Social Complexity*. CogNexus Institute. [Online]. Available at: <http://cognexus.org/wpf/wicked-problems.pdf>.
- Davidowitz, S. S. (2017). *Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us About Who We Really*. New York, NY: Dey Street Books
- Davis, M. H. (1980). *A multidimensional approach to individual differences in empathy*. JSAS Catalog of Selected Documents in Psychology, p10, 85.
- Kolb, David A., 1939-. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Margolin, V. (2002). *The Politics of The Artificial – Essays on Design and Design Studies*. Bibliovault OAI Repository, the University of Chicago Press.
- Mohammed, Amina. (2019). Retrieved December 1, 2020, from <https://www.un.org/press/en/2019/dsgsm1294.doc.htm>
- National Center for Educational Statistics. (2007). *School Crime Supplement to the National Crime Victimization Survey*.
- Nussbaum, M. C. (2011). *Creating capabilities: the human development approach*. Cambridge, Mass. Belknap Press of Harvard University Press.
- Ritchey, T. (2013). *Wicked Problems: Modelling Social Messes with Morphological Analysis*. Acta Morphologica Generalis, Vol. 2 No. 1.
- Rittel, H., & Melvin, W. (1973). *Dilemmas in a General Theory of Planning*, Policy Sciences 4, Elsevier Scientific Publishing, Amsterdam, pp.155-159.
- Schwarzer, R., & Jerusalem, M. (1995). *Generalized Self-Efficacy scale*. In J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs, pp.35-37. Windsor, UK: NFER-NELSON.
- Shahid, H. (2018). *Preventing Extremism: A Design-led Approach to Building Resilience*. Savannah College of Art and Design, Savannah.
- Southern Poverty Law Center. (2016). *After Election Day: The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools*.
- Tufekci, Z. (2018). *YouTube, the Great Radicalizer*. Retrieved December 1, 2020, from <https://www.nytimes.com/2018/03/10/opinion/sunday/youtube-politics-radical.html>
- UN Sustainable Development Goals: Sustainable Development Knowledge Platform. Accessed April 27, 2020. <https://sustainabledevelopment.un.org/?menu=1300>.

Conversational Spaces in the Craft for Empowerment System in Pakistan

Keywords: Development,
Manifested Power Dynamics,
Systems Thinking, Critical Conversation,
Context Sensitive Knowledge.

Gwendolyn Kulick^{a*}

^aUniversity of Wuppertal
German University in Cairo
*gwendolynkulick@gmail.com

Craft projects are a vital part of Pakistan's grassroots empowerment sector, involving large development aid projects as well as small private initiatives and social enterprises or higher education institutions that aim to include social responsibility and cultural heritage into their curricula. At the backdrop of a large exploitative craft sector that employs millions of people, they are usually embedded in overarching objectives of poverty alleviation, cultural heritage preservation and social justice. With aid, empowerment and philanthropy serving as point of departure, it is not surprising that power imbalances between stakeholders in craft projects – those who are vulnerable to exploitation and those who aim to help them – dominate structures, processes and mind-sets. While they keep driving initiatives they pose barriers, especially when depending on foreign grant schemes, to more context sensitive establishment of ethical value chains. This paper introduces an extensive empirical design research process into the entanglements of craft in grassroots empowerment. It unfolded the potential for conversational spaces as a framework for collective critical reflection and action, in which stakeholders learn and support each other mutually, with a special focus on encouraging marginalized craft producers to articulate their positions and ideas.

1 Introduction

It is unsurprising that craft projects are a vital part of grass-roots empowerment activities across Pakistan, usually entangled with overarching objectives such as poverty alleviation, social justice, community development or cultural heritage preservation. After all craft is loaded with socio-economical and cultural meaning in South Asian history, unthinkable without hand spun fabric as a – thoroughly controversially debated – symbol for independence from British colonial power. So is there still anything that a design research into what I term ‘craft for income projects’ in Pakistan and in this paper refer to as CFIP can contribute to the common good in the context of development aid, philanthropy and empowerment, in which they are rooted? In my view it can. The country’s craft culture is rich, diverse and omnipresent, from cheap handmade everyday items, widely available in neighbourhood bazaars to exquisitely handcrafted pieces in high-end designer collections. The craft sector is also a significant part of the labour force. Millions of people, including an almost equal percentage of women earn their living through craft making (PBS, 2018, p.28, p.31, p.41)^[1], albeit the majority of them under precarious conditions of the informal economy where they lack legal protection and remain vulnerable to financial exploitation and disrupted value chains. CFIP are initiatives of different scale and format and aim to establish ethical standards such as fair wages, continuous workflows, healthy working environments, realistic timelines and appreciation of the handmade as a cultural heritage worthwhile preserving. One common objective is creating income opportunities for poor craft producers, typically home-based women workers with embroidery skills, hence the collective term CFIP.

This paper is a reflection on an empirical research into the real life experiences of CFIP stakeholders. It was ignited by a fascination by the potential of merging craft making, economic and human empowerment in combination with a discomfort after realizing that many CFIP, despite their many valuable achievements, appear to remain behind their own expectations. What began with the idea to improve ethical craft value chains through developing guidelines for best practices expanded into unearthing the transformative potential of creating conversational spaces as a framework for constructive mutual learning-by-doing between people from extremely different educational, socio-economical, cultural and geographical backgrounds who meet in CFIP. Aid consultants, NGO managers, designers, design academics, students, entrepreneurs and of course marginalized craft producers were all part of a research process that can be characterized as an on-going conversation and collective critical reflection. It altered not only the course of the research but unintentionally set in motion independent experimental CFIP approaches between some research participants. Becoming aware

^[1] Pakistan Bureau of Statistics.

of these satellite initiatives complemented the analysis of the empirical findings through the systems lens. Analysing entities, actions and relationships from a bird's eye view enabled to extract the emerging craft for empowerment system. The display of its top-down hegemonic power dynamic, experienced as one of the main barriers for many CFIP's challenges, forms the basis for conceiving conversational spaces as a systems intervention towards more distributed and contextually sensitive thinking, voicing and acting. Besides systems thinking and approaches of design as collective and constructive activity, postcolonial discourses, concerned with empowering marginalized people through supporting consciousness and voice, provide theoretical support.

2 Research Motivation and Process

Embarking on this research resulted from own experiences in two craft initiatives. One was self-initiated with a group of women, relatives of a friend, in a small town in the South of Pakistan, who make a special kind of patchwork blankets, called *rillis*. We sent them designs, which they produced, but it turned out that they didn't enjoy the process because they couldn't relate to the designs. They had made them for us. They also did not consider themselves poor, hence not depending on an income through making *rillis*. The distance – about 1,300 km away from Lahore where I taught design at the time – additionally made interaction difficult. In the second project teenage girls in minority neighbourhoods in Quetta in Baluchistan were interested in designing products using their communities' typical embroidery styles. The project, embedded into a wider program of child protection, was discontinued when the international grant that had enabled it terminated. By that time promising prototypes had been developed but no value chains were established. The embarrassment about this premature end resulted into a search for other opportunities for the girls but only some could be connected to an established craft NGOs.

So why are such craft projects initiated repeatedly if the positive impact seems so difficult to achieve? The involved people were dedicated, reflected, flexible and creative about new approaches, and some even showed the desired impact. But all too often they were thwarted by [...] yes, by what actually?

An extensive empirical investigation formed the backbone of the research. The central interest was to investigate real life experiences of people involved in CFIP and consisted of three parts:

- A case study of on-going CFIP of diverse scale and format. What motivates people to engage in CFIP? What have they learned regarding their goals, successful aspects and barriers?
- An action research project with a group of women in a village in walking distance to my university at the outskirts of Lahore, initiated by a studio assistant who lives in the village. What products could be developed and marketed? How could the

proximity of the village and of an art and design school benefit both?

- Two focus groups with diverse CFIP stakeholders who had been part of the case study and the action research project.

What appears like a linear research process can also be described as a continuous reflective immersion into the entanglements of craft, social entrepreneurship, empowerment and aid. The larger context of Pakistan as a research ecosystem added to the dialogic dynamic. With a general culture of ad hoc and spontaneously changing plans, plus regular disruptions by security concerns or infrastructural problems such as long power cuts, it might appear difficult. But with research participants who have internalized high levels of courtesy, flexibility, creativity and resilience to navigate the odds it revealed itself as extremely supportive and vital.

CFIP for the case study were initially identified through the snowball principle, opening up a rich map of people, entities, settings, conceptual approaches and formats such as international aid schemes, social welfare NGOs, government programs, bottom-up community development activities, ethical enterprises, textile companies, fashion design labels, small private initiatives, cultural heritage projects and higher education outreach programs for learning about social responsibility. All together around 15 CFIP were investigated, some only briefly but four projects were followed over several years. Those included a long-term village development initiative with a strong craft component, a craft oriented fashion label which was founded as a joint venture between an apparel industrialist and a community organization in a remote mountain area, and two craft enterprises – one a spin-off of a micro-credit bank and one a spin-off of a social justice NGO. Due to their managers' courtesy and openness it was possible to follow the implementation and experiences of ideas and plans over time periods of four to six years.

A wealth of data in all its genuine and eclectic nature surfaced. Especially in the relationships between people of very diverse socio-economical and cultural backgrounds seemingly absurd situations occurred and revealed unexpected eye-opening insights. During the action research in one such incident the women kept fabric and tools without returning completed products, causing the project to end temporarily. When they wished to resume, upon inquiring about the incident the reply was remarkable: they had thought that I represent an international NGO. Their peers from other communities had warned them to not trust false promises and expect any long-term benefits, but rather take whatever is provided.

For two focus groups (fig.1 & 2) about craft business strategies participants were selected who had been part of the case study and action research project and included academics from design

and entrepreneurship, managers of NGOs, fashion designers, an individual female micro-entrepreneur, three women from the action research project and surprisingly a middlemen from the informal craft market who had heard that something is happening and showed up (Fig.). The focus groups meant a turning point for the research direction. In the discussion CFIP's dependencies on international aid grants and the extreme balancing act that NGO managers have to perform stood out in particular: on the one hand they need grants to continue their work, on the other they know that donor requirements are unrealistic when they expect large numbers of CFIP training participants to become independent craft entrepreneurs within a few months. In reality the training graduates require diverse kinds of continued support. Some become able to sustain their micro-enterprise and can identify a sufficient number of customers but many do not. Therefore NGOs continue to establish reliable customer bases, including textile companies who order large amounts of embroidered fabric but also individual customers with one-off orders. The impacts therefore differ individually from person to person but also between communities due many factors such as levels of education and exposure, geographical location, social constraints regarding traveling, especially for women, and also individual capabilities. For some meeting a customer involves travelling for several days from a remote village, production can come to a hold when a wedding happens, or the monsoon hits and restoring houses has priority. Grant schemes don't acknowledge these complex contextual circumstances but instead keep reiterating the global aid sector's mantra of standardization and scaling.



Fig. re 1, 2: Focus groups A and B with representatives from large NGOs, leaders and faculty members from design institutions, a university manager, home-based women workers and an assistant from a nearby village, a home-based women micro-entrepreneur, a middleman of the informal craft industry.



As a constructive way to address this dilemma focus group participants proposed strategies for forming new alliances, for example between NGOs and design programmes, in order to enhance the impact of their respective projects independently, NGOs parallel to working on grant schemes and universities as part of their curriculum development. They felt that forming more effective partnerships on the ground may even convince international donors to try new strategies. The village women suggested a space on campus for themselves where they could teach students and faculty about embroidery, whereas they would hope for product design input. This was a remarkable shift in their confidence, considering they were hesitant to even enter the campus five years earlier, plus they regarded themselves not only as beneficiaries but also as contributors.

Inspired by the opportunity for open and critical reflection together with stakeholders from different CFIP types some participants afterwards continued to debate their respective initiatives and translated their insights into self-initiated experiments of mutual support. In one example faculty members of the textile and fashion design department volunteered for a large craft NGO in designing training components for trainers who conduct capacity building workshops with home-based women workers, often in remote locations. They themselves often lack exposure to high end craft markets. While the content of these activities is interesting, the more significant insights are that open and critical conversations are desired but opportunities rare. They have the potential to trigger new directions of CFIP. Not each activity might be successful, but the critical reflection about it will expand and diversify the knowledge regarding how to establish and sustain CFIP better and with more contextual sensitivity.

In summary the conversational character of the research reflects in the following:

- The case study developed into a continuously densifying conversation with a diversifying network of research participants, filling the puzzle to understand craft in grassroots empowerment better, especially diverse perspectives, experiences and mind-sets, but also structures and processes of the aid sector.
- The action research's value lay in a long time period plus special proximity, which allowed for resolving conflicts and for building trust without pressures of deadlines or for success indicators. After interacting with each other for around five years, with long gaps after conflicts, a significant difference in confidence and ease with one another could be observed. Debates also sparked among faculty members and students regarding how to approach such outreach projects.
- The focus groups were the most pre-planned conversation but moreover revealed the value of providing opportunities for open conversation, which can serve as an incubator for further constructive debate and context sensitive action.

The benefits of the conversational character throughout the three activities showed in the fact that it is difficult but possible to involve marginalized craft producers into empowering debates, albeit it is difficult to suggest a step-by-step road map for it. In contexts which are as extremely different as this one, a process of immersive critical reflection and action collectively with diverse stakeholders appears paramount and irreplaceable by smart innovation strategies aiming for fast impact.

3 Conversation as Empowering Process

The empowering impact of reflection, realization and articulation has been the subject of scholars and practitioners concerned with marginalization within the Global South. Paulo Freire and Gayatri Chakravorty Spivak both focus on the societal structures in which marginalized people lack not only the voice to express their positions but also the consciousness regarding those. According to Spivak this includes their past because historical events are usually told through the narratives of powerful elites. They manifest as the only history and impact current affairs such as governance, education, economy or judiciary. Marginalized people, often the majority, such as farmers and peasants or slum dwellers don't find themselves represented, and at the same time lack awareness of their own past, because the narratives of their ancestors have been erased from history or remain fragmented anecdotes (Sardar, 1999, p.13). Spivak coined the rhetoric question "Can the subaltern speak?", referring to the subaltern as those people who are subordinated because they are not only economically poor but additionally marginalized due to their otherness – or alterity – from dominant groups due to aspects such as caste, ethnicity or gender. She is concerned with their lack of ability to articulate their positions, because for one they exist outside established institutions, hence lack the platform to do so, and secondly usually others speak for them on their behalf. Between the different external positions, the subaltern loose awareness of their own authentic perspectives, experiences and ideas, and hence face challenges in articulating them. Spivak views creating spaces for conversation as a vital trajectory towards providing voice to the subaltern (Nandi 2009, pp.84-87). Similarly Freire proposes a learning approach towards a critical consciousness, based on processes of observing, reflecting and fostering dialogue towards achieving liberation from oppression. Often privileged people initiate such dialogues towards empowerment of the marginalized. While such a point of departure risks that marginalized voices are not authentic, it is on the other hand rare that they take the initiative themselves because one characteristic of marginalization is their silent acceptance of this position. For the privileged ones one challenge is accepting the ideas of the marginalized even if they don't make sense because they stem from different experiences and worldviews. Freire and Spivak both caution to avoid revenge and reverse the roles of the powerful and the powerless. Rather they promote collective activities, in which marginalized people take on guiding roles. Freire suggests that liberating themselves involves liberating also the powerful from their constraints, aka their manifested mind-sets regarding for example standards of a good life. Only when people of all backgrounds are able to unlearn their worldviews and prejudices they are able to envision a different world with different constellations of power and decision making (Freire, 1970, pp.138-144). Spivak introduces a concept of planetarity beyond ecological sustainability. She considers it vital to care for the otherness of other groups and be open to radically different value and thought systems of the

marginalized or subaltern, and to be inclusive of contradictory worldviews rather than trying to unify them. This openness is not an obligation but a human right that offers learning and growth opportunities to people (Nandi 2009, pp.104-109; Spivak 1999, pp.334-350).

The anthropologist Arturo Escobar is concerned with designers' engaging in development concerns. In fact he views the global development agenda as a giant design project, in which industrialized countries felt entitled to help poor countries to become modernized. This modernist development agenda, promoted since the 1950s by the UN, reiterates the notion that most countries in the Global South are underdeveloped and require help in the form of technology and knowledge transfer from industrialized countries. Today designers engage in the context of development in a wide range of fields such as education and economical empowerment. Escobar critiques that design in development still largely follows the modernist paradigm of universalizing objectives and processes at the expense of contextually relevant strategies. At the same time design has the opportunity to discover alternative trajectories and generate change from different points of departure, acknowledging the complexity and messiness of situations that call for change (Escobar, 2018, p.59). Escobar argues for a pluriverse world in which different contexts and their ontological roots embrace their co-existence (Escobar, 2018, p.xvi). Consequently such a worldview has repercussions for how designers approach their tasks.

What Freire's and Spivak's theories in support of empowering conversations and Escobar's view on designing for a pluriverse world have in common is the aim to embrace diverse realities and strengthen their autonomy in relation to hegemonic powers that they experience through local and global politics, including aid. They don't advocate for rejecting external input but for advancing together with contextual consciousness and the capacity to embrace and grow inclusive of differences. Inevitably this asks for a change in power dynamics from top-down to more distributed sensitivity.

These positions, rooted in postcolonial theory and cultural studies, resonate with systems theories that explain sustainable systems change as a correspondence between different parts of a system. Rather than solely bottom-up revolutions or top-down regulation – of which both face resistance – niche movements of alternative behaviours correspond in complex dynamics with societal values, political ideologies and macroeconomic trends (socio-technical landscapes) and with manifested belief systems and routines (socio-technical regimes) in order to generate lasting systems change (Geels, 2011, pp.26-29 & p.32). Leveraging into systems can take place at different scale and scope from addressing a system's underlying paradigm to smaller intervention such as changing rules

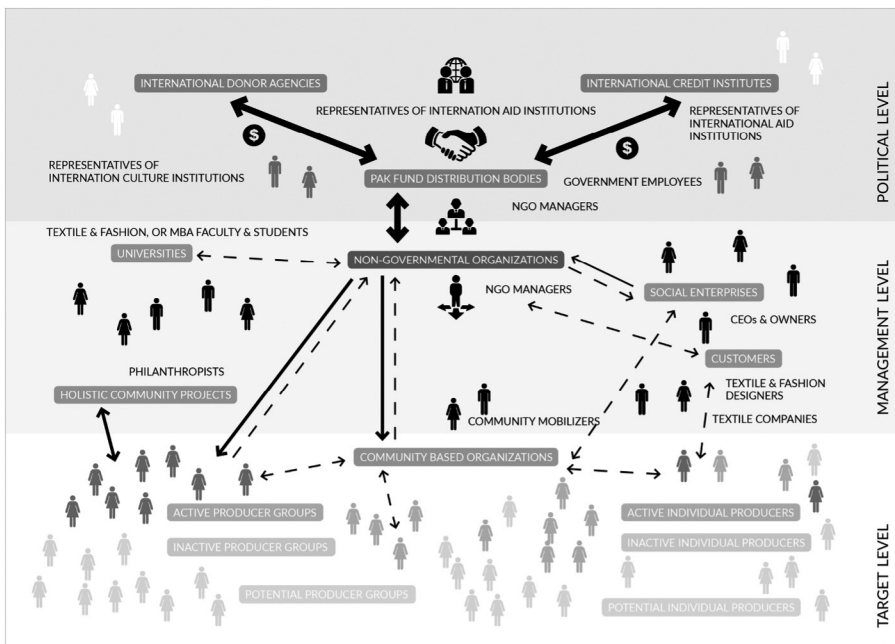
or technical issues (Meadows, 2009, pp.145-165). Second order cybernetics links the conversational aspect of empowering processes and systems thinking by considering the observer also a participant of a system, hence any social system has as many observers as participants. Drawing on Humberto Maturana's concept of autopoiesis, a system keeps reproducing itself, and while recognizing external input it remains focused on its own independence (Glanville, 2003, p.13). Second order cybernetics is relevant here because it provides an ethical framework for being in the world and in social systems: experiencing, observing and acting is a conscious process, that asks for taking on responsibility for the whole rather than individual parts (Glanville, 2003, pp.7-11). From a design perspective Ezio Manzini suggests new design cultures that build on connections between stakeholders from the fields of design but also grass-roots organizations and activism. Acknowledging the complexity of most societal problems he locates design activity between problem solving and sense making (Manzini, 2015, pp.29-54), something that resonates with CFIP whose challenges are wicked and not really solvable.

These theoretical underpinnings supported the conversational character of the research process and also provided guidance for conceiving conversational spaces for CFIP stakeholders of extremely different backgrounds.

4 The Craft for Empowerment System

The craft for empowerment system was extracted using the empirical data (fig.3). Its shape, size, dynamic and the quality of the underlying relationships between different CFIP stakeholders emerged, helping understanding their real life experiences. It can roughly be divided into three levels (fig.1). On the top level, the political level, sit stakeholders who shape international politics and economics, including global aid strategies through which grant schemes are developed. On the level below, the management level, those organizations, institutions and enterprises that function as grant implementation partners and as initiators of CFIP can be found, including higher education institutions and private initiatives that don't require or accept external funding. On the bottom level, the target level, exist the marginalized craft producers, including largely home-based woman workers, but also specialized artisans with workshops such as weavers or block printers.

Fig. 3: The 'Craft for Empowerment System' extracted from empirical data.



The character of the craft for empowerment system can be described as:

- Large in scale with fuzzy boundaries to other fields of development, culture, education and the economy.
- Dominated by a top-down power hierarchy.
- Differing in network strength, with strong supportive networks on the upper levels and weak and fragmented ones towards the bottom.
- Fading contours of stakeholders' identities towards the bottom where they appear as an anonymous mass, whereas the ones on the upper levels have names and positions.

With development aid, social entrepreneurship and philanthropy serving as point of departure for most CFIP the top-down hegemonic power dynamic by those institutions who feel entitled to help was no surprise.

While grants flow top-down, accountability is requested bottom-up, for example through project reports from the management to the political level. The management level feels also accountable to the target level but cannot attend to it sufficiently because the political level demands unrealistic implementation strategies. While simplified – with many noteworthy context sensitive exceptions – it is a pattern that through repetition causes CFIP to often discontinue prematurely, before craft producers become independent entrepreneurs.

Another insight is the mutual perception of stakeholders. Craft producers can often not distinguish between people who engage with them and are largely unaware of the political level. Political level stakeholders on their part are distant from the grassroots reality but at the same time see its people as a cause to work on. Implications caused by such distance differ: political level stakeholders after completing a project – successful or unsuccessful – move on to the next, target level producers though might have cancelled earlier income sources, hoping for better opportunities through joining a CFIP. Central in this system are the management level stakeholders who are usually initiating and coordinating CFIP and have good insights into realities of both, the political and the target level. They are also the ones bringing in diverse professional expertise from fields such as education, economy, design or social welfare.

One of the key insights is that all CFIP stakeholders who participated in this research, no matter what background or what position in this system, had the intention to make CFIP successful. All spend thought and effort on this task and were in small or large parts thoroughly successful. Nonetheless they feel the impact could improve.

5 The Potential of Conversational Spaces

Conversational spaces as a framework for collective critical reflection and action are considered a form of systems intervention and conceptualized at the centre of the craft for empowerment system, whose structures, processes and mind-sets have manifested through repetition over time and pose barriers when aiming for sustainable CFIP impact. The resulting ruptures between people of different backgrounds and worlds are another challenge. The framework is conceived at this backdrop and considered a trajectory for creating a CFIP ecosystem in which differences between stakeholders are perceived, embraced and attended to. Central is the thought of distribution: knowledge and support are concerned with different conditions of CFIP and the aim is to translate them into context sensitive action.

In more practical terms such conversational spaces can be envisioned as a lab or institute in which stakeholders of diverse CFIP can meet and collectively reflect on their respective activities, whether those are in the fields of donor funded aid projects, higher education, fashion and textile design, social enterprise, small individual initiatives or more holistic community development. There are no pressures to achieve certain targets such as empowering a minimum number of craft producers, selling a certain amount of products, or coming up with a project proposal to fulfil grant requirements. Rather it is meant to be an incubator for new approaches in craft for empowerment, which participants take back to their respective CFIP and try out with the support of each other.

At this point of the research it remains open how exactly the activities at the lab can be coordinated in such a way that especially marginalized producers are recognized and heard.

6 Conclusions

What places this research and the framework of conversational spaces in the realm of the common good is that it aims to gradually unleash contextual sensibility in CFIP practices through strengthening participation and articulation of marginalized craft producers who should be at the centre because they are the target group of CFIP. With diverse voices taking part, such conversational spaces have the potential to have an empowering impact not only on the marginalized but also on the more powerful CFIP stakeholders, because they have the opportunity to expand their horizons of understanding when they attend to others' positions and worldviews.

The initial aim to develop guidelines for better practices in craft value chains appeared increasingly unsatisfying when realizing the significantly different context specific conditions of each CFIP. From another perspective managers of CFIP are very dedicated, knowledgeable, reflected and creative. They don't need anyone to tell them what to do. The challenges they face are predominantly systemic problems, concerning structures, processes and mind-sets. Conversational spaces offer the opportunity to generate complementing beneficial ideas, with increased contextual and individually suitable sensitivity.

This concept differs from common co-creation projects insofar that it is not directed towards one common project but towards distributed approaches, sensitive to a wide spectrum of contextually diverse conditions. Participants of conversational spaces agree on such holistic, inclusive and all encompassing benefit over streamlined approaches that might suit only a few CFIP.

What remains subject to further research is to identify feasible implementation strategies for such conversational spaces with a focus on translating insights into action. While the research process provided hints, in order to make such a space viable aspects such as membership conditions, activities, finances, and logistics need to be worked out, of course together with all participants.

References

- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds. New Ecologies for the Twenty-First Century*. Durham: Duke University Press.
- Freire, P. (2005; 1970). *Pedagogy of the Oppressed*. 30th Anniversary Edition. London & New York: Continuum.
- Geels, F. W. (2011). Survey – The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovations and Societal Transitions*, Vol. 1: 24-40.
- Glanville, R. (2003). Second-Order Cybernetics. In F. Parra-Luna (Ed.), *Systems Science and Cybernetics, Encyclopedia of Life Support Systems, developed under the Auspices of the UNESCO*. Oxford: EoLSS Publishers.
- Imhasly, B. & Schmidt, C. (2002). *Khadi – Textile of India*. Zürich: Kontrast AG.
- Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge: MIT Press.
- Meadows, D. H. (2009). Thinking in Systems. A Primer. In D. Wright (Ed.), London: Earthscan.
- Nandi, M. (2009). *Gayatri Chakravorty Spivak. Eine interkulturelle Einführung*. Nordhausen: Verlag Traugott Bautz.
- Ottacher, F. & Vogel, T. (2015). *Entwicklungszusaamenarbeit im Umbruch: Bilanz, Kritik, Perspektiven. Eine Einführung*. Frankfurt am Main: Brandes & Apsel.
- Pakistan Bureau of Statistics, Government of Pakistan (2018). *Labour Force Survey 2017-2018. Thirty-fourth issue*. Retrieved on 1 February 2020 from http://www.pbs.gov.pk/sites/default/files/Labour%20Force/publications/lfs2017_18/Annual%20Report%20of%20LFS%202017-18.pdf.
- Sardar, Z. (1999). *Introducing Cultural Studies*. Cambridge: Icon Books.
- Spivak, G. C. (1999). Imperative to Re-imagine the Planet. In G. C. Spivak (Ed.) (2012), *An Aesthetic Education in the Age of Globalization* (pp.334-350). Cambridge: Harvard University Press.
- Yunus, M., Moingeon, B., & Lehmann-Ortega, L. (2010). Building Social Business Models: Lessons from the Grameen Bank. *Long Range Planning* 43, pp.308-325. Retrieved 24 January 2020 from <http://isiarticles.com/bundles/Article/pre/pdf/7680.pdf>.
- Yunus Centre (2009). *Seven Principles of Social Business*. Retrieved 20 February 2020 from <https://www.muhammadyunus.org/post/363/seven-principles-of-social-business>.

Acknowledgements

The design research to which this paper refers would not have been possible without the research participants: the women and assistants of Tarogil village; the people of my main four case projects Thatta Kedona, Kaarvam Crafts Foundation, Sungi Development Foundation / SABAH Pakistan and Shubinak; my colleagues and students at Beaconhouse National University in Lahore; and the many friends and fellow designers, artists and academics who provided valuable input.

Diverse, Open, Collaborative: Innovative Approaches to Design

**Open Design as an Approach
for the Commoning of Design.
The Collaborative Experience
of Openly Defining Open Design
with an Open Source Process**
Massimo Menichinelli, Serena Cangiano

**The Tridea Project: Designing
Conditions to Foster Culturally Diverse
Co-Creation in a Virtual Space**
Lisa Winstanley

**Digital Collaborations for the Common
Good: Key Learnings
from Four Community Projects**
Alejandro Salas, Giovanni Arbelaez,
Ferney Osorio, Laurent Dupont

Open Design as an Approach for the Commoning of Design. The Collaborative Experience of Openly Defining Open Design with an Open Source Process

Keywords: Open Design, Definition, Open Source, Open Process, Social Network Analysis.

Massimo Menichinelli^{a*},
Serena Cangiano^b

^a*Aalto University – Aalto Media Lab*

^b*SUPSI Laboratory of visual culture*

*massimo.menichinelli@aalto.fi

As Open Design is an emergent phenomenon, both practitioners and researchers have tried to both develop it and take a picture of it. Beyond the only apparent simplicity of Open Design as an “openly accessible design documentation”, it has been lacking a clear definition that instead Open Source Software and Hardware have established quickly in their path. This paper contributes to this gap with a literature review and the analysis of a case study of a community-based initiative for defining Open Design through an open online discussion. As a result, insights about how to define Open Design and its common elements and how to consider the collaborative process in the task are outlined.

1 Introduction

Open Design is an emergent approach of the design discipline that, starting from the five years 2000-05, has been developed and applied to support the collaborative development of physical and digital projects in the same way as the open source software development. A phenomenon of the last 20 years, which have become popular in the last 10 years, Open Design nowadays is studied and used as an approach to release and develop social impact projects in several fields such as healthcare, agriculture, fashion (Bria et al., 2019; Maffei et al., 2018, 2019; Menichinelli, 2016; Romano, 2015). Open Design has been particularly adopted in the Maker Movement and digital communication and fabrication technologies have supported its evolution and diffusion (Avital, 2011; Menichinelli, 2017b).

As Open Design is an emergent phenomenon, both practitioners and researchers have tried to both develop it and take a picture of it. Beyond the only apparent simplicity of Open Design as an “openly accessible design documentation”, it has been lacking a clear definition that instead Open Source Software and Hardware have established quickly in their path (*Open Source Hardware Definition*, 2011; Perens, 1999). While Open Design can be seen as the resulting perspective on design generated by an openness turn (Marttila & Botero, 2013) through the contamination with open source and P2P practices it mostly refers to the decentralization as both an explicit core value and objective along several directions and dimensions (Menichinelli & Ferronato, 2019).

In the recent years, Open Design has been a category of design developed mostly within the DIY and Maker movements that feature community practices based on local manufacturing and networked services for sharing knowledge and designs. These practices highlight the collaborative and collective dimension of Open Design that can be analysed through a Network Science approach with the aim of uncovering how the social interactions influence design processes and projects, for example through the use of platforms such as GitHub or Thingiverse (Freire & Monteiro, 2020a, 2020b; Menichinelli, 2017c; Menichinelli & Ferronato, 2019; Özkil, 2017). Open Design is also a concrete example of a strategy for integrating design and the commons: “Commons and commoning can be used to frame open, collaborative and sharing-based production practices, where availability of information and means of production is opening up questions related to ownership, responsibility and control over how things are made and service delivered.” (Seravalli, 2014, p.66). Furthermore, the eight principles for the self-governing of commons identified by Elinor Ostrom have been proposed for Open Design (Troxler, 2019).

This article aims to present Open Design as an approach to the commoning of design through the open and collaborative work on its definition. The key research questions (RQs) that inform the first part of the paper are: (RQ1) what could be a definition of Open Design? (RQ2) What are the foundational elements of Open Design? (RQ3) How can we define Open Design in an open way? After this introduction, the second part introduces a literature review of contributions that aimed at defining Open Design. In the third part we analyse the case study of a community-based initiative for defining Open Design through an open online discussion. Both authors participated in the initiative. Starting from this experience, the fourth part discusses the main elements of Open Design as a common good. Finally, the conclusions (fifth part) give an overview of the results while pointing out possible future research directions for keeping this exploration open.

2 Background: A Literature Review of Open Design

The term open design has been used since the late 1990s (Kiani et al., 1999). Its definition evolved when the term has been referred to the domain of tangible artifacts and hardware products such as the self-replicable 3D printer RepRap or the microprocessor Arduino. In the history of Open Design, we can find some pioneers such as Enzo Mari who anticipated some concepts related to the sharing of instructions to reproduce a physical artifact (Mari, 1974, 2002). We have to wait until the early 2000s and the Thinkcycle project to see the release of the first web platform to implement an actual collaborative and distributed design process (Sawhney, 2003). In early 2005, Open Design encounters the domain of product and furniture design and its definition expands with a focus on the use of open licenses and digital manufacturing technologies (Kadushin, 2010). With the diffusion of concepts such as user innovation (von Hippel, 1988, 2005) and free innovation (von Hippel, 2016), the growth of the makerspaces and fab lab network (Gershenfeld, 2005; Gershenfeld et al., 2017; Menichinelli & Schmidt, 2020), the beginning of the open data movement (O'Reilly, 2007; Stikker, 2010), Open Design starts to be defined according to new openness practices. In particular, there is an attention of its specificity that makes it difficult to define through the more technological domain of open source hardware or the FLOSS.

Open Design becomes connected to specific ideologies related to the need of defining new economic strategies of survival (Thackara, 2015) or it is seen as an approach that embodies a paradigm shift in thinking on Design, from the form to the relation between people and artifacts (van der Beek, 2012). By researching into the connections of Open Design with other concepts and domains, a recent study tries to propose a novel definition in which Open design is the state of a design project where “both the process and the sources of its output are accessible and (re)usable, by anyone and for any purpose” (Boisseau et al., 2018). According to Gasparotto, the open design definition lacks of uniformity because the plurality

of meanings of the word “open,” and she suggests that, to overcome the complexity and plurality of open design, it is more accurate to speaking generically of the “opening of the design processes” or the “open paradigm in the field of design,” (2019).

According to many researchers, open design is framed as a better alternative on topics proposing new ways to do business, prototype alternative economies, and foster sustainability. With this perspective, Open Design is a way to achieve rapid innovation cycles for further development and wide-scale testing and potentially also larger transitions towards alternative economic models: Bakırlioğlu and Kohtala provided a comprehensive systematic literature review of all the theoretical approaches to Open Design (2019).

Beyond the use of CAD or the need for the design to be specifically referred to a physical object, open in design can be understood as mere access to information in relation to a design in order to make it “accessible to view, modify and use” (Avital, 2011). The condition that makes the design open is the public disclosure of information.

Given the importance of the information sharing in Open Design, the definition is related to concepts such as the democratization of design, a phenomenon that has been made possible thanks to the spread of digital manufacturing, the digitization of the design process, and the rise of new networked laboratories such the fab labs and the makerspaces. By providing access to machines and open source hardware, these laboratories allows people to “make almost anything”, therefore they can be compared to libraries of commons-based peer production as traditional libraries are usually points of access to books (Troxler, 2011).

Additionally, the definition is affected by the impact of open processes such as co-creation, participatory design and crowdfunding. Those processes brought the academic community to reflect on new layers of openness in design: designers can co-create with online communities by listening and participating in the problem definition; they can then interact with those communities to get feedback and refine and further develop a design (one typical example is the open process provided by the platform Open IDEO); and then they can share the final design to enable an open manufacturing process (Aitamurto et al., 2015). Based on the integration of new layers and concepts, Open Design can be defined in respect to both the process and the outputs of design and what matters is the sources of its output, namely the recipe and not the end artifact. As in the world of free and open source software, in open (source) design the users share a new approach to the knowledge that leads to a new ethics in design: the knowledge, and the innovation that is generated out of it, are common goods that benefit from the act of sharing rather than from its protection (Ciuccarelli, 2008).

Finally, we have to consider how Open Design as traditionally considered as openly accessible design projects is just a subset of the potentialities generated by the integration of open source and peer-to-peer approaches with design (Menichinelli, 2016).

3 The Experience of the Open Design Definition

This section documents an open and collaborative experience for developing a definition of Open Design, developed through a series of local workshops and an online open source repository on GitHub. The Open Design Definition experience started a collaborative project developed within the Open Design + Hardware (OD+H) Working Group^[1] of the Open Knowledge Foundation^[2], while some of the working group founders were working at the organisation of the Open Knowledge Festival that took place in Helsinki, Finland, on 17 - 22 September 2012 (Open Knowledge Foundation, 2018). The project consists in a collaborative experimentation about writing and discussing the definition of Open Design, to foster discussion, collaboration and community building around the concept and the practice of Open Design.

The definition is not a ready to use license to be applied to open projects; instead, it has the goal to clarify the concepts and applications of Open Design. Hosted on a public repository of GitHub^[3], a collaborative software development platform, the project aims to make easier the discussion about licenses or other sharing strategies in the field of design. It proposes the creation of a definition through a process similar to the open source software development: the definition can be forked from the Open Design Definition repository for sub-definitions or for alternative developments. The definition is edited as source code file on GitHub, and it is discussed there through an issue ticket system. Furthermore, an open public mailing list^[4] is available for the discussion.

Together with the repository, the second half of the project is the organisation of co-creation workshops where people were invited to participate in the Open design definition and then upload feedback on the GitHub repository. The first workshop was held in Aalto Media Factory at Aalto University, Helsinki (Finland) on 28/01/2012; the second workshop was held in Tallinn (Estonia) on April 27 2012 in the Vaba Linn event^[5]; the third workshop was held in Manchester (UK) on 19/05/2012 in the FAB* event^[6]. A fourth workshop was held in Helsinki at OKFestival^[7] (September 17-22

[1] <https://design.okfn.org/>

[2] <https://okfn.org/>

[3] <https://github.com/OpenDesign-WorkingGroup/Open-Design-Definition>

[4] <https://lists-archive.okfn.org/pipermail/opendesign/>

[5] <https://www.facebook.com/VabaLinn>

[6] <http://web.archive.org/web/20120912191710/http://fabstar.org/blog/2012/03/19/fab%E2%9C%B1-summit-manchester-draft-programme/>

[7] <http://web.archive.org/web/20190616103231/https://2012.okfestival.org/>

2012). A first draft (version 0.1) was then released in March 2013 (Menichinelli, 2013), followed by a fifth workshop that was run at OKFestival 2014 on July 16 2014 in Berlin (Villum, 2014). The current version of the definition is 0.7 (Menichinelli et al., 2016) and at the time of writing is still open to contributions and unfinished with missing paragraphs in the Intellectual Property section. The process was started by Massimo Menichinelli and Kat Braybrooke: a storyboard, a participation matrix and an activity design mind map were designed in order to explain the process, following the Open P2P Design approach (Menichinelli, 2006, 2015) (fig.1, 2). The facilitation of the process was later joined by Primavera De Filippi, Christian Villum, Sanna Marttila and Peter Troxler.

OPEN DESIGN DEFINITION: HERE'S HOW IT WORKS!

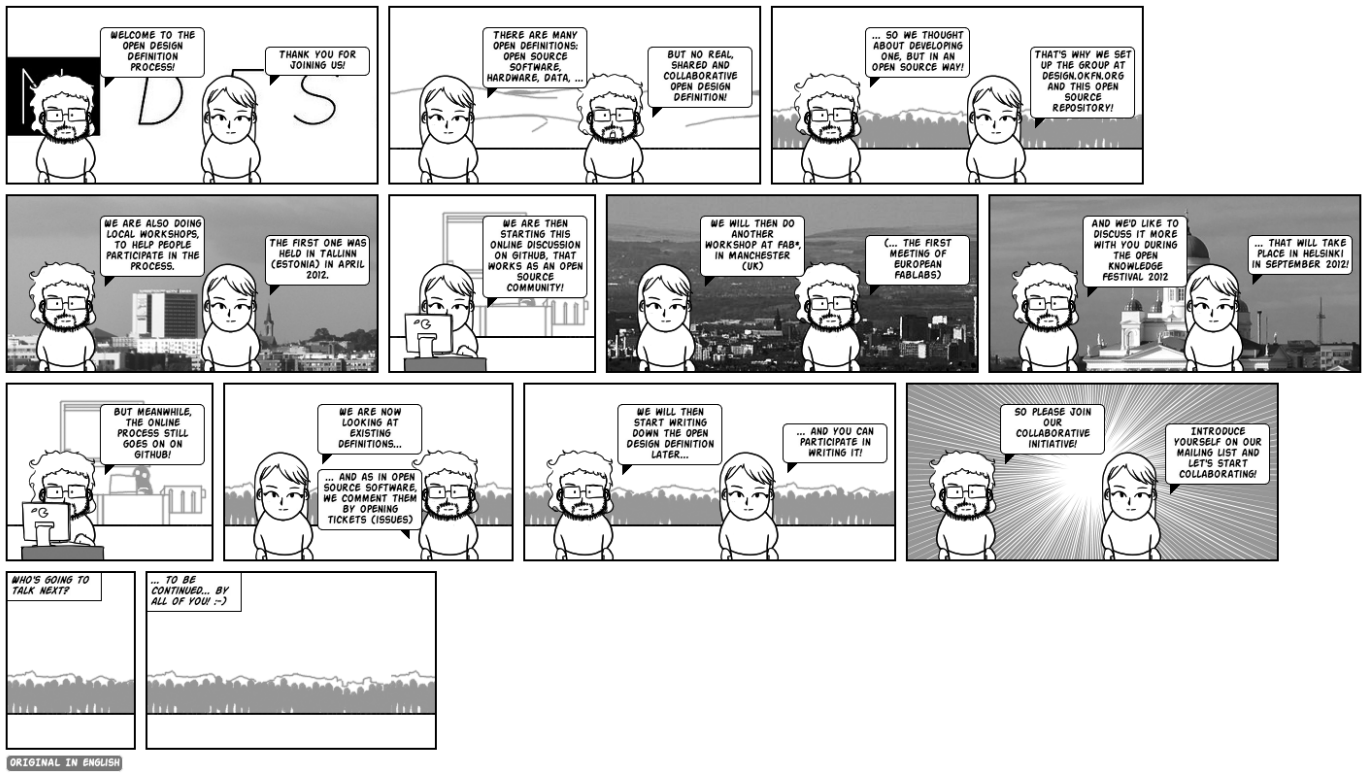


Fig. 1: Storyboard of the process (CC-BY Open Design Working Group).

	Developing the idea of the project	Aalto Media Factory (Helsinki) 28/01/2012	Vaba Linn (Tallinn) 26-27/04/2012	Online Discussion	Fab* (Manchester) 19/05/2012	Online Discussion	Open Knowledge Festival (Helsinki) Sept. 2012	Online Discussion
No participation (The facilitators do all the work in this step)								
Indirect participation (The facilitators do all the work in this step but take into account the participants through previous analysis or discussions)								
Consultative participation (The facilitators ask to the participants about what and how to do)								
Shared participation (The facilitators and participants share work equally)								
Full control participation (The participants do all the work)								

Fig. 2: Participation matrix of the process (CC-BY Open Design Working Group).

The main reasons for starting this collaborative process were two: rather than precisely defining Open Design or providing a specific IP licensing scheme for it, the main goals were 1) to update previous definitions and make them more open to participation and 2) to instigate a wider community discussion about Open Design. An Open Design Definition v.0.2 was in fact already published in 1999: this version was not open to edits, therefore, it could not be expanded and adjusted according to the evolution of the concepts and of the practices (Kiani et al., 1999). By introducing online collaboration tools, the facilitators intended to make the Open Design Definition a common by expanding openly the previous experiences. For this reason, a distributed versioning tool (Git, and its related platform GitHub) was chosen to enable the collaborative creation of the definition: a distributed version control system is a form of version control in which the complete codebase, including its full history, is mirrored on every developer's computer. The distributed versioning system, *GitHub*, allows sharing versions of the definition and also to open discussion through the ticket system, a web interface with a list of relevant topics and the related functionalities to communicate and share feedback.

Furthermore, data from both Git and GitHub can be mined and analysed to provide an overview of the social interactions and dynamics in the collaborative process. In this specific case study, analyses were done on a) overall statics of interactions, b) interactions over time and c) social networks of interactions in the GitHub repository hosting the collaborative editing of the definition. A first rough analysis was done in the first months of the process (Menichinelli, 2013), and a more refined software (Menichinelli, 2017a) was then developed for a first complete analysis (Menichinelli, 2017c) coupled with Gephi (Bastian et al., 2009). Regarding the

overall statistics of interactions (a) (fig.3), there are more interactions in commenting the definition (85) rather than on editing it (6) and even less comments to the edits to the definition (3). There are several forks of the repository (9), sort of spin offs of the definition but that did not proceed further. In terms of interactions over time (b) (fig.4), there are three small peaks of activity in 2012, and the larger peaks in 2013, during which insights from the workshops were elaborated into the definition. Further interactions were mainly in 2016 even if to a much lesser extent, and smaller interactions happened through the years. In terms of social network of interactions (c) (fig.5, 6), we can see a network organised in three polarities: a tight core of users editing and commenting the definition (at the top left), a set of users watching the discussion but with no interaction at all (on the right) and the branching of 9 forks from the repository, with no further development and interaction (at the bottom). In terms of number of interactions of each node (degree), a central user (@openp2pdesign, Massimo Menichinelli) connects the active users with the highest number of interactions (degree 25) (fig.5). The pattern of interactions is reflected also in the clusters identified with specific algorithms (Blondel et al., 2008; Lambiotte et al., 2008) in Gephi (Bastian et al., 2009): three most active clusters emerge and they constitute 7.5%, 6.25% and 5% of the whole network (fig.6).

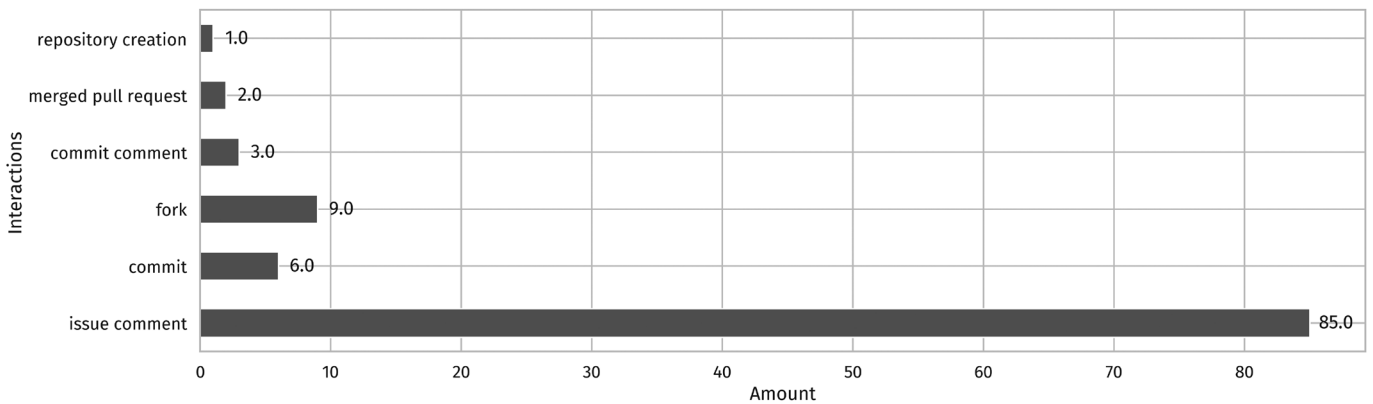


Fig. 3: *Statistics of the GitHub repository of the Open Design Definition (Date: 04/12/2020).*

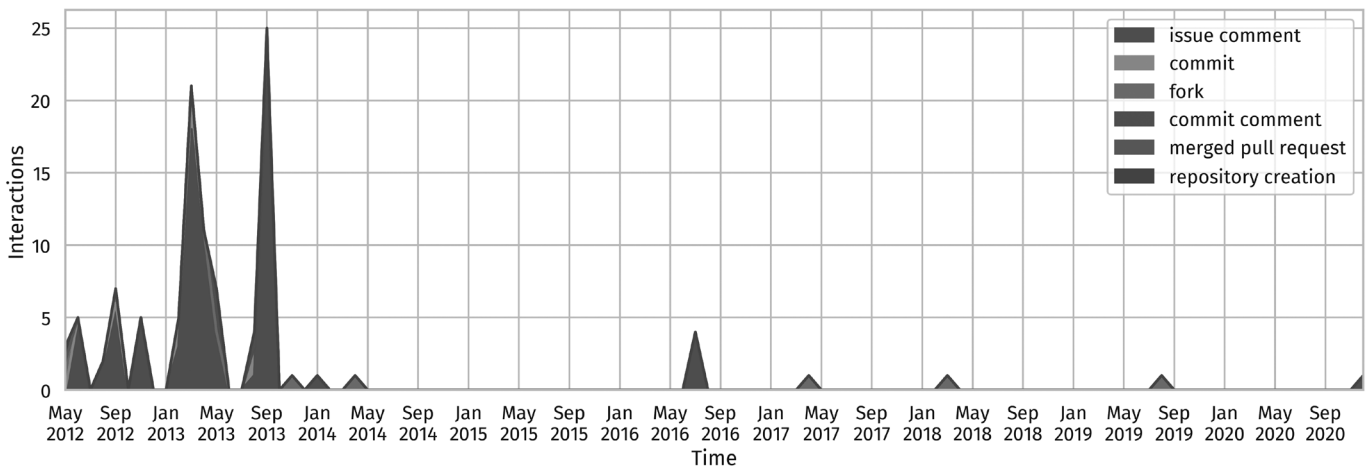


Fig. 4: Collaborative activities through the years in the GitHub repository of the Open Design Definition, differentiated by type of activity (Date: 04/12/2020).

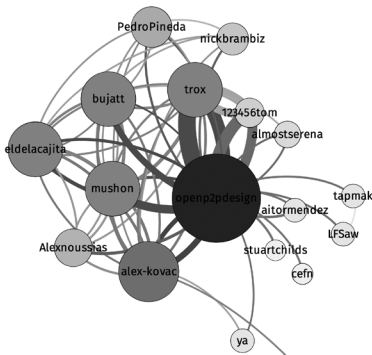
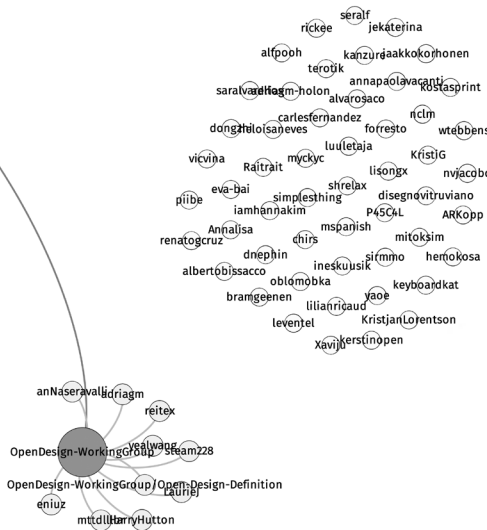


Fig. 5: Network of interactions among participants and non-human actors in the GitHub repository of the Open Design Definition (size and colour of each node are linearly proportional to the degree of the node).



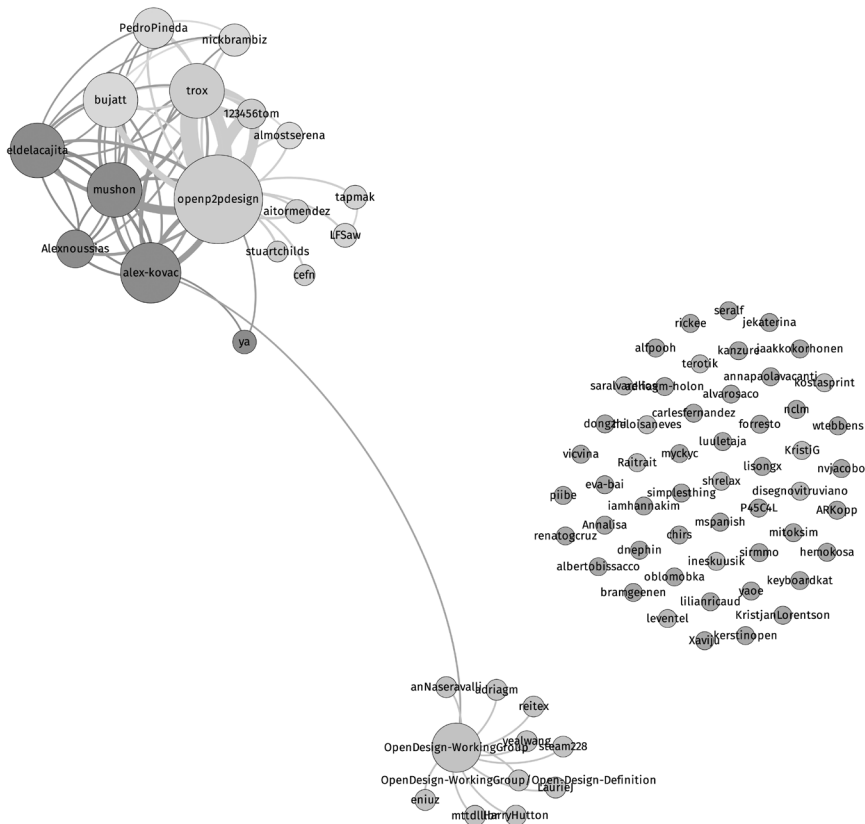


Fig. 6: Clusters in the network of interactions among participants and non-human actors in the GitHub repository of the Open Design Definition (each colour identifies a specific cluster; individual nodes, not part of any cluster, are coloured in grey).

4 Discussion: Elements of the Open Design Definition

4.1 Overview

The Open Design Definition was elaborated by considering previous definitions such as the Free Software Definition (Stallman, 2002), the Open Content Definition (Wiley, n.d.), the Open Knowledge Definition (Open Knowledge Foundation, 2009), the previous Open Design Definition (Kiani et al., 1999), the Open Hardware Definition (*Open Source Hardware Definition*, 2011), the Open Source Definition (Perens, 1999), the Open Design Manifesto (Kadushin, 2010), the Self-Repair Manifesto (Mok, 2010). It has to be noted that the Open Source Definition has been adopted as the basis of some of these definitions and can therefore be considered as a common element to them.

In our view, one of the interesting features of this Open Design Definition is the different aspects or elements it considers about Open Design, which extend the common and basic Open Source definition, focusing not only on the accessibility of a project documentation, but also on all the elements that support an Open Design ecosystem to develop. In the following sections we synthesize

the main concepts of the elements of Open Design found in the Open Design Definition; the full original text can be accessed online (Menichinelli et al., 2016).

4.2 Open Design Statement of Principles

The most relevant aspect of this element is the clarification of how the term design is intended within the scope of commoning the Open Design definition. In order to avoid disciplinary biases, the term design in the definition is intended as:

- a verb: to design something (and therefore it is considered as a process);
- a documentation: the drawings of a design (and therefore it is considered as a blueprint);
- an outcome: the design in its usable version (and therefore it is considered as an artifact).

Other aspects of this element go beyond the definition itself such as, for example, the value of Open Design in relation to commerce, Open Design could encourage it “through the open exchange of designs”, or the political dimension that should always be taken into account to ensure a positive impact in terms of balance and social justice.

4.3 The Process of Open Design

In this element, the level of openness of an open design project is related to the release of the documentation about its development process, from the idea to the manufacturing. Since most of the time, this documentation is not available, developed or even translated from tacit to codified knowledge, the definition tries to put the attention on how the documentation of the process, if realized, should be included in the overall documentation of the project to make it really open.

This element does not document in detail the reflections on what aspect of the process should be opened: does the data and the research that lead to the ideation of a design should be also included in an open design to make it actually open?

4.4 The Documentation of Open Design

The documentation of a design refers to the release of all design files in a modifiable format. The release of this documentation is actually considered open if those files are well publicized and available for free over the internet. To provide a clear framework, the definition includes and adapts the 5 stars scheme for Open Data, suggested by Tim Berners-Lee (5 OPEN DATA, 2018). The level of openness variates if the project’s authors:

- make it available on the Web (whatever format) under an open license;
- make it available as source file (e.g., vector format instead of bitmap format);
- make it available as a human-readable source file (e.g. ASCII.stl)

instead of binary .stl, this would work better with version control systems, and it would be read, understood and modified by people more easily);

- use non-proprietary formats (e.g., .svg instead of Adobe Illustrator .ai);
- link the data to other data to provide context (e.g. Open Data regarding the design process, supply chain, manufacturing, distribution, end of life, ...).

The definition does not take into account the evolution of designs sharing platforms and the new versioning system for managing for example 3D files. Looking at the collaboration features of web platforms for sharing files, the definition could mention many other levels of openness such as for example the release of the source files through web platforms featuring easy to use collaborative tools (i.e. Wikifactory, Thingiverse, etc.).

4.5 The Outcome of Open Design

The outcome of the Open Design is the actual artifact generated by a design process. The definition takes into account the scenario in which an existing proprietary design can be redesigned and then released as an Open Design: the full or partial reverse engineered version of a design cannot be considered an Open Design. However, if the instructions for using or modifying a design are made publicly available, the project can be understood as Open Design.

4.6 The Open Design Ecosystem

This ecosystem is a core element of the definition since it highlights how a design project does not consist only in the realization of ideas that can be manufactured: a design project features boarder dynamics and different layers of complexity. These layers of the ecosystem can manifest themselves when an organization (community, company, foundation, ...) extends the work of the founders of the project with participation, discussion, contribution; or when the project's budget is made collaborative and openly documented. One of the identified layers of the ecosystem is also the documentation of the governance: how a project is openly managed and how the decisions are collaboratively taken, how transparent is the interaction among the project's contributors, these are all aspects that might help to define a project open. An Open Design project is thus part of a greater ecosystem that works for its development, which can reach increasing structure and complexity with these levels:

- a documentation of a design artifact, and the manufactured or final design artifact;
- an open, collaborative and openly documented process that manages the whole life cycle of a design artifact;
- an organization (community, company, foundation, ...) that extends the work of the founders of the project with participation, discussion, contribution;

- an open, collaborative and openly documented budget that allocate costs and revenues;
- an open, collaborative and openly documented governance that manages the processes, participation and budget of the project.

4.7 Open Design and Necessary Software

This element refers to technological qualities of an Open Design: when a design is presented publicly, the source files must be available with open and interchangeable file formats, in order to let anybody access them and edit them with easily accessible software, tools and technologies. This concept applies also in a generative design environment where the tools is a not an application, but rather an algorithm or a code that generates the final design.

4.8 Open Design and Intellectual Property

The topic of the intellectual property is strictly related with the previous element. Since a design project can feature a multitude of components it is important to verify the intellectual property of each component and if there are dependencies. If a design project features a software and a hardware, both components should be released under an OSI-approved open source license and the Open Source Hardware-approved open source license/strategy to be considered open. From a legal point of view, there are many possibilities to protect a design: copyright, patent, design rights (both unregistered and registered), trademark (both unregistered and registered), trade dress (both unregistered and registered). The definition also includes two possibilities regarding IP that are clearly in contrast or in tension with openness: when there is no protection at all, and when there's a trade secret.

An Open design can be considered open only if there are no use of the above protection on any of its components and there are no restriction on the reproduction by other people, also with a commercial purpose. Since the legal aspect change from country to country, this element of the definition does not offer specific cases or specific limitations. It aims, however, at establishing a simple framework for understanding in an easier way how to protect and share Open Design projects by addressing state of the regarding Design Rights, Copyright, Creative Commons and CC+Design (Margoni, 2013). The framework covers all the possible possibilities listed above, with the exception of patents and trade dress, which are still not addressed.

5 Conclusions

After presenting the main contributions on Open Design, we analysed a case study of a community-based initiative for defining Open Design through an open online discussion. The case study proposes a methodology to openly and collaboratively work on a definition whereas the definition is a common that everyone can access, edit, use and modify. This methodology relies on the application of open source methods, practices and tools: first of all, an online distributed versioning system has been used for integrating

the contributions according the typical processes of the open source software development (anyone from the web could create an account on GitHub and freely comment and edit the definition); secondly a series of workshop involved groups of activists, researchers and practitioners in the collaborative process of defining the single components. The workshops helped training the contributors on the specific competences to participate in the Open Design Definition on GitHub. Thirdly, this approach provided also the opportunity of exploring data-driven and social network analysis approaches for understanding how an open project evolves through time according to its social interactions. As a result, the Open Design Definition case study emerges as an initiative based more on discussion more than on writing, mainly in the first workshops and in the following year, with most of the work done by the facilitator and also one of the authors here.

Further research is required in order to understand the validity of such methodology to commoning design through the adoption of an open source approach. For example, both authors participated in the initiative, and this tension between being participants and researchers should be explored more, for example by understanding how social network analysis could become a proper first-person centred approach for design research (Höök et al., 2018; Tomico et al., 2012). Furthermore, this perspective is limited to the participants of the initiative and it should be mixed with a global overview that will allow the definition to include more perspectives according to the different groups of contributors. Moreover, it can be integrated with a qualitative research that will allow to expand the definition through the integration of extracts from interviews to open design experts, namely academic or independent researchers and practitioners as well as open design companies' founders. The integration of a qualitative research approach to the open source methodology will allow to overcome some limitations derived, for example, from the technological skills required to easily participate in the online work on the definition.

References

- 5 OPEN DATA. (2018, June 18). *5-star Open Data*. 5 OPEN DATA. <http://5stardata.info/en/>
- Aitamurto, T., Holland, D., & Hussain, S. (2015). The Open Paradigm in Design Research. *Design Issues*, 31(4), 17–29. https://doi.org/10.1162/DESI_a_00348
- Avital, M. (2011). The generative bedrock of Open Design. In B. Abel, L. Evers, R. Klaassen, & P. Troxler (Eds.), *Open Design Now: Why design cannot remain exclusive* (pp.48–58). BIS Publishers. <http://opendesignnow.org/>
- Bakirlioglu, Y., & Kohtala, C. (2019). Framing Open Design through Theoretical Concepts and Practical Applications: A Systematic Literature Review. *Human-Computer Interaction*, 0(0), 1–45. <https://doi.org/10.1080/07370024.2019.1574225>
- Bastian, M., Heymann, S., & Jacomy, M. (2009). Gephi: An open source software for exploring and manipulating networks. *International AAAI Conference on Weblogs and Social Media*, 2. <http://gephi.org/publications/gephi-bastian-feb09.pdf>
- Blondel, V. D., Guillaume, J.-L., Lambiotte, R., & Lefebvre, E. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, 2008(10), P10008. <https://doi.org/10.1088/1742-5468/2008/10/P10008>
- Boisseau, É., Omhover, J.-F., & Bouchard, C. (2018). Open-design: A state of the art review. *Design Science*, 4. <https://doi.org/10.1017/dsj.2017.25>
- Bria, F., Cangiano, S., Fragnito, M., Graziano, V., & Romano, Z. (2019). *Cure Ribelli. Tecnologie aperte per una cura come bene comune*. We-Make, Milano. <https://hcommons.org/deposits/item/hc:26683/>
- Ciuccarelli, P. (2008). *Design open source. Dalla partecipazione alla progettazione in rete*. Pitagora Editrice.
- Freire, R. A., & Monteiro, E. Z. (2020a). Measuring the development and communication of open design communities: The case of the OpenAg Initiative. *First Monday*. <https://doi.org/10.5210/fm.v25i9.10527>
- Freire, R. A., & Monteiro, E. Z. (2020b). The impact of sharing platforms on collaborative design development during emergencies: The case of COVID-19. *Strategic Design Research Journal*, 13(3), 698–710. <https://doi.org/10.4013/sdrj.2020.133.31>
- Gasparotto, S. (2019). Open Source, Collaboration, and Access: A Critical Analysis of “Openness” in the Design Field. *Design Issues*, 35(2), 17–27. https://doi.org/10.1162/desi_a_00532
- Gershenfeld, N. (2005). *FAB: The Coming Revolution on Your Desktop—From Personal Computers to Personal Fabrication*. Basic Books.
- Gershenfeld, N., Gershenfeld, A., & Cutcher-Gershenfeld, J. (2017). *Designing Reality: How to Survive and Thrive in the Third Digital Revolution*. Basic Books.
- Höök, K., Caramiaux, B., Erkut, C., Forlizzi, J., Hajinejad, N., Haller, M., Hummels, C. C. M., Isbister, K., Jonsson, M., Khut, G., Loke, L., Lottridge, D., Marti, P., Melcer, E., Müller, F. F., Petersen, M. G., Schiphorst, T., Segura, E. M., Ståhl, A., ... Tobiasson, H. (2018). Embracing First-Person Perspectives in Soma-Based Design. *Informatics*, 5(1), 8. <https://doi.org/10.3390/informatics5010008>
- Kadushin, R. (2010). *Open design manifesto*. http://www.ronen-kadushin.com/files/4613/4530/1263/Open_Design_Manifesto-Ronen_Kadushin_.pdf
- Kiani, S., Nayfeh, S., & Vallance, R. (1999). *The Open Design Definition*. OpenDesign.Org. <http://www.opendesign.org/odd.html>
- Lambiotte, R., Delvenne, J.-C., & Barahona, M. (2008). Laplacian Dynamics and Multiscale Modular Structure in Networks. *ArXiv:0812.1770 [Physics]*. <http://arxiv.org/abs/0812.1770>
- Maffei, S., Bianchini, M., Parini, B., & Cipriani, L. (2019). *MakeToCare2. La patient innovation in Italia tra progetto e mercato*. Libraccio Editore. <http://hdl.handle.net/11311/1115454>
- Maffei, S., Bianchini, M., Parini, B., & Delli, Z. (2018). *MakeToCare. An ecosystem of actors and user-centred solutions for innovation in the healthcare sector*. Libraccio Editore. <http://hdl.handle.net/11311/1058800>
- Margoni, T. (2013). *Not for Designers: On the Inadequacies of EU Design Law and How to Fix It* (SSRN Scholarly Paper ID 2361682). Social Science Research Network. <http://papers.ssrn.com/abstract=2361682>
- Mari, E. (1974). *Proposta per un'autoprogettazione*. Duchamp Centre.
- Mari, E. (2002). *Autoprogettazione?* Corraini.
- Marttila, S., & Botero, A. (2013). The “Openness Turn” in Co-Design. From Usability, Sociability and Designability Towards Openness. *Co-Create 2013, the Boundary-Crossing Conference on Co-Design in Innovation*, 99–110. <http://thirdsector.mlog.taik.fi/files/2013/10/marttila-botero-cocreate.pdf>
- Menichinelli, M. (2006). *Reti collaborative: Il design per un'auto-organizzazione open peer-to-peer* [Master of Science, Politecnico di Milano, Facoltà del Design (III)]. <http://www.openp2pdesign.org>
- Menichinelli, M. (2013, February 26). Working on the Open Design Definition. *The Open Design + Hardware Group*. <https://web.archive.org/web/20160422180718/http://design.okfn.org/2013/02/26/working-on-the-open-design-definition/>
- Menichinelli, M. (2015). Open Meta-Design: Tools for Designing Collaborative Processes. In D. Bihanic (Ed.), *Empowering Users through Design: Interdisciplinary Studies and Combined Approaches for Technological Products and Services* (pp.193–212). Springer. https://doi.org/10.1007/978-3-319-13018-7_11
- Menichinelli, M. (2016). A Framework for Understanding the Possible Intersections of Design with Open, P2P, Diffuse, Distributed and Decentralized Systems. *Disegno – The Journal of Design Culture*, III(01–02), 44–71.
- Menichinelli, M. (2017a). *Openp2pdesign/platform_analysis: V0.2: EAD12|2017 Design for Next—Rome [computer software]*. <https://doi.org/10.5281/zenodo.399292>
- Menichinelli, M. (Ed.). (2017b). *Fab Lab. Revolution Field Manual*. niggli Verlag.
- Menichinelli, M. (2017c). A data-driven approach for understanding Open Design. Mapping social interactions in collaborative processes on GitHub. *The Design Journal*, 20(sup1), S3643–S3658. <https://doi.org/10.1080/14606925.2017.1352869>
- Menichinelli, M., & Ferronato, P. (2019). The Decentralization Turns in Design: An Exploration Through the Maker Movement. In S. Colombo, Y. Lim, M. Bruns Alonso, L.-L. Chen, T. Djajadiningrat, L. Feijs, J. Hu, S. Kyffin, E. Özcan, L. Rampino, E. Rodriguez Ramirez, & D. Steffen (Eds.), *Design and Semantics of Form and Movement* (pp.43–49). Northumbria University. https://desform19.org/DeS-ForM_2019_Proceedings.pdf
- Menichinelli, M., Kovač, A., Troxler, P., & Childs, S. (2016). *Open-design-Workinggroup/Open-Design-Definition: V0.7*. Zenodo. <https://doi.org/10.5281/ZENODO.161559>
- Menichinelli, M., & Schmidt, A. G. S. (2020). First Exploratory Geographical and Social Maps of the Maker Movement. *European Journal of Creative Practices in Cities and Landscapes*, 2(2), 35–62. <https://doi.org/10.6092/issn.2612-0496/9640>
- Mok, K. (2010, November 10). “If You Can't Fix It, You Don't Own It”: *IFixit's New Self-Repair Manifesto*. TreeHugger. <http://www.treehugger.com/clean-technology/if-you-cant-fix-it-you-dont-own-it-ifixits-new-self-repair-manifesto.html>
- Open Knowledge Foundation. (2009, November). *Open Knowledge Definition 1.1—Open Definition—Defining Open in Open Data, Open Content and Open Knowledge*. <https://opendefinition.org/od/1.1/en/>

Open Knowledge Foundation. (2018, September 13). *OKfestival 2012 Helsinki Finland*. <https://www.youtube.com/watch?v=iY40B-wrG97Q>

Open Source Hardware Definition. (2011). <http://freedomdefined.org/OSHW>

O'Reilly, T. (2007). *8 Principles of Open Government Data*. https://public.resource.org/8_principles.html

Özkil, A. G. (2017). Collective design in 3D printing: A large scale empirical study of designs, designers and evolution. *Design Studies*, 51(Supplement C), 66–89. <https://doi.org/10.1016/j.destud.2017.04.004>

Perens, B. (1999). The open source definition. In *Open sources: Voices from the open source revolution* (pp.171–185). <http://www.oreilly.com/openbook/opensources/book/perens.html>

Romano, Z. (2015). OpenWear—Collaborative Clothing. In A. Fuad-Luke, A.-L. Hirscher, & K. Moebus (Eds.), *Agents of Alternatives. Re-Designing Our Realities*. Agents of Alternatives e.V.

Sawhney, N. (2003). *Cooperative innovation in the commons: Rethinking distributed collaboration and intellectual property for sustainable design innovation* [Massachusetts Institute of Technology]. <http://dspace.mit.edu/handle/1721.1/61861>

Seravalli, A. (2014). *Making Commons: Attempts at composing prospects in the opening of production* [Doctoral Thesis, Malmö University]. <http://muep.mau.se/handle/2043/17232>

Stallman, R. (2002). The free software definition. In J. Gay (Ed.), *Free Software Free Society: Selected Essays of Richard M. Stallman* (pp.41–44). GNU Press.

Stikker, M. (2010). Open Data , Open Government: Design Principles for the Public Internet. *Design*, 1–7.

Thackara, J. (2015). *How to Thrive in the Next Economy: Designing Tomorrow's World Today* (1st edition). Thames & Hudson.

Tomico, O., Winthagen, V. O., & van Heist, M. M. G. (2012). Designing for, with or within: 1st, 2nd and 3rd person points of view on designing for systems. *Proceedings of the 7th Nordic Conference on Human-Computer Interaction: Making Sense Through Design*, 180–188. <https://doi.org/10.1145/2399016.2399045>

Troxler, P. (2011). Libraries of the peer production era. In *Open Design Now: Why design cannot remain exclusive*. BIS Publishers. <http://opendesignnow.org/>

Troxler, P. (2019). Building Open Design as a Commons. In L. Bologers & L. Chiappini (Eds.), *The Critical Makers Reader:(Un) learning Technology* (pp.218–226). Institute of Network Cultures. <https://networkcultures.org/blog/publication/the-critical-makers-reader-unlearning-technology/>

van der Beek, S. (2012). From Representation to Rhizome: Open Design from a Relational Perspective. *The Design Journal*, 15(4), 423–441. <https://doi.org/10.2752/175630612X13437472804259>

Villum, C. (2014, August 5). Open Design Definition workshop at OKFestival 2014 in Berlin. *The Open Design + Hardware Group*. <https://web.archive.org/web/20160528003509/http://design.okfn.org/2014/08/05/open-design-definition-workshop-at-ok-festival-2014-in-berlin/>

von Hippel, E. (1988). *The sources of innovation*. Oxford University Press. <http://web.mit.edu/evhippel/www/sources.htm>

von Hippel, E. (2005). *Democratizing innovation*. MIT Press. <http://web.mit.edu/evhippel/www/democ1.htm>

von Hippel, E. (2016). *Free Innovation*. The MIT Press.

Wiley, D. (n.d.). *Defining the "Open" in Open Content and Open Educational Resources*. Retrieved December 31, 2020, from <http://www.opencontent.org/definition/>

Acknowledgements

The authors would like to thank Open Knowledge Foundation for the support to the Open Design Definition and the Open Design + Hardware Working Group; likewise, they would also thank the members of the Open Design + Hardware Working Group and all the participants in the workshops and online discussions related to the Open Design Definition.

The Tridea Project: Designing Conditions to Foster Culturally Diverse Co-Creation in a Virtual Space

Keywords: Co-Creation, Diversity,
Virtual Space, User Interface, Branding.

Lisa Winstanley^{a*}

^a*School of Art, Design & Media, Nanyang
Technological University, Singapore*

*lwinstanley@ntu.edu.sg

Contemporary design practitioners must adapt to the challenges of creative problem solving in an increasingly dynamic and transient commercial sphere. Accordingly, it is necessary for design (and designers) to address the need for new and innovative methods, which cogently respond to the complex and evolving sociocultural needs of present-day society. Therefore, this paper discusses the development of *The Tridea Project*, an ongoing, multifaceted creative project which provides a platform for virtual co-creation as a means to reposition creative practice towards inclusion and diversity. Through the pluralistic lenses of cultural diversity and co-creation, several methods to encourage a more egalitarian approach to creative practice in virtual spaces are discussed. Initial interpretations suggest that the Tridea Project may serve as a workable example of what virtual, ethical co-creation might encompass; alongside contributing to the discussion about re-thinking inclusivity in design by creating optimum conditions to encourage cultural diversity.

1 Introduction

Contemporary design practitioners must adapt to the challenges of creative problem-solving in an increasingly dynamic and transient commercial sphere. Accordingly, it is necessary for design (and designers) to address the need for new and innovative tools and methods, which cogently respond to, or build upon, the complex and evolving socio-cultural needs of present-day society. Accordingly, this paper unpacks several challenges that we, as designers, are currently facing and their relevance to design as common good. Through the pluralistic lenses of cultural diversity and co-creation this paper proposes several methods to encourage a more egalitarian approach to creative practice.

In recent times, emphasis has been placed upon empathetic design (see Callahan, 2018; Köppen & Meinel, 2014; Liedtka & Ogilvie, 2011) as a means to address societal needs, however, this paper proposes that empathy should be considered as merely the beginning of a much wider conversation. And whilst ethical considerations *should* be fundamental to how designers engage with society; it is also the amelioration of shared spaces and the resultant production and consumption of communal creative content that can reconfigure the role of design away from mere consumerism and towards that of the common good.

Accordingly, this paper introduces *The Tridea Project*, an ongoing, multifaceted creative project which provides a platform for virtual co-creation as a means to reposition creative practice towards inclusion and diversity. *The Tridea Project* (Winstanley, 2019b) invites participants to engage in an online adaptation of the Surrealist parlour game, *Cadavre Exquis*, or *The Exquisite Corpse*; whereby, consecutive images created by several participants are seamlessly combined into one co-created composition. Within the Tridea online platform, a purpose-built algorithm assigns users to virtual teams consisting of 3 participants. The allocation of these teams is determined by a combination of two factors: the heterogeneity of geographic location and the ethnic diversity of participants. Thereafter, a second algorithm automates the aggregation of the 3 individual participant contributions into one co-created artefact; subsequently displaying the outcome in an online gallery, which serves as a digital repository of pluralistic creative practice. The resultant artefacts are then made available for purchase as high-resolution downloads, with all proceeds from sales being donated to Tridea's partnering charity, *Transient Workers Count Too*, (TWC2): An organisation who advocate for the fair treatment of migrant workers in Singapore.

The main focus of this paper is to present the Tridea Project and its co-creation methods, designed to foster cultural diversity, with the aim of instigating a wider conversation on how to navigate design towards that of the common good. The following section of

this paper unpacks the motivations behind this research and positions the Tridea Project as a catalyst for diverse co-creation.

2 Background

The motivation behind this research project is intently personal and its inception stems from the desire to demonstrate to my mixed-race daughter that there are equal opportunities for non-white, female designers and perhaps more importantly, equal opportunities to gain recognition for creative expression. Yet, research into the current state of design, particularly in a Western context, suggests that (Ross, 2012) the design sector is heavily dominated by white designers. Ico-D, the International Council of Design, also report that, "in the UK, 88% of design managers are white" ("ico-D | Explorations in ethical design | meditations on diversity", 2020). From the reading lists of top-ranking design schools through to the documentation of graphic design history, pervasively the best designers are showcased as Western, white males. This perceivable inequality has been institutionalised. A notable example being told in Drenttel's, (2008) Design Observer article titled *whose flag? which details a competition run by Adbusters, (an organisation with a reputation for inclusivity) to design a flag for global citizenship. The jury for this competition initially comprised of 7 white, Western male jurors. The irony here is not lost on the author and it is multiple incidents such as this, which, according to Akama & Barnes, (2009) demonstrate the need for cultural diversity to supplant the whitewashed, male dominated field of design. This inequity underpins the overarching premise of this research, which is to explore how virtual spaces can extend collaborative opportunities in creative practice and encourage participation from culturally diverse creative communities. Thereby, creating co-designed artefacts which are more fitting representations of our culturally diverse, global society.*

2.1 Design as a Catalyst for Diverse Co-Creation

Critical design practices, such as collaboration and co-creation are increasingly prevalent issues, specifically in 2020 with the current pandemic situation challenging our ability to effectively collaborate. As such, (Chao, 2020) designers have needed to innovate and adapt their traditional workflows. Alongside these issues, the rise in movements such as, Black Lives Matter, have ensured that diversity and inclusion have also been (rightly) forced to the forefront of design conversations ("Designing for diversity", 2020; Biesboer, 2020). The Tridea project has been ongoing since 2018 and has not jumped on the bandwagon of 2020 trends, but rather, is already engaged in much needed conversations to drive solutions for equitable design. Walker, (2016); Akama & Barnes, (2009) both express the need for the design industry to actively disrupt the lack of diversity, with Akama & Barnes, (2009) going as far to suggest that "a lack of diversity perpetuates a lack of diversity" (p.33). The Tridea Project therefore, positions itself as an intervention, (see Winstanley, 2019b) to provide a disruption to the status quo

by providing innovative methods for co-creation and an inclusive virtual platform to foster cultural diversity in design practice.

There are 2 aspects of the Tridea project design which in order to explore this paper's aforementioned aim of, *instigating a wider conversation on how to navigate design towards that of the common good*, must be explored separately (although there are overlapping elements). Firstly, the design of the Tridea platform itself, both as a brand identity and functioning user interface aimed at an international audience. Secondly, the design of the Tridea experience. How and why does one move through the space and how this can foster culturally diverse co-creation? To begin this exploration, we must first have an understanding of what is meant by cultural diversity, why this is important in 2020 and what is meant by co-creation. Accordingly, the following 2 sections of this paper will now aim to briefly discuss these terms.

3 Cultural Diversity

Diversity is a common buzzword in design however, its ubiquity seems to have somewhat diluted its importance. Even as far back as 2015, the New York Times (Holmes, 2015) reported that the term diversity, once seen as optimal, had morphed into something contemptuous, through continual hyperbole, misuse and apathy. Yet increasingly, and specifically in 2020, fostering diversity in design is imperative if we are to engender interconnectedness and an equitable practice that is representative of our entire society rather than just the dominant culture of that society.

Recent research conducted by Lloyds Bank on the current state of advertising in the UK, (Lloyds Banking Group | Reflecting Modern Britain? A study into inclusion and diversity in advertising., n.d.) discovered that minority communities were rarely represented in British advertising despite forming a significant part of British society. When minority groups were represented, they were portrayed one-dimensionally, lacking diverse aspects of language, authentic clothing, ritual practices or cuisine. The 2020 Christmas advertising campaign for Sainsbury's supermarket in the UK, featured a black British family and has, according to Flood, (2020) subsequently faced a racist online backlash, labelling the campaign as virtue signalling. So, whilst there are improvements being made in the industry, there is still a lot of work to be done to encourage both diverse representation and societal acceptance.

Diversity work has also been instigated by industry bodies; Ico-D | Explorations in ethical design | meditations on diversity (2020), for example, discuss how as designers we are "gatekeepers". That our work governs who has ingress to spaces, assets or knowledge and how subsequently, designers must provide equilibrium to both the needs of the individual and those of the wider community. AIGA, the Professional Association for Design, has also

set up a diversity task force, their mission communicated as, “Encouraging diversity in design education, discourse, and practice to strengthen and expand the relevance of design in all areas of society.” (“AIGA | Diversity, Equity, Inclusion”, 2020) The AIGA website also provides a list of resources to encourage diversity in creative practice and in the classroom, which is most certainly a step in the right direction.

There are also other academic projects which explore how diversity can be increased within design. Of interest to this paper is the work of Nilsson & Ottsen Hansen, (2018) who investigate methods of increasing diversity in museum co-archiving practices, in order to better document the lived experiences of refugees. Their project introduces a co-archiving toolbox which is subsequently tested in the field. Once again, this project an excellent step forward for inclusivity and diversity in practise yet, the scope of this research does not aim to tackle spaces for culturally diverse production or consumption of design, nor the recognition of diverse design talents and this is where Tridea differentiates itself.

A second project of note is, Project Inkblot, described as “a team of designers and futurists who partner with companies to build equitable products, services and content using Design for Diversity™(D4D)” (“Project Inkblot”, n.d.). The D4D™ framework provides a series of 6 core questions to consider throughout the design process, including, “What’s the worst-case scenario of what you are creating? Who might you be excluding? And what is your plan ensuring that your work co-designing with The Source is not just a one-off, but instead, a continuous relationship?” (“How to begin designing for diversity”, 2020) The D4D™ framework has been integral to developing the Tridea Project experience and the questions helped to highlight not only the intention behind the work but also the impact that the project may have on misrepresented communities. The Tridea project is therefore clear in its intent to first and foremost, focus on designing conditions for increased *cultural* diversity with a view to expand into other visible differences, such as gender and then non-visible differences, such as the LGBTQ community and finally, diversity of mindsets, delineated by Bhowmick, (2017) as different ideals, viewpoints and circumstances, as the project expands.

This paper will now move on to introduce the topic of co-creation in the production and consumption of design.

4 Co-Creation

There is a considerable body of research which explores co-creation best practices, in a design context (see Chao, 2020; Kohler et al., 2011; Rill & Hämäläinen, 2018) however, much of the existing research is focussed on designing situations which foster team-based collaboration to solve a creative problem, almost as an extension of the design thinking process. Rill & Hämäläinen, (2018)

describe co-creation as “a creative process that taps into the collective potential of groups to generate insights and innovation.” (p.22) Whilst co-creation is integral to Tridea, the exquisite corpse game which the platform is built around, relies on individual self-expression being subsumed as part of the communal; a symbolic and dynamic exchange of chance and ultimately trust in the unknown. Namely the unknown players in the co-creation vehicle. There are, of course, parallels to established co-creation frameworks, which have inevitably influenced aspects of Tridea’s virtual space, and this paper also acknowledges Tridea’s inception from its Surrealist parlour game roots. Tridea is therefore, not proposed as being a new idea – but rather advancement of a more egalitarian space to expand upon existing ideas.

In the context of the Tridea project, I see myself as an experience designer, facilitating conditions conducive for diverse co-creation. Accordingly, I have designed the process architecture of Tridea’s platform in order to reframe spaces for effective, collaborative creativity and as such, have considered 3 key aspects for diverse co-creation as proffered by Rill & Hämäläinen, (2018) in their, “Space Between Model” (p.25). Firstly, the *people* who will participate, secondly, the *environment* within which they will participate and thirdly, the *process* of participation itself. Each of these aspects has required significant consideration in order to cohesively develop a co-creation experience which cultivates cultural diversity in creative practice and advances altruistic collective outcomes.

The next section of this paper will summarise Tridea’s research methods and explore the 3 aforementioned key aspects of people, environment and process, as conditions to facilitate diverse co-creation from both viewpoints of Tridea as a brand identity and as an experiential platform.

5 Designing Conditions for Culturally Diverse Co-Creation

The Tridea Project’s research approach is experimental and pragmatic, adopting a design thinking strategy for creation and iteration of the Tridea brand identity, online platform and social media pages. From the offset, the challenge was to speculate alternate eventualities for co-creation and to establish spaces which directly involved participants in the co-design process. Accordingly, whilst the Tridea brand Identity and the UI/UX for the Tridea Website have been specifically designed *for* international participants, the end goal has always been to facilitate co-design practices *with* participants. Thus, challenging user assumptions and stereotypes by cultivating a narrative journey of learning, acceptance and trust in others. Design thinking and specifically Winstanley’s (2019a) method, “See, Sort, Synthesise & Solutions” (p.4), has provided a user centric framework, whereby an analogue workshop, cognitive walk through testing and formal user testing have helped shape design directions towards democratic solutions for the common good.

The project set out with 3 initial design goals.

- Design conditions for effective co-creation
(*Tridea as a brand identity and user Interface design*).
- Design conditions for cultural diversity in creative practice
(*Tridea as an experiential platform*).
- Design conditions where diverse co-creation is celebrated, promoted and recognised
(*Tridea as a promotional tool for culturally diverse creative practice*).

The following section elaborates how this project has aimed to achieve these design goals by considering the people, environment and processes required to achieve them.

5.1 People, Environment and Process

The Tridea project was developed with the notion that designer and stakeholder both have responsibility for production and consumption of creative outcomes. However, this paper proposes that this responsibility is divergent, and with that, authorship is on a fluid spectrum. The knowledge production occurring *with* Tridea stakeholders, therefore, results in shared authorship and accordingly, by evaluating who potential users might be, what they wish to accomplish using the site and what support they need to complete these tasks, will position Tridea towards an understanding of equitable shared authorship, or co-creation.

As aforementioned, the D4D™ framework was a key tool in determining who Tridea stakeholders might be and, perhaps more importantly, for establishing who may have been inadvertently excluded. The core, D4D™ questions (“How to begin designing for diversity”, 2020) considered how the composition of Tridea design team itself impacted upon design decisions; how our identities may impact creative choices and how our lived experiences may not correlate with those we are trying to engage. Self-reflection, acknowledgement of positions of privilege and the fact that the scope of the project inevitably meant limitations in the diversity of team members, led to seeking feedback from multifarious sources and rethinking what the culture of Tridea might represent from diverse standpoints. From this analysis it was determined that the Tridea user-interface would feature limited imagery, so as to allow the shared authorship of participants to become the visual culture of Tridea, rather than pre-determined, prescribed visual values. Rill & Hämäläinen, (2018) describe facilitating co-creation using an analogy of being a midwife. Applying this analogy to Tridea provides insight that the platform facilitates the creative process of others. It is not my process or my team’s process and we are not in control. For me, this is the beauty of Tridea; I have no idea who the team participants will be, in what cultural configuration teams will be allocated or what the collective outcomes will look like, and I

trust that that is a good thing, as Tridea has been conceived with the needs of others in mind as oppose to my own.

A review of existing literature revealed minimal information relating to team allocation algorithms in this context, however, an examination of team creation strategy revealed (Chapman et al., 2006) how self-selection of teams can lead to “cronyism” (p.560), less diverse teams and even omission of certain participants. It was with this in mind that the team allocation algorithm was introduced to the project. Whilst the development of the algorithm is outside the scope of this paper and indeed the expertise of the author, its inception was integral to Tridea’s ability to achieve the 3 design goals and as such, facilitates diversity by default. Self-selection of teams was initially considered as a method for co-creation, however, as in a creative workspace or classroom environment, where groups would be typically be assigned, Tridea saw the algorithm as an approach, not only to foster diversity, but to also remain connected to the exquisite corpse game, where chance and trust are key signifiers of the process and ultimately the outcome.

Once the team’s shortcomings and the possibilities for automated team selection had been established and addressed, we began to evaluate how to equitably engage an international audience. Initially, it was conceptualised that this could be done by adopting Hofstede’s Cultural Dimensions Theory (Hofstede & Hofstede, n.d.) a framework proposed to gain insight into cultural differences and variants comprising of 6 value systems. This theory has subsequently been adopted by scholars such as Marcus & Gould, (2000) and Callahan, (2005) as a basis to understand how cultural values might shape visual communication. However, it was determined that focusing on the cultural *differences* in value systems could direct the visual language of Tridea towards fixed stereotypes and subsequently work in opposition to an intercultural user interface. Instead, determining a visual language for an international audience was done through stakeholder mapping and journey mapping, to establish best- and worst-case scenarios for key stakeholders. This subsequently led to development of a visual language aimed at inclusivity and a more emotive textual dialogue to build connectedness.

The tag line; *Create, Collaborate, Donate*, was developed to appeal to 3 types of participants; firstly, *Create*, for those who wish to contribute to the production of the Tridea culture. Secondly, *Collaborate*, for those who wish to make meaningful connections within the Tridea culture and finally, *Donate*, for those who wish to consume artefacts derived from the Tridea culture. There was also initially a fourth element to the tag line, *Celebrate*. However, this was removed and instead the Tridea of the month (TotM) concept was developed to be an accentuated aspect of the Tridea offering (See fig. 1). TotM selects one of the co-created Trideas and provides rec-

ognition for creativity by highlighting the artefact and the artists in the online gallery, across social media and by providing the 3 co-creators with a digital TotM certificate. Currently, ways to ensure that the TotM selection is fair and inclusive are being discussed and it has been proposed to allow previous winners to make the selection, thus further promoting cyclic community participation. At the date of writing this discussion is still ongoing, however, identifying these entry points has helped to situate the experience from the frame of reference of the participants and thus determine the environment in which they could participate creating conditions to encourage cultural diversity.

Fig. 1: *Tridea User Interface Design.*
iMac shows the Tridea of the Month as a means of promoting and recognising diverse co-creation in practice.
(Exquisite corpse for illustrative purposes only) Laptop shows the Tridea Project website home page and tablet shows Tridea menu page design.



Tridea's environment is predominantly virtual and accordingly, this brief analysis focusses on the semiotic rather than the physical, in an attempt to understand the intangible elements that define the energy and tone-of-voice of the Tridea brand. Referring again to the 3 design goals set out, the development of the Tridea environment considered how it might foster culturally diverse, co-creation, celebrate and recognise the stakeholders in that process and consider alternative ways to more ethically consume the resultant artefacts. Decidedly, the Tridea brand has therefore, sought to remain somewhat culturally homogenous. In doing so the colour palette, type-face choices, visual and textual language have all been considered so as to provide a backdrop for the main event, rather than take centre stage.

Aside from the brand positioning, several other aspects of the Tridea environment are intended to provide stakeholders with visual signage as to how and why to participate, such as an animated, instructional explainer video and interactive like, comment and share features on gallery images. Yet, as the site is aimed at an intercultural audience this paper positions these elements within the Tridea environment as mediating tools. According to Winstanley,

(2019b) mediating tools are “an agent for social actors to communicate in a common language thus, providing a clear system of communication within a heterogeneous design ecology.” (p.12). It is therefore, proposed that the use of mediating tools, could aid in creating conditions conducive for diverse co-creation and accordingly meet the 3 design goals.

Further mediating tools have been utilised in construction of the Tridea process architecture and sensemaking of that process has been identified as key to engendering successful participation; particularly, sensemaking for culturally divergent audiences. One way in which Tridea has attempted to mediate comprehension of its process is through the use of analogy. As the analogy of mid-wifery was beneficial to the Tridea design team in comprehending the scope of their decisions, it is proposed that the analogy of a relay race will be beneficial to participants in comprehending the Tridea process of co-creation. As with a relay race, Tridea’s creative baton is metaphorically passed from player to player to advance the creative process. This simple metaphor provides a concept which most people will be familiar with however, graphics have also been designed to emphasise its meaning to communities who may not recognize the terminology. The relay race analogy was specifically chosen due to its relationship with the Olympic Games Torch Relay, which in itself is representative of diversity and inclusion; the flame symbolizing the light of spirit, knowledge and life. Decidedly, setting clear expectations for trusting and engaged participation within the Tridea virtual space.

This paper has outlined some of the methods and strategy undertaken to reconfigure design towards that of the common good. It is anticipated that the project will develop and reconfigure even further as the site goes live and accordingly, further research is proposed to fully understand the reverberations in the field of design for common good.

5.2 Limitations

Originating from a Caucasian female, The Tridea Project could be perceived as paying lip service to current trends in cultural diversity and inclusion. Merely, virtue signalling or a box ticking exercise. However, my intent has always been to allow the brand and the UI to take second stage to the co-created artefacts produced on the Tridea platform itself. Thus, my individual contribution inherently becomes less important than the collective outcome and Tridea becomes a starting point from where a more integrated, textured level of creative practice can immerge. It is also important to note that, in its current state, Tridea focusses on cultural divergence and there are distinct gaps to be filled for the inclusion of other misrepresented communities. This is an ongoing research project and there are plans to expand the project with a view to broadening the inclusivity of the platform, nevertheless, it is acknowledged that there is much work still to be done.

6 Conclusion

"Explorations in ethical design | meditations on equality | ico-D", (2020) assert that "Designers have the tools to implement *systemic change*: Re-thinking production and consumption models, dematerialising processes and impacting social habits." This project is an attempt to bring alternative diverse design practice into the forefront of conversations around design. To educate and provide a platform for creative communities to dictate what diverse, co-creation means. However, given that Tridea is still in the testing phase, its potential for design as common good is too early to evaluate. Initial reactions to the platform as a methodological approach to develop conditions conducive for diverse, co-creation are promising. What can be propounded is that the Tridea platform can be used as a workable example of what virtual, ethical co-creation might encompass; alongside the potential to contribute to the discussion about re-thinking the inclusivity of design by creating optimum conditions to encourage cultural diversity.

References

- AIGA | *Diversity, Equity, Inclusion*. AIGA | the professional association for design. (2020). Retrieved 20 November 2020, from <https://www.aiga.org/diversity-equity-inclusion>.
- Akama, Y., & Barnes, C. (2009). Where is our diversity?: Questions of visibility and representation in Australian graphic design. *Research Journal Of The Australian Graphic Design Association*, 4(1), 29-40. Retrieved 20 November 2020, from <http://www.agda.com.au/vds/vds040105.pdf>.
- Bhowmick, A. (2017). *Designing for Diversity*. Medium. Retrieved 25 November 2020, from <https://medium.com/design-ibm/designing-for-diversity-e3c58ef1ef3e>.
- Biesboer, A. (2020). *Designing an inclusive future*. Medium. Retrieved 29 November 2020, from <https://medium.com/design-ibm/designing-an-inclusive-future-a5c7c96bbc91>.
- Callahan, E. (2005). Cultural Similarities and Differences in the Design of University Web sites. *Journal Of Computer-Mediated Communication*, 11(1), 239-273. <https://doi.org/10.1111/j.1083-6101.2006.tb00312.x>
- Callahan, E. (2018). Cross-Cultural Empathy: Learning About Diverse Users in Design Thinking Process. *HCI International 2018 – Posters' Extended Abstracts*, 236-240. https://doi.org/10.1007/978-3-319-92270-6_32
- Chao, C. (2020). *Co-Design, Online: Tips for Adapting to Our New, Virtual Reality*. Reboot. Retrieved 29 November 2020, from <https://reboot.org/2020/03/27/three-tips-better-co-design-going-virtual-can-lead-us/>.
- Chapman, K., Meuter, M., Toy, D., & Wright, L. (2006). Can't We Pick our Own Groups? The Influence of Group Selection Method on Group Dynamics and Outcomes. *Journal Of Management Education*, 30(4), 557-569. <https://doi.org/10.1177/1052562905284872>
- Designing for diversity*. Design Council. (2020). Retrieved 29 November 2020, from <https://www.designcouncil.org.uk/news-opinion/designing-diversity>.
- Drenttel, W. (2008). *Whose Flag?*. Design Observer. Retrieved 24 November 2020, from <https://designobserver.com/feature/whose-flag/7297>.
- Explorations in ethical design | meditations on equality | ico-d*. Ico-d.org. (2020). Retrieved 28 November 2020, from <https://www.ico-d.org/2020/05/27/explorations-in-ethical-design-meditations-on-equality.php>.
- Flood, C. (2020). *Social Media Response to Sainsbury's Christmas Ad Proves UK is as Racist as the US*. Medium. Retrieved 1 December 2020, from <https://medium.com/an-injustice/social-media-response-to-sainsburys-christmas-ad-proves-uk-is-still-as-racist-as-the-us-e4c31024190b>.
- Hofstede, G., & Hofstede, G. *Geert Hofstede and Gert Jan Hofstede on culture*. Geert Hofstede. Retrieved 20 November 2020, from <https://geerthofstede.com/>.
- Holmes, A. (2015). *Has 'Diversity' Lost Its Meaning? (Published 2015)*. Ntymes.com. Retrieved 17 November 2020, from https://www.nytimes.com/2015/11/01/magazine/has-diversity-lost-its-meaning.html?_r=0.
- How to begin designing for diversity*. Thecreativeindependent.com. (2020). Retrieved 19 November 2020, from <https://thecreativeindependent.com/guides/how-to-begin-designing-for-diversity/>.
- ico-D | Explorations in ethical design | meditations on diversity*. Ico-d.org. (2020). Retrieved 20 November 2020, from <https://www.ico-d.org/2020/03/23/explorations-in-ethical-design-meditations-on-diversity.php>.
- Kohler, T., Fueller, J., Matzler, K., Stieger, D., & Füller, J. (2011). Co-Creation in Virtual Worlds: The Design of the User Experience. *MIS Quarterly*, 35(3), 773-788. <https://doi.org/10.2307/23042808>
- Köppen, E., & Meinel, C. (2014). Empathy via Design Thinking: Creation of Sense and Knowledge. *Understanding Innovation*, 15-28. https://doi.org/10.1007/978-3-319-06823-7_2
- Liedtka, J., & Ogilvie, T. (2011). *Designing for Growth: A Design Thinking Tool Kit for Managers*. Columbia University Press.
- Lloyds Banking Group. *Lloyds Banking Group | Reflecting Modern Britain? A study into inclusion and diversity in advertising*. [Ebook]. Retrieved 25 November 2020, from <https://www.lloydsbanking-group.com/our-group/responsible-business/inclusion-and-diversity/reflecting-modern-britain/>.
- Marcus, A., & Gould, E. (2000). Cultural dimensions and global Web user-interface design: What? So what? Now what?. In *6th Conference on Human Factors and the Web*. Austin, Texas; IDEAL Group, Inc. Retrieved 4 December 2020, from <http://ideal-group.org/demonstrations/hfweb00.marcus.html>.
- Nilsson, E., & Ottsen Hansen, S. (2018). The Co-archiving Toolbox – Designing conditions for diversity in public archives. In *Design Research Society Catalyst* (pp.717-728). Limerick; The Design Research Society. Retrieved 1 December 2020, from <http://www.projectinkblot.com>.
- Project Inkblot*. Project Inkblot. Retrieved 23 November 2020, from <http://www.projectinkblot.com>.
- Rill, B., & Hämmäläinen, M. (2018). *The Art of Co-Creation*. Palgrave Macmillan.
- Ross, R. (2012). *Diversity in Graphic Design by Rodney Ross*. Pulsevcu.wordpress. Retrieved 22 November 2020, from <https://pulsevcu.wordpress.com/2012/10/22/diversity-in-graphic-design-rodney-ross/>.
- Walker, J. (2016). *Design Journeys: Strategies for Increasing Diversity in Design Disciplines* (MFA). The Ohio State University.
- Winstanley, L. (2019a). Mapping Activity Theory To A Design Thinking Model (ATDT): A Framework To Propagate A Culture of Creative Trust. In *International Association of Societies of Design Research Conference 2019*. Manchester; International Association of Societies of Design Research. Retrieved 20 November 2020, from <https://iasdr2019.org/uploads/files/Proceedings/vo-f-1180-Win-L.pdf>.
- Winstanley, L. (2019b). The British Football Academy: A Design Thinking Approach to Branding Strategy. *SAGE Research Methods Cases, Part 2*. <https://doi.org/10.4135/9781526465153>

Acknowledgements

Research for this paper was made possible by a Start Up Grant (SUG): M4082219.090 from the Ministry of Education, Singapore. Nanyang Technological University, Singapore.

Special thanks to Associate professor Jesvin Yeo for her continued guidance and support and to Research Assistant, Wu You for hard work, dedication and support.

Digital Collaborations for the Common Good: Key Learnings from Four Community Projects

Keywords: Digital Collaboration,
Collaboration, Common Good,
Community.

Alejandro Salas^{ab},
Giovanny Arbelaez^{a*},
Ferney Osorio^{ac},
Laurent Dupont^a

^a*Université de Lorraine, ERPI, F-54000
Nancy, France*

^b*Universidad Nacional de Colombia,
Departamento de Sociología,
Bogotá, Colombia*

^c*Universidad Nacional de Colombia,
Departamento de Ingeniería de Sistemas
e Industrial, Bogotá, Colombia*

*arbelaez5@univ-lorraine.fr

In this research we are concerned with how to make people collaborate for the common good in digital platforms, how to raise empathy, how to create, motivate or manage initiatives for common good, how to encourage responsibility to engage people with problems. To investigate this, we analyzed four digital collaborative projects found in the literature to understand how the collaboration is mediated and to examine their opportunities and challenges. The four online communities investigated are collaborations as and for common good: the first is a time-bank (Case 1: C1), a platform where the unit of exchange is not money, but time. The second is about Wikipedia (C2), where users are building an open encyclopedia by indexing information and making it available to internet users. The third has to do with users' participation in open-source software (C3), designing together and making it openly available. And the fourth is about some crowdsourced science platforms that involve people in species digitalization of irreplaceable data (C4), given the unprecedented biodiversity loss. The analyses of the cases were done through the lenses of a theoretical framework for collaboration in immersive environments which helps us to better understand the different factors affecting the collaboration. Revealing how those factors play a role in each case allows us to understand how to encourage and facilitate digital collaborations.

1 Introduction

Times of Anthropocene and Capitalocene require unexpected alliances, collaborations, to effectively address public matters (Haraway, 2016). In this research we are concerned with how online communities collaborate for the common good. To address this interest, we segmented this article in two main sections: the first section discusses some theory about common good and collaborations as presented by science and technology studies' authors. There we explore some significance of collaborations *as* and *for* common good, supported in some analysis of practices of individualization, we analyze their analytical implications and material consequences. And we conclude this part by pointing out the potentials and the necessity of collaboration for the common good. In the second section we do a cross-case analysis, we reviewed four digital collaborations taken from literature to try to understand how the collaboration is mediated and to examine their opportunities and challenges.

2 Theoretical Background: Common Good and Collaborations

In this article we analyze four cases taken from literature, four collaborations *as* and *for* common good. We are concerned with those two senses. Collaborations *as* common goods are present in the work of the four communities, we are going to analyze whose products are openly available, there common good is about shared property, a sense widely researched by scholars involved in common's movements (Coriat, 2015). However, the second sense was even more interesting for us, collaborations *for* the common good, there common good is about the benefit of collectives. This second sense is a bit redundant, well-being is not an individual matter, one cannot complain about insecurity on the streets without facing inequality and precarisation. COVID showed us how much our health is related, the argument of the individual liberty to not wear a mask ignores that interdependency. Even if "collaboration for common good" seems redundant, individualization continues shaping our politics and knowledge practices, so it is still necessary to stress its importance. Some authors have criticized practices of individuation in different fields from social sciences (Escobar, 2018, p.83), population genetics and neo-classical economy (Tsing, 2015, p.28), biological sciences and philosophy (Haraway, 2016) and even quantum physics (Barad, 2007).

But then what does it mean to say that "we are not individuals?" Here we want to foreground two senses of this claim. The first has to do with what constitutes a unit, a unit is a contingent concept, things are made or make themselves a unit, a different constitution of a unit is always possible, there units are heterogeneous assemblages of contaminated diversity (Tsing, 2015, pp.33–34). And even when care practices are done individually it is always interconnected with collective endeavors (Puig p.133-136). As soon as interdependency is accepted as a condition (Escobar, 2016, 2018), that nothing holds together without agency of care (Puig de la Bellacasa, 2017), care becomes an ethical obligation. The idea of interdependence is crucial because even when death is necessary

for the continuation of life, when interdependence is recognized, one can notice how there are not some individuals dying, there is mass-extinction of entire ways of living. Anthropocene or Capitalocene is not the killing of some units, in the words of Tom Van Dooren and Deborah Bird Rose, double death (Haraway, 2016), the killing of the ongoingness.

In this context, collaborations are crucial because they have the potential to address the two components of response-ability, a praxis of care and response: the first, being able to notice (Haraway, 2016, pp.34–36; Tsing, 2015), and the second, being capable to respond (Haraway, *Staying*, p.78) becoming capable with others (Despret, 2008; Haraway, 2016). Aligned with the first component of response-ability, collaborations can be transformative encounters, and is not about showing the own's truth to the others with their beliefs, the world is full of people who believe that others believe passively and wrong (Despret, 2008), nor pretending to fully understand the others. We should not expect collaborators to articulate their thoughts the same way. Collaboration does not necessarily imply consensus, is not about agreement, nor about convincing. The noticing of the transformative encounters we talk about are made by asking questions together, in Marilyn Strathern's terms putting relations at risk with other relations (Haraway, 2016, p.12), our assumptions with those of others. It is a possibility to think from below (D. Haraway, 1991; Harding, 2015).

And collaborations are not innocent alliances, hidden interests and power relations do not simply disappear because of the cooperation. Collaborations have the potential to, but not necessarily lead to transformative encounters and alliances to become capable to act responsibly. It is not that every collaboration leads to a better situation, but they are necessary to survive (Tsing, 2015, p.30). Collaborations are not altruist, nor utilitarian, they are about mutual obligations (Puig de la Bellacasa, 2017).

In synthesis, collaborations are necessary for the common good, well-being is not about individual interests. Instead, individualization is double death, the killing of the ongoingness. Collaborations have the potential to be “transformative encounters” to notice, to think with others, even to “think from below”, and are also important to render capable with others. That's why collaborations are key for common good. In a landscape of naturalization of individualization, we outlined in the previous part, the fact that entire online communities are formed investing their time and effort to collaborate, to become a community with others would have to be explained, at least it would deserve some of our attention. In the next part we are going to analyze four cases of digital collaborations taken from literature, there we want to think how to better collaborate for the common good in the context of online communities.

3 Materials of Analysis

While doing a systematic literature review about digital collaborations, we found four articles especially suitable to think about digital collaborations *as* and *for* the common good. The first is about a time bank, the second is about a wiki, the third is about open-source projects, the fourth case is about citizen science. Each case is also attached to a collaborative paradigm already explored both in practice and in the scientific literature. Even if we are not going to discuss the history or in general about those paradigms, it is important for us to notice how those are not isolated cases.

Within our search we did not find a model that conceptualized the elements of a collaboration, just research that focused on some aspects of them. But we know the ICE (Immersive collaborative environment) model was made to conceptualize and measure collaborations mediated by immersive environments and thus digital technologies. The model (Dupont, Pallot, Christmann, & Richir, 2018; Dupont, Pallot, Morel, Christmann, & Boly, 2017; Pallot et al., 2017) has two parts, one concerned with immersion and the other with collaboration; is the latter we are going to discuss here (when we refer to the ICE model in the text we will be talking about the collaborative component). For the collaboration component the model proposes four elements, each of them with two properties: Sense Making (SMa): Relevance (SmaR), Context Awareness (SMCA); Trust Building (TB): Interpersonal Ties (TBIT), Confidence (TBC); Shared Meanings (SMe): Knowledge Sharing (SMEKS), Knowledge Creation (SMeKC); Mutual Understanding (MU): Group Dynamics (MUGD), Collective Intelligence (MUCI).

4 Cases Analysis

Given the fact that this model was not made for digital collaborations in general, but for immersive technologies, in this article we want to try to take the four cases' discussions in terms of the model to know if it fits and in consequence, if the model can be used to describe and quantify digital collaborations in a wider sense. Not all the elements of the model are present are analyzed by the authors of the articles we selected to study the four cases (see Table 1), so in this article we analyze each case with one of the four elements of the model.

Element	Property	C1	C2	C3	C4
SMa	SMaR		x		
SMa	SMaCA		x		x
TB	TBIT		x	x	
TB	TBC				
SMe	SMeKS				x
SMe	SMKC		x		x
MU	MUGD				x
MU	MUCI	x	x	x	x

Table 1: The ICE Model elements present in each case. The x's indicates that the element is explicitly present in each article.

4.1 Time Republik - Time Based Currency

Time banks are time-based currency communities, all time banks share the same schema: “an-hour-per-an-hour” (Del Moral & Pais, 2015), members use time instead of cash as a unit of exchange. TimeRepublik in particular is a digital time bank, a community of people who freely exchange their talents, interests, and passions. In Timerepublik users can offer time doing things like giving French classes, repairing electronic devices, taking photos, etc. In *Collaborative Economy and the Digitalization of Timebanking*, (Del Moral & Pais, 2015) focus on a particular time bank, Timerepublik to analyze some differences and similarities between digital and traditional time banks. In the analysis of this case, we focused on the element of mutual understanding of the ICE model, who’s interest in power relationships resonates with the debate the authors of the article propose to think if digital time banks are or not and to what extent they can disrupt capitalist dynamics of exchange.

Time banks such as Timerepublik, a digital one, have significant differences compared to traditional ones. In Timerepublik exchanges are much more professional or working-life oriented (Del Moral & Pais, 2015, p.9), there are many young (67% of members under 34 years old) professionals and high-skilled people (Del Moral & Pais, 2015, p.6), there is a high rate of short exchanges (38% of them last less than an hour and 16% just 15 minutes or less) (p.9) and the size of the network is considerably bigger, in just one and a half years, 12.000 people have registered (Del Moral & Pais, 2015, p.10).

From the beginnings of the idea of Time banks, they have been engaged with socio-political concerns (Del Moral & Pais, 2015, p.4). It has been said that they have the potential to turn inside out the very definition of work and its value, to blurry boundaries between what is considered work and what is not, what is valuable and what is not (Del Moral & Pais, 2015). This communities have been described as predicating ethics of sharing far from capitalistic, this

more concerned with the communal (Del Moral & Pais, 2015, p.12), or destabilizing the association of “economy” with capitalism (Del Moral & Pais, 2015, p.12). On the other hand, there are critical approaches that describe those initiatives as built upon a business-as-usual foundation: private ownership, funded by venture capital, without any special concern with well-being, community cohesion, local economic diversity, and sustainable job creation (Del Moral & Pais, 2015, p.12). Even considered the latest capitalism’s trick to survive, even if it could accelerate the phenomenon of real wages stigmatization, job destruction and destruction of basic structures of welfare (Del Moral & Pais, 2015, p.12).

In this article the authors show how differences in mediations (traditional versus digital) can represent differences in the kind of members and exchanges. In relation to the capacity of these banks to destabilize the dynamics of the capitalist economy, taking into account the criticisms, we consider that the time banks do not represent an absolute disruption of these conventional dynamics, but they can produce new relations of access to things that people could hardly afford with money, time banks also allow new relationships between their members.

4.2 Wikipedia - Wikis

In *Information Quality in Wikipedia: The Effects of Group Composition and Task Conflict*, Arazy, (Arazy, Nov, Patterson, & Yeo, 2011) ask: what determines the success of community-based collaboration projects? to answer the question they examine the relationships between the cognitive diversity of members’ knowledge and experiences, task conflict and roles members play in the community, this interest fits well with the Sense making element of the ICE model. The researchers focus their study on Wikipedia, an online encyclopedia that is experiencing remarkable growth and has become the most notable example of the community-based model (Arazy et al., 2011, p.72). There are different roles in Wikipedia (Arazy et al., 2011), administrative-oriented participants tend to have high commitment and identification with the community and are highly engaged in the community in contrast to content-oriented participants. The contribution of content-oriented participants is centered on few items while administrative-oriented work is distributed across many items.

Cognitive diversity describes differences between mental models and common task knowledge (Arazy et al., 2011). This kind of difference has been described affecting positively team success and enhancing group’s performance, by increasing the variety of perspectives, creating opportunities for knowledge sharing and leading to greater creativity.

Task conflict has been described as both affecting negatively and positively collaborations (Arazy et al., 2011). When negatively described, task conflict is impeding collaboration, escalating minor disagreements to heated debates, and being perceived as detrimental to productivity and satisfaction. When positively described, task conflict can contribute to a group's performance, making members more receptive to new information, fostering a deeper understanding of task issues, increasing the range of possibilities considered, motivating members to question fundamental assumptions, and leading to enhanced problem solving.

Researchers selected randomly selected articles between 200- and 3500-words length. There were taken from 15 to 17 articles from the six subject categories from Wikipedia's classification, a total of 96 articles were analyzed. The article's quality was measured with the help of librarians, who were asked to evaluate the articles with four evaluation criteria: accuracy, completeness, objectivity and representation. The group's members' orientation was measured by analyzing the dispersion of the users' activity, content-oriented members edit few related articles while the administrative-oriented members' contributions are spread between different articles. Cognitive diversity was estimated by comparing the articles edited by each member, when there is a strong overlap between the articles edited by participants, there is less cognitive diversity, if there is no overlap between the articles, there is huge cognitive diversity. The task conflict was measured studying the articles' discussion page, with the Jehn and Mannix scale (Arazy et al., 2011, p.83).

The results of the analysis demonstrate that the interaction between cognitive diversity and task conflict was statistically significant (Arazy et al., 2011). When there is high cognitive diversity, task conflict results in improving the article's quality, in contrast, task conflict where there is low cognitive diversity can be detrimental for the articles' quality (Arazy et al., 2011).

4.3 Sourceforge – Open-source

Interested in open-source communities that collaboratively develop software for open access, in *Continued Participation in Online Innovation Communities*, (Zhang, Hahn, & De, 2013) analyze the influence of community response on members' continued participation among members with different roles. Community response can be strongly influential to the involvement of participants in online communities. In this text, we focused on the role motivations identified by the authors play to maintain relations of collaboration that coincide with the element Trust building element in the ICE model.

In previous research the community's response has shown to improve the continued members' participation (Zhang et al., 2013, p.1114). But participation objectives and motivations are different

between users and modifiers (Zhang et al., 2013). Users participate to gather information, request assistance with the setup and use of the software, report problems with it, and provide feedback about it. Modifiers seek to customize the software code to satisfy their software needs, obtain personal enjoyment from performing an intellectually challenging activity, improve their skills, their status and reputation (Zhang et al., 2013). To study empirically the effect of community's response over the continued participation between different members, researchers took data from the online discussion forums of the website sourceforge.net. There were collected a total of 5641 thread-initiating messages (the first message in a discussion thread), the responses from other members and the replies from the thread-initiating user. Member's roles were assumed based on associated activities. User activity is associated with general questions about the software/project, requests for help, for information and problem/bug reports (Zhang et al., 2013). The modifier role is associated with "activities such as contributing code and asking questions about modifying code" (Zhang et al., 2013).

The variables Recent Community response, Time to return and Cumulative Response were measured based on the data from sourceforge.net (Zhang et al., 2013). The recent community response is "a binary variable capturing whether the focal message had received a valid response before the member posted a subsequent message or before the end of data collection" (Zhang et al., 2013). Time to return is "the value of the time (in days) from a member's posting of a thread-initiating message to his posting of the next message. If the member did not post another mess" (Zhang et al., 2013). Cumulative response is "the cumulative replies that the member received from the community in response to his past thread initiating participations" (Zhang et al., 2013).

The analysis results suggest that the recent community's response has a positive effect over the continued participation in the community. Authors highlight the role played by the community response attracting continued participation notably for users of the software (Zhang et al., 2013). This case shows how important is the community's response to motivate the continued participation.

4.4 Software to Involve Citizens in Science Tasks - Citizen Science

In *Accelerating the Digitization of Biodiversity Research Specimens through Online Public Participation*, (Ellwood et al., 2015) reviewed different online platforms to digitalize specimens. Interested in the so-called *citizen science*, the involvement of citizens in science tasks, they review, identify and propose standards and good practices. For the digitalization, it is needed to transcribe annotations found on the records (with information related to characteristics, classification and location). This process can include a wide range of activities, the authors focus on three tasks: transcription, georeferencing and annotation, here we are going to talk exclusively about georeferencing. In this text, we focused on the importance

of required mediations that make possible collaborative activities like georeferencing, that overlaps with the interest in the building of common frames of reference to allow common functioning described by the element Sense making in the ICE model.

Based on comparison between different platforms and some standards, the authors suggest some considerations (Ellwood et al., 2015): First, to train participants on basic skills such as identifying the locality information and interpreting locality types, interpreting geographic jargon, compass bearings, abbreviations, and formats, and understanding the common types of geographic projections, etc. Can lead to more efficient and accurate results. Training emphases can be placed on finding and using relevant maps and indices of place names. Second, familiarity with the area in which the specimen was collected, and with the language in which the label was written can be also helpful. Third, categorization of data records in administrative units of specimen origin (e.g., country, state, region) is useful for assigning records to public participants. Fourth, to record participants' performance can be useful to evaluate participants' georeferencing skills. Fifth, to do a threshold based on the work of multiple participants can lead to more accurate results.

This case shows how standardization of the activities allow the coordinated functioning, the collaboration of the community. Tasks such as georeferencing require participants to make use of technical standards, part of the problem with these standards is the fact that they cannot be easily understood by non-expert community members. Their strategies as doing a previous categorization of data records in administrative units as country, state or region can be useful. So, standards are at the same time a matter of common functioning and understanding.

5 The Elements of the ICE Model in the Analyzed Cases

Given this ambivalent role of aspects such as standards, cognitive diversity, community response or task conflict evidenced in the cases, we could not do a list of good or bad practices. But the four ICE model elements linked to the collaborative component (Sense making, Trust building, Shared meanings and Mutual understanding) point out some aspects that should be considered when studying, building or maintaining online communities. In general, those four elements suited well with the four cases, and therefore the ICE model can well describe digital collaborations in a wider sense, not just in immersive environments (see Table 2).

	Element	How the element is presented
Case 1	Mutual Understanding: Collaborators participate in being influential with each other without restrictive impositions (power relationships, for example) from teammates	Authors discuss some positions about how time banks can be disruptive to classical economic systems and the power relationships they are attached to
Case 2	Shared meanings: Participants share knowledge to work creatively	Authors discuss the relationships between cognitive diversity, conflict and article's quality
Case 3	Trust building: Team members are supportive and are confident with themselves and the others	In the paper the support is expressed and received as a community's response, and the effect is the member's continued participation
Case 4	Sense making: Participants are aware of the context and comprehend their teammates	Authors discuss the participants' problems with georeferencing

Table 2: The ICE Model elements and how they how they appear in the discussions of the article that presents the case.

However, there are some aspects that do not fit as well when one wants to analyze online communities as collaborations. The ICE model was made mainly for face-to-face simultaneous collaborations with a reduced quantity of members working on the same object, and the cases studied in this article do not correspond to this kind of interaction. The time-bank case for example, is one of collaboration but not of collaborative work, members of timebanks work together to build a community, but they are not working on a product. In the digitalization of species case, participants do not always work in the same object or at the same time, the object is not a unique object, but there are a lot of records that have to be labeled or georeferenced. The interactions studied were completely online, collaborators did not see their faces and communication was not simultaneous, so a property like relevance, of the element sense making, concerned with the measure in which participants understand each other does not fit well in the case 4 about digitalization of species, because each participant is working in a different record without contact with other participants. There are also aspects that are central to the analysis but are not represented in the model, that is the case of the Shared Meaning element, concerned with the knowledge sharing to creative work, even if their two properties evaluate if there is exchange of knowledge and if it leads to creative results, the fact that the exchange can be conflictive, and the conflict can be detrimental or productive to the end result is not taken into account.

Far from giving answers the four cases open questions around three aspects both difficult to grasp and important to note when studying online communities. We propose those questions to be considered in the specificity of each community. First: Who are the community members? How to classify them? neither community participants, nor their motivations are homogeneous, so it is important to know the participants. The Wikipedia's and open-source cases show how different community members can be (content and administrative oriented, users and modifiers), and the differences in the kind of interactions and motivations they have. The time bank shows how digital time banks can entail different kinds of community members, differences in the duration and kind of exchanges and the size of the network. These are not easy questions since it seems that every classification of participants can be contested for being insufficient to know the nuances of the group formation (Latour, 2005), the cases show and discuss different member segmentations.

Second: How does technology mediate collaborative work? In the time banks case, it can be observed how the difference between digital and traditional can make a difference in the kind of members and exchanges, in the digitalization of species case it was also clear the difference standards can make to the coordination of the work, but also to make some tasks easier. It is important to consider what mediates collaborations, platforms affect actively communities' participation (Latour, 1992; Mitchell & Hansen, 2010), so it is important to note how software features configure interactions. One can do this by comparing the platform with others, looking for standards and good practices or directly by doing research with the community.

Third: How does the quality of interactions affect collaboration? It is important to pay attention to interactions like community response that was shown to be differently motivating to different kinds of members in the open-source case, or in the task conflict (that in the Wikipedia's case can be beneficial or detrimental). Then aspects like community response, task conflict and even cognitive diversity can have ambivalent effects to online communities' collaborations.

References

- Arazy, O., Nov, O., Patterson, R., & Yeo, L. (2011). Information Quality in Wikipedia: The Effects of Group Composition and Task Conflict. *Journal of Management Information Systems*, 27(4), 71–98. Retrieved from <http://www.jstor.org/stable/41304593>
- Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics And the Entanglement of Matter And Meaning*. Durham and London: Duke University Press.
- Coriat, B. (2015). *Le retour des communs : la crise de l'idéologie propriétaire*. Paris: Les Liens qui Libèrent.
- Del Moral, L., & Pais, I. (2015). Collaborative Economy and the Digitalization of Timebanking: Opportunities and Challenges. *Studi Di Sociologia*, 53(1), 3–21. Retrieved from <http://www.jstor.org/stable/43924067>
- Despret, V. (2008). El cuerpo de nuestros desvelos: figuras de la antropo-zoo-génesis. In *Tecnogenesis, La construcción técnica de las ecologías humanas* (pp.229–260). Madrid: AIBR (Antropólogos Iberoamericanos en Red),.
- Dupont, L., Pallot, M., Christmann, O., & Richir, S. (2018). A Universal Framework For Systemizing the Evaluation of Immersive And Collaborative Performance. In *VRIC '18: Virtual Reality International Conference Laval Virtual* (p.10). LAVAL. <https://doi.org/https://doi.org/10.1145/3234253.3234306>
- Dupont, L., Pallot, M., Morel, L., Christmann, O., & Boly, V. (2017). Exploring Mixed-methods Instruments for Performance Evaluation of Immersive Collaborative Environments. *International Journal of Virtual Reality*, 17(02), 12.
- Ellwood, E. R., Duncel, B. A., Flemons, P., Guaralnick, R., Nelson, G. I. L., Newman, G., ... Mast, A. R. (2015). Accelerating the Digitization of Biodiversity Research Specimens through Online Public Participation. *BioScience*, 65(4), 383–396. Retrieved from <https://www.jstor.org/stable/90007259>
- Escobar, A. (2016). Cosmo/visiones del Pacífico y sus implicaciones socioambientales: Elementos para un diálogo de visiones. *Foros Semana*, 1–17.
- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham: Duke University Press.
- Haraway, D. (1991). Conocimientos situados: la cuestión científica en el feminismo y el privilegio de la perspectiva parcial. In *Ciencia, cyborgs y mujeres: La reinención de la naturaleza*. Titivillus.
- Haraway, D. J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Durham and London: Duke University Press.
- Harding, S. (2015). *Objectivity and Diversity Another Logic of Scientific Research*. Chicago and London: The University of Chicago Press.
- Latour, B. (1992). Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts. In *Shaping Technology / Building Society: Studies in Sociotechnical Change* (p.252). Cambridge and London: The MIT Press.
- Latour, B. (2005). *Reassembling the social: An introduction to Actor-Network Theory*. New York: Oxford University Press.
- Mitchell, W. J. T., & Hansen, M. B. N. (2010). *Critical terms for media studies*. Chicago: Chicago Press.
- Pallot, M., Dupont, L., Christmann, O., Boly, V., Richir, S., & Morel, L. (2017). ICE Breaking: Disentangling Factors Affecting the Performance of Immersive Co-creation Environments. In *VRIC '17* (p.7). <https://doi.org/http://dx.doi.org/10.1145/3110292.3110316>
- Puig de la Bellacasa, M. (2017). *Matters of Care: Speculative Ethics in More Than Human Worlds*. Minneapolis: University of Minnesota Press.
- Tsing, A. L. (2015). *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruin*. Princeton: Princeton University Press.
- Zhang, C., Hahn, J., & De, P. (2013). Research Note: Continued Participation in Online Innovation Communities: Does Community Response Matter Equally for Everyone? *Information Systems Research*, 24(4), 1112–1130. Retrieved from <http://www.jstor.org/stable/24700297>

Acknowledgements

ASP research stay at the ERPI was supported by the LUE Graduate program of the *Université de Lorraine*.

Reflections on Designing Agency under Socio-Technical Conditions

Commoning Ubicomp. Designing Equitable Techno-Social Hybrids

Jonas Kellermeyer, Jan Torpus

Deep Design: Integrating Transitions Research and Design with Agency, in the Digital Era

Babajide Alamu Owoyele,
Jonathan Antonio Edelman

Legible AI by Design: Design Research to Frame, Design, Empirically Test and Evaluate AI Iconography

Franziska Pilling, Haider Akmal,
Adrian Gradinar, Joseph Lindley,
Paul Coulton

Designing the Exploration of Common Good within Digital Environments: A Deliberative Speculative Design Framework and the Analysis of Resulting Narratives

Michel Hohendanner, Chiara Ullstein,
Daijiro Mizuno

Commoning Ubicomp. Designing Equitable Techno-Social Hybrids

Keywords: Commoning,
Ubiquitous Computing, Internet
of Things, Human-Computer-Interaction,
Artistic Research, Media Ecology,
Speculative Design.

Jonas Kellermeyer^{a*},
Jan Torpus^{b**}

^a*University of Applied Sciences and Arts
Northwestern Switzerland*

^b*Academy of Art and Design, IXDM*

*:jonas.kellermeyer@fhnw.ch

**jan.torpus@fhnw.ch

In this article, we want to examine the state of our present techno-social hybrid existence and suggest solutions to render the correlations visible and perceptible to establish an extensive idea of general solidarity. We propose and would like to discuss design patterns that help (re-)imagining and (re-)shaping the common good as an essential part of the coupling between human and non-human (technological) actors. Caring for one another (and subsequently for the common good) in the present means imagining techno-social hybrids and establishing a sense of respectively shared solidarity. The infrastructural importance of the common good and its ecological implications are essential to the anticipated design of ubiquitous computing structures that may be utilized for fair and equal distribution of (material) goods.

1 Introduction

Social thinking historically always happens in close proximity to technological circumstances and in resonance with respective effects and entities. The technological condition of what it means to be human, is thus a very important issue regarding basic social interaction (cf. i.e. Leroi-Gourhan 1993). For a social context to emerge, it requires certain investments that refer to the general inter-subjective relation, namely the common good. The overall idea of the common good first and foremost refers to social and peaceful coexistence, thus technology is mostly a means, never an end (in itself). *An indeterminate infrastructural network is the foundation of every common good.* It relies on a potentially fair and an equal way of distribution, the establishment of a publicly accessible general gateway and equal engagement. The necessity of acting in coordination with technology arises from the sheer fact that what it means to be human largely depends on the technological environment, shaping our reality. The present state of the world is, now more than ever, shaped by technological interventions of social actors. Tech-companies like *Amazon*, *Google* and *Apple*, for example, all depend on *human resources*^[1] in order to keep their business running steadily. The link between the social world and its technological counterpart is present at any moment in time.

In this article, we want to examine the state of present existence as a state of manifest hybridity, thus calling for ways to render the *techno-social hybrid* condition explicitly visible in order to establish an extensive idea of general solidarity. We are aware of the fact that this perspective is a predominantly Western one that does come with historical implications and respective assumptions. Ubiquitous Computing, for example, is an expression of the Western mindset as well, which is why the critical scope of this paper remains discursive itself.

The piece will thus be structured in the following way: first, we want to start by defining the main terms such as Common Good and the concept of Ubiquitous Computing (ubicom). Afterwards, we want to continue with a closer look on infrastructures as the literal basis of emerging perception in (immaterial) time and (material) space. In this section, we are focusing on a comprehensive overview about the historical dimensions of techno-social achievements and successively continue to draw conclusions regarding the potential trajectory of an accelerating present.

[1] Not only as employees but also as a vessel for data material to shape their products.

Second, we are going to elaborate the potential contact zones for utilizing ubicomp technologies as means for greater techno-social solidarity. The stretch from facing to interfacing, as we are going to show, is not a gradual one, but is rather granular in that there always has been both communication variants present throughout human history.

Third, we want to deliver a comprehensive view of sensing & sense-making as the basis for greater solidarity between human and non-human (technological) actors. Bruno Latour's elaboration on the *Parliament of Things*, a place where both humans and non-humans can be represented adequately (cf. Latour 1993, p.144), is one of the main points of departure for our development of design-patterns for commoning notions of ubicomp.

2 Infrastructure & Common Good

2.1 The Current State of the Common Good

Generally speaking, the term *common good* refers to facilities (material as well as immaterial in nature) that are provided *by the people for the people*, caring about commonly shared interests. These interests may include the bare necessities of life (e.g. the basic need for clean air and access to drinking water) as well as the desire for relaxation (e.g. public parks), a certain amount of private safety provided by the police, a sense of the very own cultural and historical identity through free museums etc. The way that the interests in question are identified, remains very much discursive: there are different competing characterizations of the common good. The main dividing line runs across the definition of "common interests": one strand advocating for it to be subsumed under the banner of "joint activity", the other opting for "private individuality" as the main guideline (cf. Hussain 2018). However, one aspect all concepts for the common good are sharing, is the infrastructural relevance that it bears. Whether you think of it as something that connects different individuals to form a *community*, or if you are pointing to preservation of *individual* freedom and liberty, the idea of the common good is meant to assure a peaceful coexistence - at least in theory.

The common good forms the basis for cohabitation in that it offers a perspective beyond the mere individual^[2], embedding it in a broader context and linking it (inter-subjectively) to other people's realities. It is not a static set of circumstances but has to be (re-)negotiated constantly.

[2] Even if the individual is regarded as the entity, whose creation and preservation is of utmost importance, the doctrine of the common good may be regarded necessary for contrasting it to collectivist notions.

In general, the idea of a common good is always interfering with basic questions of relation: *how do we relate to others? In which ways are our (idiosyncratic) ways of living and experiencing interconnected?* Questions of inter-subjective dependence are becoming increasingly difficult to answer since the complexity of everyday life is growing exponentially. As we take technology into account, the accelerating aspect becomes even more virulent. If there is the notion that everyone forges his/her own destiny, the fundamental communal sense gets lost. How can we tackle this issue by using technological means to create a shared experience of the environment - social, technological and natural?

UbiComp, as an inherently techno-social phenomenon, is originally closely intertwined with a deeply economized view of the world together with the idea of disciplinary control (cf. Beniger 1986). The explicit reference to functionality, which is the focus of all ubiComp variants (IoT, ambient intelligence, etc.), is structured along a rigorous tendency towards quantification and the possibility of control via fluid heuristics. Likely, the computer's reality is a heuristic calculation of probability. Thus, there is no need for long discussions about complex situational contexts; a simple reference to the quantitative numeric dimension is enough to dispel any doubt - in economic reasoning as well as in terms of computerized reason. The dark side of this narrative is that ideas with initial emancipatory potential are continuously gutted and used in a restrictive manner. The detachment from the natural and social environment that affords intuitive reactions, similarly, is an unpleasant side effect of computing power.

Every common good relies on an indeterminate infrastructural network that ensures fair and equal distribution without any explicit motive for profit as a backdrop. The common good is thus by definition removed from the economic sphere and the dynamics of the market (cf. Sandel 2012). It requires a certain sense of belonging as part of the individual's mindset: "For the more we think of ourselves as self-made and self-sufficient, the harder it is to learn gratitude and humility. And without these sentiments, it is hard to care for the common good." (Sandel 2020: 14) The ways of infrastructurally assuring the equality in terms of distribution shall be observed closer in the following section, while the focus will remain on the significance of ubiComp as a potential means to achieve *deep involvement* in techno-social hybrid settings.

2.2 Invisible Bases - The Ineluctable Importance of Infrastructure

In an introductory work to the realm of ubiquitous computing, Stefan Poslad writes the following: "We inhabit an increasingly digital world, populated by a profusion of digital devices designed to assist and automate more human tasks and activities, to enrich human social interaction and enhance physical world interaction" (Poslad 2009: 1). To be able to "enrich human social interaction", the mechanisms ensuring this effect, have to be subtle and invisible for

the most part - they have to be *seamlessly implemented* to a certain extent, otherwise they would deflect from the main goal, which is creating a sense of directly experienced sociality. Here, it shows why ubicomp is first and foremost an infrastructural issue: as Susan Leigh Star has pointed out throughout her work, "infrastructure is a fundamentally relational concept" (Star & Ruhleder 1996, p.113), it is in line with a tendency of grasping the world as a process, abstracting from absolute standpoints and focussing on potential routes to take. In her article *Ethnography of Infrastructure*, Star identifies several dimensions that guarantee infrastructure's relational subtlety: amongst them is a fundamental embeddedness, a certain sense of transparency as well as explicit links to embodied practice. Thereby, the enigmatic state of infrastructure can be revoked only in cases when it does not work; so "[t]he normally invisible quality of working infrastructure becomes visible when it breaks" (Star 1999, p.382). It is only then that the respective user experiences his/her dependency on some outside structure, when it suddenly does not function[3]. The same holds true for emphatic ubicomp: the general idea is to let certain computations fade smoothly into the user's flow of action without explicitly disturbing him/her.

Infrastructures in general are never neutral. They are constructed in order to work best for the powerful - be invisible *to them* - while constantly neglecting minorities, almost constantly disrupting their lives very visibly[4]. Ubicomp mechanisms aren't neutral either.

They are designed according to underlying hegemonic power structures, have certain ethical implications[5], too, and are thus a possible source of profound dissent: *infrastructural agency* is an integral part of reality and has to be rethought in order to serve the common good. While "[s]truggles with infrastructure are built into the very fabric of technical work" (ibid, p.378), it should also be noted that struggles with infrastructure are similarly common in social interaction. Often it seems that infrastructures affect the way we deal with others to a great extent: if the cellular connection is bad, we might become angry at the person at the other end of the line, even though what we are actually mad about, is a matter of infrastructural instability. Generally speaking, infrastructures are only

[3] Once you have (in-)directly experienced such a breakdown, it becomes possible to anticipate the basal importance though: anticipation renders conscious appreciation of infrastructure possible. We will come back to the importance of anticipation as an essential part of the sense-making process.

[4] Railroads are being built in closer proximity to poor neighborhoods and overground power lines also cross those communities way more often than the ("richer") suburbs.

[5] Data discrimination is a reality. It shows that the prejudices and sentiments of people gathering data are constantly mirrored by the data itself, leading to a growing call to action regarding ethical guidelines for the realm of Big Data.

definable relationally: "One person's infrastructure is another's topic or difficulty." (Ibid: 380) Whether you refer to certain (im-)material circumstances as 'infrastructure' depends on your personal scope. In other words: "Analytically, infrastructure appears only as a relational property, not as a thing stripped of use." (Star & Ruhleder 1996, p.113) Infrastructure thus refers to the *truly backstage elements* that are aiding the individual in question to carry out a certain task. Ubicomp has the potential to form a wide-ranging infrastructure for general social interaction. It is now creating an additional layer to the social fabric by autonomously orchestrating "smart" interactions amongst technical devices, used by humans on a daily basis and explicitly relocating computing processes into the users' periphery: printers connect easily to cameras, data transfer is being enabled without setting up a highly specific network first (e.g. *Apple's AirDrop* implementation throughout their own ecosystem) and your individual laptop's settings may be adjusted appropriately for working as soon as you log into the workplace wifi. At the same time, ever smaller devices offer an increasing number of functionalities: the average smartphone houses a great variety of sensors and serves as a replacement for a vast number of tools.

What ultimately distinguishes ubicomp systems from other information technology, and what qualifies them as relational in nature, are two basic features: "First, they are situated in human-centered personalised environments, interacting less obtrusively with humans" (Poslad 2009, p.9). Every effect remains customizable to fit neatly into the individual notion of one's socially constructed reality, making interaction much more accessible and getting rid of highly specialized - thus difficult - learning processes. The second point concerns the fact that Ubicomp systems "are part of, and used in, physical environments, sensing more of the physical environment" (Ibid.). This boundary condition makes them the basis for thinking in a hybrid way, enabling the two realities to sustainably merge. Human and technology form a unity without ever explicitly embracing one another, only processually uniting from time to time.

The networking condition that became the vanishing point for the information age is not genuinely a matter of technology to begin with: *networking is a social practice par excellence*. Similarly, relationality by no means only begins when actors connect to networks and people connect to machines. Rather, human him/herself is a relation, a meaningful ecology in him/herself (cf. Schürmann 2013, p.73). The significance of meeting points between technological and social realities and the morphing of these circumstances marks a potentially new departure into a commoned future.

If we are to trust the recently deceased Philosopher Michel Serres in his diagnosis of the present, “[t]he problems of production are virtually resolved in the West, and it is the *problems of communication* that [are] now [taking] centre stage” (Serres 2003, p.230).

3 Sensing & Sense-Making

The hybridized present calls for a new kind of politics that enables human and non-human actors to engage equally in a discourse. About 30 years ago, Bruno Latour started calling for a *Parliament of Things*, by which he means “a democracy extended to things themselves” (Latour 1993, p.142). To enmesh human and non-human actors, to establish a certain sense of *solidarity* amongst them, it is necessary to take a closer look at perceptive routines, gain insight in how sense is made across the sensible spectrum. *Facing* and *interfacing* play an important role in constructing comprehensive and fundamentally discursive environments for both human and non-human actors: the two inherently different, yet complementary, ways of communicative coupling may offer a gateway between individual development and techno-social progress. Rather than marking a subtle distinction, this differentiation is meant to display a bold heuristic. In fact, *facing* always includes a sense of *interfacing* - and vice versa! The two modes of coupling are not really opposed to each other, they rather shall be regarded as the basis of all communicative action to emerge. The granular state of techno-social couplings, in general, is both a challenge to and a chance for coming to take place.

Facing can be understood as “an active making of presence, or a presencing” (Hookway 2014, p.8). The face is always present as a structural element. It is “what is given for a reading” (ibid) and can thus also be regarded as the necessary basis for the processual interfacing that connects several entities - seemingly seamless. Seamlessness is a profound illusion that is always wrested from a world that has to know about its idiosyncratic wirings in the background. Hence real intuitivity is rather found in the realm of the face than that of the highly specialized interface.

Interfacing, on the other hand, is a mediating process, or to put it differently: “To mediate is really to interface” (Galloway 2012, p.10). In stark contrast to the act of *facing*, *interfacing* successively hides the seams between the individual actors, allowing them to form a (situative) unit, mimicking a sense of belonging.

The interface in its essence may be regarded as a kind of relation: “while the interface might seem to be a form of technology, it is more properly *a form of relating to technology*, and so constitutes a relation that is already given, to be composed of the combined activities of human and machine” (Hookway 2014, p.1). To be able to engage with non-human (technical) actors on eye-level, we have to establish an epistemological viewpoint tailored for sensoric systems and align it with anthropocentric conceptions.

3.1 Sensoric Epistemology

Sensoric epistemology, i.e. the question of how sensor systems are perceiving the world, is an important part of the story when it comes to mutual comprehension as a way of creating (inter-subjective) meaning and subsequent solidarity. In contrast to human individuals who are mainly used to constructing a consistent narrative along the linear time beam, machines rely on encyclopaedic databases. This digitally structured principle generates differing meanings of space and time relations (cf. Manovich 1999). The synchronization between the *two fundamental principles - the narrative and the database* - is dependent on manifold translation processes that are always also referring to an *environmental shift*. The general environment, each human-being shares with actor-sensor-systems, is the key for entering the cross-roads. When looking at a certain technology, the main question that comes to mind is how do we (as humans) relate to it? What purpose does it ultimately serve? In other words: which data does it have to retrieve and how fine-grained does the measurement have to be? The environment provides a lot more affordances than can be (intuitively) processed by the human mind: We only perceive acoustic events from 20 Hz to 20 kHz, only observe a very limited spectrum of light with our very own eyes and are not able to feel radioactivity. The tools we use, provide us with *extensions to our senses*. (Semi-) Autonomous systems blur the lines between the realm of the objective tool and the subjective actor. Their sensing routines are heavily specialized and (actively) help in building a new sense culture, together with a renewed sense of the body.

In order for a ubicomp system to serve the common good, it will be important to preserve a certain sense of anthropocentrism that is all-too often radically contested by STS scholars and technophiles in general. Regarding the common good, UbiComp has the potential to create a novel ecological field of affordances and sense of togetherness amongst human beings.

3.2 Sensing as Sense-Making

When we talk about perception, questions of sense are always present. Why do we perceive the world the way we do? Why do we act in certain ways and not in others that would also be thinkable? In contrast to mere sensing, sense-making is closely connected to the narrative structure of social understanding, implementing a trajectory that is based on the notion of time - *remembered past, experiencing present & anticipated future*: past experiences become the basis on which new information can be categorized and future outcomes may be anticipated (cf. McCarthy & Wright 2004, p.124 ff.). At the same time, the new data always carries with it the potential to shake the foundation, once established. Hence, it is possible to divide into a period before and a period after a certain sense-making iteration, to view sense-making as a (subjective) way of *appropriating*: "In appropriating an experience we make it our own. We relate it to our sense of self, our personal history, and our hoped-for

future” (Wright et al. 2008, p.7). Sense-Making is thus closely connected to the topos of interpretation, which may be understood as “making narrative sense of what one is supposed to be up-to-date with.” (Couldry & Hepp 2017, p.114).

Sense-making iterations rely heavily on sensing routines - technological and social. To be able not only to survive in the hybridized state of the present, but to create a hospitable place for desires to be resolved, it appears to be crucial to view sensing as an essential aspect of sense-making, if not to view sensing as sense-making itself.

“Design patterns are about not re-inventing the wheel” (Baraki et al. 2014, p.1). Instead they offer the opportunity to draw conclusions from scientific findings and best design practice, summarizing a whole strand of research and utilizing it for designated purposes. In the final section of our paper, we want to derive design patterns for Ubicomp systems that render them applicable to serve the common good, continuously stripping them from their profit-driven origins and (re-)imagining them *at eye-level with the respective user*.

How have intelligent ubicomp mechanisms to be designed in order to render themselves perceivable and controllable to a variety of people despite an ever-growing desire for subtlety and seamlessness? How can they be unruly enough to be perceived as having an existence on their own?

As mentioned above, an infrastructural network that ensures fair and equal distribution is the foundation of common good to begin with. Identified infrastructural dimensions such as embeddedness, transparency and embodied practice (Star & Ruhleder, 1996) also match with crucial characteristics of ubicomp, smoothly fading with the user’s flow, only surfacing when convenient (calm technologies) by supporting and extending the user’s sphere of action without disturbance. However, this seamless and invisible integration into the users daily routine and dataflow not only bears potential applications but also implications such as the risk of serving as governmental control tools or generating behavioral data that may be misused for commercial purposes. The integration therefore has to be designed carefully to actually serve the common good instead of (only) creating marketable circumstances. Since personal data tracking and AI pattern recognition increasingly become common practice, characteristics such as embeddedness, invisibility and ubiquitous connectedness implicate the loss of explicit control and agency on the user’s part.

To be able to communicate and relate to each other, humans and machines need interfaces that mutually translate their different epistemic approaches. Today, this is mostly achieved by graphical

4 Design Patterns for Commoning Ubicomp

user interfaces (GUIs) on mobile devices, sensing the environment, offering contextual information and tools and capturing the user's behavioral data. Beyond the concept of mobile computing, ubiquitous computing also offers embedded computing: The technologically extended hybrid environment and its smart physical devices (edge computing) provides direct and embodied ways of immediate interaction and automated environmental reaction (e.g. audio, illumination, motormotion)[6]. In this case, our familiar surroundings *become* the interface (Benyon 2014, p.24) and the interaction points are embedded without any form of detached representation of reality, as applied in GUIs. This holistic integration of information and control tools into our physical environment requires extensive rethinking and design solutions for new opportunities and problems.

How should embodied interfaces and gadgets and embedded interactions be designed to not interrupt the flow, but instead provide sufficient control? How do infrastructurally embedded technical artifacts have to be designed in order to create sustainable sociality and consequently serve the common good?

To answer these questions, we derived concrete Design Patterns for Commoning Ubicomp from our own design research projects and other studies. There are several disciplinary attempts to define design patterns or principles for ubicomp, most of them focused on economy and applicability. Eric Chung et al. (2004) e.g., addressed issues like Scale of Interaction (un/conscious interaction), Keeping Users in Control (agency), Serendipity und Ambient Displays. Baraki et al. (2014) take into consideration non-technical, social aspects such as privacy, trust through transparency, compliance and acceptability. They propose Requirement Patterns (e.g., Information About Functions, Agreement to Functionality, Control of Processes, etc.) and Design Patterns (e.g., On Demand Explanation, Control of Autonomous Adaptation, Enable/Disable Functions, Context State Indication, etc.) to create social awareness and offer control mechanisms. With a focus on designing Commoning Ubicomp and embedded technologies, we propose taking into consideration the following design patterns, to be discussed and extended:

- Data Sovereignty. Profit-oriented and governmental use of personal data flow needs to be audiovisualized to create user awareness of ongoing tracking processes and intended use.

[6] The commercial version of this approach is the Internet of Things (IoT), the fusions of the Internet and the physical world. IoT technologies bring efficiency, convenience and new insights and are e.g. applied to homes and buildings (Home/Building Automation), in cities (Smart City), in industry (Industry 4.0) and in agriculture (Precision Farming). Our approach towards the concept of ubicomp is less economically driven and focuses on its proper implementation and service for the common good.

Simple uncoupling functions allow to interrupt this kind of data transfer. This (re-)gaining of sovereignty over one's own submitted data goes hand in hand with a *sense of seamfulness*.

- Categories of data privacy. Customized configurations of different levels of data accessibility allow users to filter data sharing for predefined networks, such as e.g.: "private", "familiar", "communal", "common", "institutional" or "open". On the one hand, these categories minimize an *all too seamful* regular interruption, caused by requests for confirmation and permission, on the other hand, they allow protected data flow for commoning services.
- Visibility of agency. Users also need to become aware of the level of proactive *artificially intelligent machine interference*. The level of algorithmically customized information compilation and guidance have to be indicated and tools for dis/approval to be provided.
- Computational unruliness. For a more inspiring experience, the *response-able environment* should be *unruly* enough to be perceived as having an existence on its own. Unforeseeable, creative proposals, that are not only based on the algorithmic calculations of needs and desires of the user, help to avoid suffering from tunnel vision.
- Context enhancement. Since personal data is tracked in the user's environmental situation, the *current context* needs to be indicated to extend the existing environmental information, to define the *type of relation* and to avoid ambiguity.
- Information embedding. Standards for types of provided information need to be defined: The indication of different *scales of content* such as e.g.: "meta", "specific", "useful" or "entertainment" have to be attached to appropriately design and embed pieces of information. With the disappearance of GUIs alternative forms of dis/approval have to be established. Tangible user interfaces (TUIs) and ambient displays offer physical forms of affirmation, rejection or feedback.
- Identification of media literacy levels. The complexity of environmentally embedded interfaces have to be adapted to the users experience and education with existing technologies and media devices. By measuring the handling of interaction situations, gears get shifted and different *levels of didactics* can be applied, automatically or through personal customization.
- Cultural Embedding. To improve information dissemination for varying communities, representation of information should be adapted and edited according to categories of *cultural signifiers* such as e.g.: "universal" (physical world experience), "geographical", "communal" or "private".

- Matters of Embodiment. The *material reality of the human body* with all its capacities has to be taken into the equation for a truly supportive data-driven computation structure. At the same time, the fact that the body is laden with cultural assumptions is important to bear in mind, not to fall into the trap of assuming general applicability.

5 Concluding Thoughts

As we tried to show throughout this piece, ubicomp mechanisms are not a common good in themselves. Rather, they may provide the infrastructural potential of redefining and reimagining the material world according to (new) standards of fairness and equality. It is important to note that ubicomp systems are semi-autonomous tools, neither an end in themselves nor a panacea for solving grievances. The technophile error of constantly laying eyes upon new technologies and imagining them as a “healing potion” for the world is just as wrong as technophobic curtailment, according to which control ultimately leads to a form of technocracy (for its own sake). Technology has the ultimate potential to do both good and harm. It is an enabling structure, which is why it does not have a value in itself. Still, it is also true that technology is fundamentally intertwined with social circumstances and as such, it cannot be neutral. Caring for the common good in the present means imagining techno-social hybrids and establishing a sense of respective solidarity. After all, the human form is only one among several material manifestations in public space.

References

- Beniger, J. (1986). *The Control Revolution. Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press.
- Baraki, H., Geihs, K., Hoffmann A., Voigtmann, C., Kniewel, R., Macek, B., Zirfas, J. (2014). Towards Interdisciplinary Design Patterns for Ubiquitous Computing Applications. Technical Report. *ITeG Technical Reports. Band 2*. (pp.1-37) Kassel: Kassel University Press.
- Benyon, D. (2014). *Spaces of Interaction, Places for Experience*. London: Morgan and Claypool.
- Chung, E. S., Hong, J. I., Lin, J., Prabaker, M. K., Landay, J. A., Liu, A. L. (2004). Development and evaluation of emerging design patterns for ubiquitous computing. *Proceedings of the 5th conference on designing interactive systems: processes, practices, methods, and techniques* (pp.233-242).
- Couldry, N. & Hepp, A. (2017). *The Mediated Construction of Reality*. Cambridge: Polity Press.
- Galloway, A. (2012). *The Interface-Effect*. Cambridge: Polity Press.
- Hookway, B. (2014): *Interface*. Cambridge, MA: The MIT Press.
- Hussain, W. (2018). The Common Good. *The Stanford Encyclopedia of Philosophy (Spring 2018 Edition)*. Accessed November 27, 2020. <https://plato.stanford.edu/archives/spr2018/entries/common-good/>.
- Latour, B. (1993). *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.
- Leroi-Gourhan, A. (1993). *Gesture and Speech*. Cambridge, MA: The MIT Press.
- Manovich, Lev (1999): Database as Symbolic Form. *CONVERGENCE 1999* Volume 5, Number 2 (pp.80-99).
- McCarthy, J. & Wright, P. (2004). *Technology as Experience*. Cambridge, MA: The MIT Press.
- Poslad, S. (2009). *Ubiquitous Computing. Smart Devices, Environments and Interactions*. Chichester: John Wiley & Sons Ltd.
- Sandel, M. (2012). *What Money Can't Buy. The Moral Limits of the Market*. London: Penguin Books.
- Sandel, M. (2020). *The Tyranny of Merit. What's Become of the Common Good?* London: Penguin Books.
- Schürmann, E. (2013). Verkörpertes Denken, Medialität des Geistes. Skizze einer darstellungstheoretischen Medienanthropologie. *Körper des Denkens. Neue Positionen der Medienphilosophie*. (pp. 69-82), Munich: Wilhelm Fink Verlag.
- Serres, M. (2003). The science of relations an interview. *Angelaki. Journal of Theoretical Humanities, Vol. 8, No.2, August 2003* (pp. 227-238).
- Simons, M. (2017). The Parliament of Things and the Anthropocene: How to Listen to 'Quasi-Objects'. *Techné Research in Philosophy and Technology 21:2-3 (2017)* (pp.1-25).
- Star, S. & Ruhleder, K. (1996). Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces. *Information Systems Research, Vol.7, No.1, March 1996* (pp.111-134).
- Star, S. (1999). The Ethnography of Infrastructure. *American Behavioral Scientist, Vol. 43 No. 3, November/December 1999* (pp.377-391).
- Wright, P., Wallace, J., McCarthy, J. (2008). Aesthetics and Experience-Centered Design. *ACM Transactions on Computer-Human Interaction*.

Acknowledgements

We would like to thank Prof. Dr. Christiane Heibach for revising the paper.

Deep Design: Integrating Transitions Research and Design with Agency, in the Digital Era

Keywords: Sustainability Transitions, Transition Design, Digital Technologies, Common Good, Epiphanies.

Babajide Alamu
Owoyele^{ab*},
Jonathan Antonio
Edelman^b

^a*DeepData Lab*

^b*Hasso Plattner Institute,
Postdam, Germany*

*babajide.owoyele@hpi.de

Deep-Design is a conceptual framing of ongoing transdisciplinary work between sustainability transitions research, transition design, and information systems. The goal is to make explicit the role of Design(ers) and digital technologies in the sustainability literature on actors and agency. This conceptual piece integrates transition design with the notion of non-human Agency from digital technology and prototypically incorporates designers as mediating agents in multi-actor configurations in transitions. DeepDesign offers Digital paradigm perspectives (distributed agency through openness, affordance, and generativity of digital technology) and acknowledges the inherent paradoxes of digital apps, platforms, or infrastructure. Facilitating the build-up of new structures, culture, and practices or breaking down old ones hinges on agency. The digital paradigm, however, requires exploring non-human agency explicitly. To help realize the DeepDesign research agenda, a literature review provides a theoretical basis for more contemporary connections between sustainability transitions research and transition design. Towards 'sustainability epiphanies', the questions are How is Agency characterized in current transition research and design literature? And how can Digital paradigm perspectives (openness, affordances, and generativity) augment our understanding of Agency in sustainability transitions research and Design?

1 Transitions as Common Good

Transitions are at the heart of evolving from over-production and over-consumption of common goods^[1] to more clean, sustainable, inclusive, fair, and just societies (Cohen et al., 2013; Douglas, 1980; Grabs et al., 2016; Steward, 2012). The sustainable development goal era offers the notion of "common good" transitions in themes such as mobility, health, energy, education. Here, the *common good* is defined as "[...] part of an encompassing model for practical reasoning among the members of a political community [...] this relationship requires them to create and maintain certain facilities because these facilities serve certain common interests [...] which together constitute the common good and serve as a shared standpoint for political deliberation" (Hussain, 2018). The economic crises, diverse political conflicts, and social challenges emanating from the current Covid-19 pandemic and the relatively slow progress on sustainable development goals raise the urgency and relevance for such common models (Barton et al., 2018). Such a shared meta-model for deliberation on making societal systems is evident in the democratic management and governance of transitions through local and global multi-actor initiatives (Derk Loorbach et al., 2016).

As seen in digital health (Vineis, 2014), Artificial Intelligence (Berendt, 2018), *Design is now exploring the common good meta-model* (designforcommongood.net, 2020; Swiss Design Network, 2020). Furthermore, an emerging field open to adopting Design for such common good deliberations is the Sustainability Transition Research (STR). Here *Sustainability Transitions*^[2] refer to large-scale societal changes that explicitly address grand societal challenges (Brown et al., 2013; Bui et al., 2016; Niki Frantzeskaki et al., 2012b; Niki Frantzeskaki et al., 2017) Framed as common good approaches, such normative initiatives to systems change usually results from complex and emergent multi-phase, multi-actor interactions on multiple levels (Geels, 2002, 2010). The niche level is where alternative innovation emerges, with the regime level characterized by dynamically stable structures that need to change (Geels, 2011). Regimes are influenced by landscape-level developments or exogenous shocks (Loorbach, 2007; Rotmans & Loorbach, 2009). Thus, this paper explicitly frames 'transitions' as a common good in which multiple actors interact on multiple levels and accelerate the phases towards a more sustainable society.

[1] Roads, justice, privacy, schools, art museums, water to name a few (<https://plato.stanford.edu/entries/common-good/>).

[2] (in author's personal opinion sustainability transitions (ST) are a common good).

Sustainability Transitions Research (STR) is concerned with understanding the complex, interdependent, and emergent characteristics and mechanisms of niches, regimes, and landscapes (Kivimaa, Boon, et al., 2019; Koehler et al., 2019; Roberts et al., 2018).

More recently, the STR intellectual community is applying action research for facilitating transition actors and their emergent roles in *accelerating societal system transition* (Wittmayer & Loorbach, 2016b) with case studies in energy, healthcare, mobility (Aceró Lopez et al., 2019; Audet & Guyonnaud, 2013). Overall, *actors* and their *Agency* are central themes in STR because they support or undermine transitions' acceleration^[3]. Such focus is evident in recent literature offering theory and practice insights on actors and their agency (Haan & Rotmans, 2018; Kok et al., 2021; Pesch, 2015; Russo Spina & Cristina, 2019; Vlaisavljevic et al., 2020). Agency is also intertwined with power, culture, institutions, technology, and geography (Derk Loorbach et al., 2017). By definition, an agent is a system element with a capacity to adapt (Grin et al., 2011).

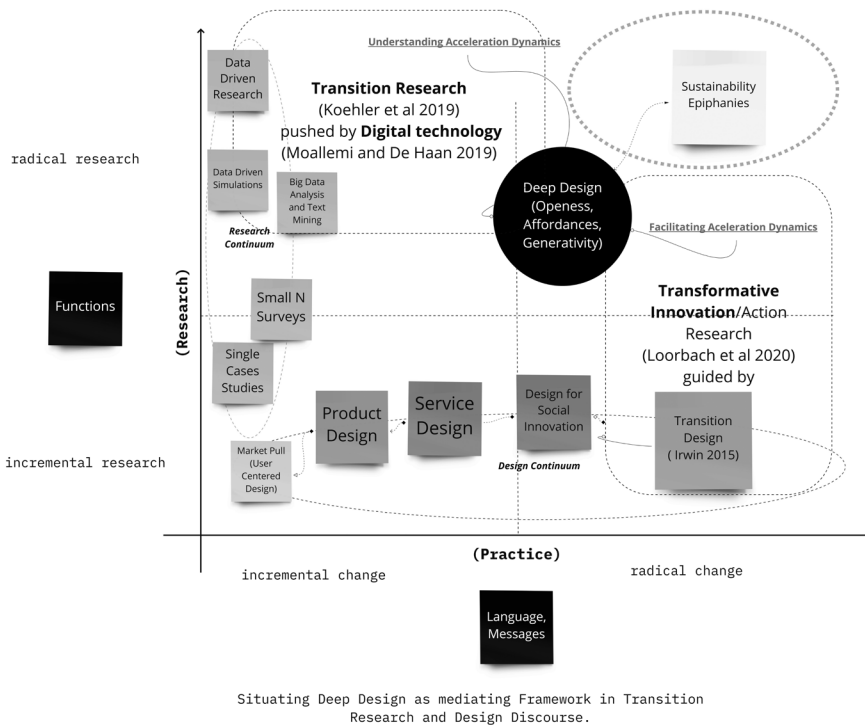
Agency is the capacity of an agent (person or entity) to act independently in the world, i.e., to create and shape its surroundings (Schlosser, 2015). Although much has been researched on actors and their agency, there have been calls for research (theory) and action research (practice) to move beyond incremental approaches to understanding transitions and facilitating transformative change that truly benefits society (Escobar, 2018; Kanger, 2020; Koehler et al., 2019). Rather, such approaches should be directed towards more radical system-building and destabilization-oriented governance (Niki Frantzeskaki et al., 2012a; Geels, Kern, et al., 2016). How actors leverage agency is at the center of truly understanding and facilitating transformative outcomes (Koehler et al., 2019; Kohler & Holtz, 2020). So there is a justified call for more transitions research and practice focused on *acceleration*.

While ST research has been giving Agency more theoretical attention, a parallel endeavor, Transition Design provides an early but practical approach towards thinking about design and designers' role in understanding and facilitating systemic innovation. *Transition Design* (TD) is about the capacity and Agency of (for) designers to *facilitating* transitions, in contrast to STR, which is mostly concerned with *understanding agents' role in transition dynamics*. (İ. Gaziulusoy & Erdoğan Öztekin, 2019). There have been calls for work integrating STR and TD towards achieving the same ends (Ceschin, F., 2014; İ. Gaziulusoy & Houtbeckers, 2018; Gideon Kossoff et al.; Gideon Kossoff; Scupelli, 2015; Tonkinwise, 2017; Tonkinwise, Irwin, & Kossoff, 2015). Such conceptual integrations of transition theory with transition design are first beneficial for making designers' roles

[3] Some refer to *Transformative Innovation* to broaden the scope of Transitions Studies.

as human agents in mediating and facilitating sustainability transition efforts more explicit. This integration and clarity are valuable because design practice and education may better reflect the role design can or cannot play, given the current skillsets that designers possess. More so, the design community can ideate on what it needs to evolve into. Second, beyond human agency (Elder, 1994; Koene, 2006; Taylor & Charles., 1985), the deepening of *notions of non-human Agency through digital technologies can augment both transition research and its design*. Here a digital paradigm perspective on non-human, distributed Agency offers the paradox and potentials of apps, platforms, and infrastructure. *How digital technologies play a major role in augmenting our understanding and facilitation of transitions is worthy of inquiry to explore agency beyond humans* (Dwiartama & Rosin, 2014).

Fig. 1: Deep-Design Research Agenda based on adaption and conceptual integration (Irwin, 2015; Koehler et al., 2019; Derk Loorbach et al., 2020; Moallemi & DeHaan, 2020; Verganti, 2011).



As shown in the conceptual illustration in Figure 1, Deep-Design integrates two-dimensions, namely *Design* and *Digital-Technology*, to integrate both designers and non-human digital agency into the research and practice of Sustainability Transitions. Both Design and Digital technology augment Transition research and practice, for example by, using leverage points in designing for sustainability (Ceschin, 2014; Tonkinwise, Kossoff, & Irwin, 2015b) or in diffusing alternative niche innovation towards scaling (Lam et al., 2020; Wigboldus et al., 2016), or in data-driven transitions research (Moallemi & DeHaan, 2020). Integrating such deepening approaches augments

current sustainability science and practice with a richer agency account (Grin et al., 2011; Johan Schot & Steinmueller, 2018). Towards achieving what the design management researchers call technology epiphanies^[4] (Dell'Era et al., 2017; Verganti, 2011), this paper argues for a "sustainability epiphany." The research agenda seeks to conceptually integrate these two fields (STR and TD) while bringing digital-push and design-push more explicitly into the discussion of transition actors and the agency for understanding and facilitating transitions. Such bridging leverages both design agency and the distributed agency inherent in digital technology and may contribute to more robust facilitation and acceleration of transition experiments (I. Gaziulusoy & Brezet, 2015; I. Gaziulusoy & Ryan, 2017). "Sustainability epiphanies" benefit the common good through Transition Design and Research, which is conceptualized henceforth as the integrative emergent outcome of Deep-Design. Deep-Design is onwards prototypically defined as the conceptual integration of design methods and digital technology for augmenting the way transition actors understand and facilitate the acceleration of transition dynamics.

Deep-Design conceptually integrates STR and TD by particularly making Design more explicit in using existing multi-actor frameworks used in transition studies, e.g., Multiactor Pattern Approach, Quadruple Helix Model, and the Innovation System Model (Avelino & Wittmayer, 2016; Carayannis & Campbell, 2009; Perez Nunez & Serrano-Santoyo, 2020; van Lente et al., 2011). To integrate transition design(ers) and digital technology into the current scientific discourse on transitions is to acknowledge a "hybrid-helix" and the mediating dimension of human and non-human agents in transitions. Furthermore, using a digital paradigm perspective for deepening notions of (non)human and distributed Agency (Celermajer, 2020; Verbeek, 2005) into transition literature. This paper proposes a research agenda that enriches STR with how design approaches afford more culture-rich transition practice while digital technologies offer data-driven robustness to sustainability research. Deep-Design is a first response to the call by (Moallemi & DeHaan, 2020), where the authors argue that "more serious progress may be recorded in the field of STR through data-driven approaches. Furthermore, in the context of action research, Julia and colleagues implore the transition studies community to pay more rigorous attention to culture beyond "barrier and drivers." (Wittmayer & Loorbach, 2016b). Deep-Design offers an exploration of the potential of design and digital technology to augment the agency of transition practitioners (action researchers and designers) looking to build up new culture, structure, and practices or break down existing ones in transitions (Fazey et al., 2018; D. Loorbach et al., 2016).

[4] Such integration must make digital agents/agencies explicit, like the integration of a "technology push" and a "design-push" in the Design-Driven Innovation Metamodel from Verganti and colleagues.

The conceptual integration in this work also grounds sustainability transitions in the digital era by accounting for Design(er) and Distributed Agency in transitions research and using a digital paradigm perspective to augment current transition design and research efforts with the idea of non-human actors^[5].

Such grounding is important because non-human digital Agency of apps, infrastructure, and platforms is mostly unaccounted for in current transition research agendas (Fratini et al., 2019; Hansen et al., 2018; Kivimaa, Boon, et al., 2019; Koehler et al., 2019; Miller et al., 2014) or the literature on transition design (Ceschin, F., 2014; I. Gaziulusoy & Brezet, 2015; I. Gaziulusoy & Ryan, 2017; Gideon Kossoff; Irwin, 2015) and systemic innovation (Laszlo et al., 2017; K. Smith, 2000; van Lente et al.; van Mierlo et al., 2010; Wieczorek & Hekkert, 2012). Moreso, the literature on institutional change and social innovation and transformation (Avelino et al., 2019; Derk Loorbach et al., 2011), as well as behavioral change (Hyysalo et al., 2019; Kossoff et al., 2015; Mercure et al., 2016; Meynard et al., 2017; Mok & Hyysalo, 2018; Öztekin & Gaziulusoy, 2019). They miss accounting for Agency related to digital technologies. The current sustainability transitions research agenda (Koehler et al., 2019) calls for broader perspectives on Agency and actors in the literature on transitions. Deep-Design responds, drawing on inspiration from current work exploring agency through themes such as *multi-dimensionality*, *regime destabilization*, and *bottom-up design* (Fischer & Newig, 2016; Geels, 2020; Kuokkanen et al., 2018; Öztekin & Gaziulusoy, 2019).

These "digital" gaps are rather, *opportunities* that require a conceptual framing of existing sustainability transitions theory, with their frameworks at play in transitions design". Digital paradigm" perspectives, principles, and constructs enrich emerging disciplines in terms of theoretical development and practice. (Nambisan et al., 2019). Hence, Deep-Design research questions are as follows:

- How is Agency characterized in current *transition research and design literature*?
- How can Digital paradigm perspectives (*openness, affordances, and generativity*) augment our understanding of Agency in sustainability transitions research and Design?

To help realize this research agenda, a review of transition typologies and literature that provides a theoretical basis for more contemporary agency connections between *sustainability transitions research* (STR) and *transition design* (TD) is done. This study reviews the extant literature on transitions typologies (Geels, 2011;

[5] apps, platforms, and digital infrastructure.

Johan Schot & Kanger, 2018), on multi-actor configurations (Avelino & Wittmayer, 2016; Carayannis & Campbell, 2009; van Lente et al., 2011). Work on Transition Design (İ. Gaziulusoy & Erdoğan Öztekin, 2019; Irwin, 2015) is also used to integrate Designers and Digital Technologies into the agency discussion reflectively. This review is in no way exhaustive and is, at best prototypical, an ongoing conceptual exercise with its gaps. The digital paradigm themes (openness, affordances, and generativity) by Nambisan and colleagues (Nambisan et al., 2019) also inform a radical mental shift in "what" constitutes Agency in the 21st century. The three themes unbox and how the "distributedness" of digital artifacts and the pervasiveness of data may deliver epiphanies for detecting, cataloging, and making sense of systemic innovation "patterns" (Geels, 2005; Grin et al., 2011; Haan et al., 2016). Such a paradigm also calls for more in-depth attention to the digital incumbency phenomenon, the tensions, dilemmas, and paradoxes associated with non-human and distributed agents, e.g., apps, beyond their advantages (Nadkarni & Prügl, 2020). What follows is a literature review and a conceptual integration drawing on existing typologies on transition actors and agency with a follow-up section on integrating design(ers) into theoretical frameworks on actors. Next, the paper highlights three digital paradigm perspectives for exploring non-human, distributed agency, and concludes with research questions guiding further empirical inquiry.

2 Theoretical Background

2.1 Transition Typologies: Multi-level Perspective, Agency, and Deep Transitions

Originating from the Knowledge Network for System Innovations and Transitions (KSI) program in the Netherlands^[6], three approaches- socio-technical, complex adaptive systems, and governance- emerged as typologies on/for Agency in transition studies. *The Multi-level Perspective* (Geels & Schot, 2007; J. Schot, 2001) comprises three levels- niche, regime, and landscape. It is a dominant theoretical perspective where a dominant regime interacts with innovative niches and pressure from landscape development (Derk Loorbach et al., 2017). According to the MLP, unsustainable societal regimes are fundamentally characterized by the complex and emergent interaction between dominant actors, where technologies, institutions, routines, and cultures encourage path-dependencies resulting from optimization and incremental innovation processes. As reflected in recent work, the MLP framework puts agency at the heart of path-dependency on technologies and systemic lock-ins (Geels, Berkhout, & van Vuuren, 2016; Verbong & Geels, 2007). The MLP suggests Agency^[7] (of political actors), cultural processes, and structure-based practices as themes for accelerating socio-technical transitions.

[6] the development of transition typologies; and understanding the role of agency in transitions were the two aims of the program <http://www.ksinetwork.nl/home>

[7] Human agency through people (individuals or firms).

However, MLP does not explicitly account for Design as a capacity for Agency, nor does it explicitly reflect on the possibility for non-human, distributed Agency. Itemized in a socio-institutional perspective (Derk Loorbach et al., 2017), a further focus on Agency elaborates on how actors interact in the multi-phases of transitions characterized as *predevelopment, take-off, acceleration, and stabilization*. Here, actors engage each other politically to maintain and break-down old regimes (Derk Loorbach et al., 2017) or simultaneously build-up and co-create new culture, structure, and practices (N. Frantzeskaki et al., 2018). Transition processes are sometimes *mediated* by actors, e.g., niche, user, or systemic intermediaries (Kivimaa, Hyysalo, et al., 2019) with resource-dependent, emergent and dynamic roles (Wittmayer et al., 2017).

Agency is fundamental to actors' institutional work towards making change happen. It can either be human or non-human (Lawrence et al., 2009)- although, the descriptions of actors in transitions research elaborate on individuals and organizations on different governance levels^[8] (Fischer & Newig, 2016). There seems to be no mention of digital agents mediating transitions or impacting landscape developments. The authors do conclude that "almost all transition actors have limited agency" (Fischer & Newig, 2016). Beyond human actors such as designers (Irwin, 2015) or action researchers (Wittmayer & Schaepeke, 2014), agency may be strategic (Werbeloff et al., 2016) or distributed (Grin et al., 2011). Hence, the notion of distributed and non-human Agency (Verbeek, 2005), e.g., through digital technologies, is not present in the MLP but slightly reflected in Deep Transitions literature. Deep Transition Frameworks is a parallel stream of transitions research that values "using the information technology paradigm to initiate a green global golden age." (Kanger, 2020).

Deep Transitions entails "theorizing patterns in large-scale and long-term socio-technical systems change [...] across multiple systems became connected and coordinated, developing a common directionality, in the long run" (Johan Schot & Kanger, 2018) using the MLP aggregation levels. It prioritizes understanding emergence, acceleration, and stabilization. Deep Transition research is interested in leveraging digital technology and big data to change and analyze existing linkages between several societal systems. According to the Deep Transitions approach, both research and practice of sustainability transitions can leverage the digital paradigm to have a better understanding of normative orientations, multimodal interaction, power dynamics, coordination, rules, institutions, roles, and their impact on accelerating transition (Berkhout, 2004; Fuenfschilling & Binz, 2018; Jenkins et al., 2018).

[8] Niche, regime, landscape, state, market, civil society, intermediary actors.

Because non-human actants such as digital technology (Kompella, 2019; Walwyn et al., 2019) are rarely discussed, a Deep Transition lens helps to situate (apps, platforms, and infrastructure) agency configurations. Deep Transitions situate digital technologies in leveraging data-driven approaches to examining archives in considerable detail, such that transition phases can be studied on a relatively broader scale. By systematically analyzing large corpora of text (e.g., newspapers, books), digital technology can help navigate through a wealth of information and make sense of this to increase understanding of the evolution and directionality of socio-technical systems over long periods of observation (Johan Schot & Kanger, 2018). Landscape development such as crisis, war, and meta(rules) that shape human actors' Agency can be understood using digital approaches.

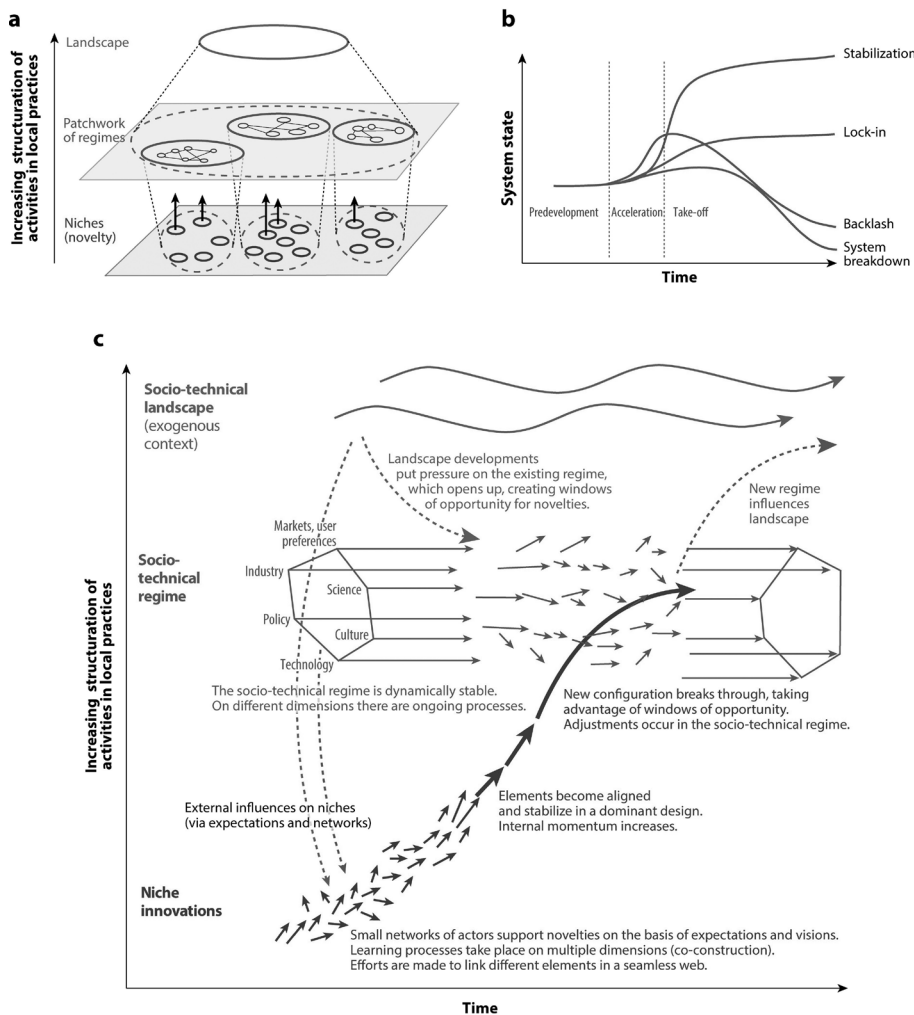


Fig. 2: The original multi-level, multi-phase perspective on transitions with (a) the multi-level with the co-evolving niches, landscape; (b) socio-technical regime transforming as a consequence of niches emerging and pressure from landscape development; and (c) the multi-phase concept depicting transitions pathways and their non-linearity. Image adapted with permission from (Derk Loorbach et al., 2017) based on (Geels, 2011, 2020; Geels & Schot, 2007).

Transition research calls for *more theories that can integrate historical actors' Agency* in different social groups and how these agents interact to create long-term outcomes and path-dependencies (Steen, 2016). There is also a demand for "less descriptive, structural, but *greater agency analysis*" (A. Smith et al., 2005). The literature on exploring systemic intermediaries who act (mediate) between other transition actors and institutions helps to imagine such a greater analysis (Kanda et al. 2020). Focusing on actors or entities helps conceptualize the potential mediating role for Design (ers) in multi-actor configurations (following Tonkinwise, Kossoff, & Irwin, 2015a) or digital technologies (Rammert 1998)

2.2 Multi-Actor Agency Configurations and The Mediating Role of Transition Design(ers)

Actors play a pivotal role in transition phases, influencing transition visions, power dynamics, and expectations (Mahoney, 2010). Agency is central to governing systemic complexity and managing the uncertainty inherent in transitions (A. Smith et al., 2005). Having established the centrality of actors in transition research, this section reviews the literature on actor configurations. It situates design(ers) as facilitating actors who mediate between other actors to make transitions happen in practice.



Fig. 3a: Multi Actor Pattern accounts for the Hybrid Sphere to embed Design (ers) (Avelino & Wittmayer, 2016).

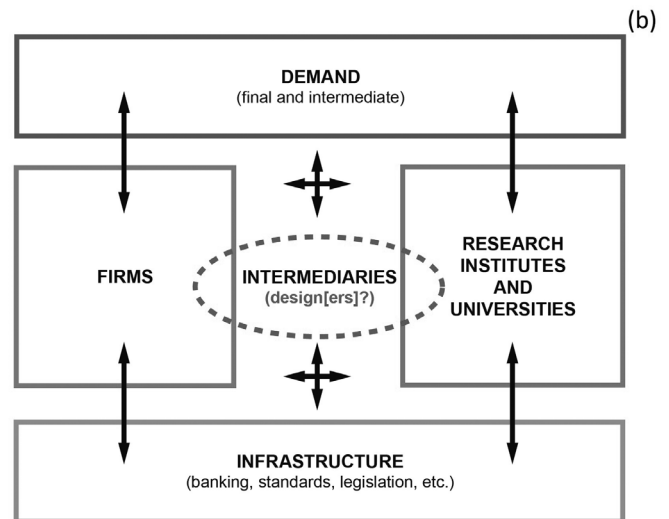


Fig. 3b: Innovation Systems Model accounts for designers as Intermediaries (van Lente et al., 2003, 2011).

(c)

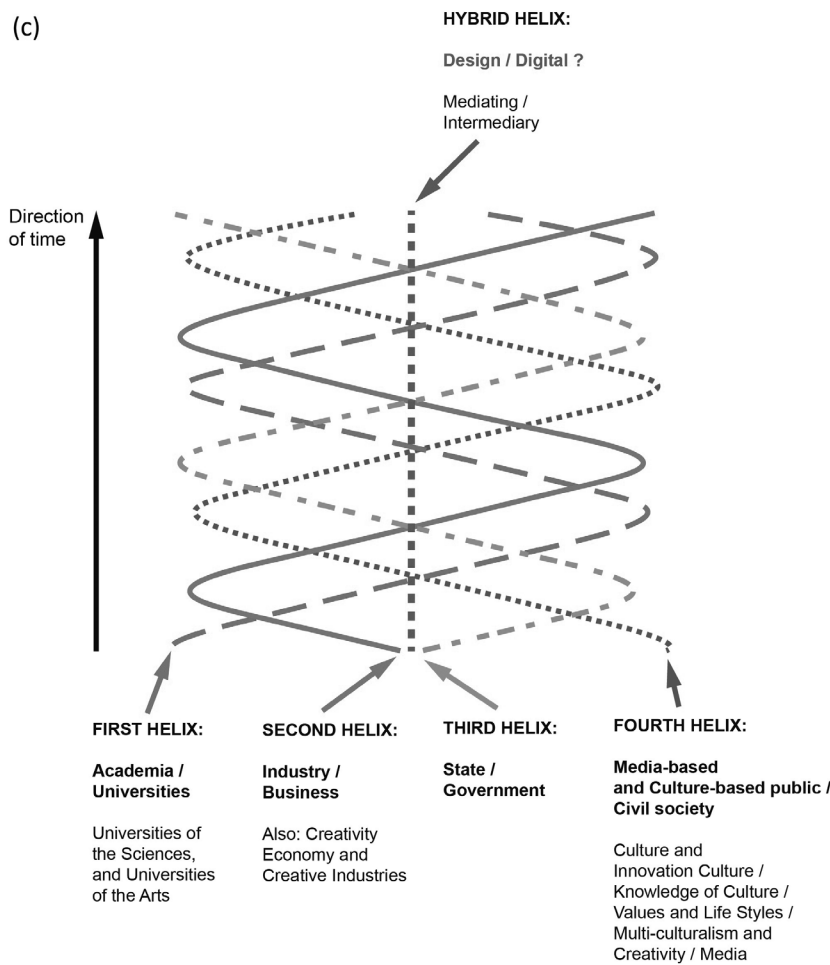


Fig. 3c: Quadruple Helix Framework accounts for Design as artistic research and the role of the digital paradigm (media) (Carayannis & Campbell, 2009; Carayannis & Campbell, 2011).

As illustrated in Figure 3, the literature on Innovation systems offers the *innovation systems model* on how actors are configured (e.g., firms, researchers, and systemic intermediaries) and interact to impact transitions (van Lente et al., 2011). More research situate *multi-actor patterns* to help account for the configuration of institutional boundaries in social innovation where actors (state, market, community) engage each other (Avelino & Wittmayer, 2016; Perez Nunez & Serrano-Santoyo, 2020; Sung & Park, 2018). Figure 3 (a) situating design in the Hybrid Sphere. Another framework for accounting actor relationships and interaction configurations is the *Quadruple Helix Framework* (Barrie et al., 2017, 2019; Betz et al., 2016; Carayannis & Rakhmatullin, 2014). Design is described as "Artistic research" in the Quadruple Helix framework (Casaramona et al., 2015). The three frameworks listed above, the prototypical role of Design (ers), non-human agency from digital technology, are now highlighted in red. Figure 3b) makes Design explicit as a mediating process where designers may perform as intermediaries.

Transition Design (TD) is an emerging theme that could apply Design in mediating systemic innovation. TD goes beyond *product design* (Chen et al., 2012; Eppinger, 2011; Esslinger, 2011; Han Shaohua et al., 2014; He & Li, 2017; Leong & Lee, 2014) or *service design* (Moro et al.; Ortiz-Crespo et al.; Straker et al., 2015; Vorraber et al., 2019). In earlier sections, we reviewed Agency using levels, phases, and actors of transition. Design is situated as a liminal discipline for mediating the three levels and phases of transitions. This study establishes that transition design provides *human agents' capacity* to mediate between multiple human actors (e.g., firm manager, action researchers, politicians, citizens). By mediating transformative innovation on a system level, TD, therefore, extends beyond Design for social innovation (Bruin & Read, 2018; Cordoba-Pachon et al.) because of its capacity to embrace sustainability transitions research typologies (Ceschin & Gaziulusoy, 2016). TD references the MLP by (Geels 2011), using its ontologies to develop and analyze design scenarios for alternative sustainable futures via co-design methods (Irwin, 2015). There is also a call for more "expansion, diversification, and deepening of theoretical groundings of design for sustainability transitions" (i. Gaziulusoy & Houtbeckers, 2018). In a sense, although TD already *adopts some sustainability transitions theory for design research practice* (Kossoff et al., 2015), actor configuration *could be better integrated* in transition design practice. Because sustainability science and transition management approach regard transition arenas as highly *political and socio-technical* (i. Gaziulusoy & Ryan, 2017), a richer account on what other types of actors (political, social, technical) are part of the agency list, is relevant for supporting the mediating processes related to transitions (Kanda et al., 2020).

3 Integrating Transition Design and Transition Typologies with Digital Perspectives on Agency

As reflected in the multi-actor configurations (see Figure 2), an account of non-human distributed agency and a digital perspective on actors are still missing. These multi-actor framings adequately characterize human Agency in transition dynamics and help make explicit, design(ers') mediating role in accelerating transitions. However, a distributed perspective to Agency (Celermajer, 2020; Duygan et al., 2019; Dwiartama & Rosin, 2014) is crucial to understanding transition dynamics on the landscape level because it affords a deeper analysis of opportunities and the rules that constrain or enable agents (Grin et al., 2011; Matschoss & Heiskanen, 2018; Venkatraman, 2017). Such a digital paradigm analysis is also useful in exploiting and exploring user/community knowledge for truly facilitating the build-up and break down of structures, practices, and cultures on local and global scales (Wittmayer & Lorbach, 2016a). In concrete terms, the non-human distributed Agency afforded by apps, platforms, and infrastructure may impact both transition research and Design. Digital technologies thus expand (human) Agency by "positioning actors wider in space and time" (Grin et al., 2011). Here, digital technologies augment researchers' human-agency in mining, cataloging, and interpreting

regime rules of wider actor contexts and the transition patterns identified in socio-technical and complex systems studies (Loorbach, 2004; Phillips & Ritala, 2019).

In parallel, following (Wittmayer & Loorbach, 2016b), the big agenda for action-researchers is to explore avenues through which *transformative innovation acceleration dynamics can be understood and facilitated*. Digital technologies have a critical role in achieving both understandings (transition research) and facilitating (action research, transition design). Latour brings the notion of non-human "elements" into Agency literature through Actor-Network-Theory (Latour, 2013). According to actor-network theory (ANT) (Bruni & Teli, 2007; Elder-Vass, 2015), the notion of non-human Agency is "not the empty claim that objects do things instead of human actors, ...but that no science of the social can even begin if the question of who and what participates in the action is not first of all thoroughly explored." (Dwiartama & Rosin, 2014).

Therefore, ANT posits that actors (human or non-human) can be a heterogeneous mix comprising people, machines, software. All three may support transition acceleration. The ANT theory helps consider more carefully how the social and the technical "exhibit *entanglement* and should be analyzed together more so with the same degree of importance." (Dwiartama & Rosin, 2014; G. Walsham, 1997).

Aligned with ANT theory, Deep-Design applies a digital paradigm to agency and actors to "reassemble the social," particularly "extending the list of actors and modifying the shapes and figures of actors assembled as participants" (Dwiartama & Rosin, 2014). Here a more holistic and deep account of actors in socio-technical system transition promises rigorous transitions research on actors and roles (Niki Frantzeskaki et al., 2019; Wittmayer et al., 2017) for the IT era (Zhang et al., 2016). Here a transition actor/agent may now be plainly understood as "anything that does modify a state of affairs by making a difference" (Latour, 2005). Digital apps, platforms, and infrastructure should be included in the discussion on the Agency because in the digital era, what matters for Agency is not just the intentionality [...] but how intentionality is shaped (allowed, encouraged, blocked, rendered possible) by an extension of causal relations between humans and non-humans" (Dwiartama & Rosin, 2014). Here, we introduce how digital technology may augment agency in transition research and transition design. Digital technology provides a broader notion of Agency in two ways in augmenting transition research and in augmenting transition design efforts.

3.1 Using Digital Technologies for Augmenting Transition Research(ers) in Understanding Transition Acceleration Dynamics

Transition research can benefit from digital methods (Bernhard Rieder Theo, 2012; Rogers, 2019) for more robust insights for studying culture and institutions (Powell et al., 2017) and from *computational social sciences* (Burnap et al., 2015; Cioffi-Revilla, 2014) as well as *data-driven approaches to text mining* (Azkan et al., 2019).

Digital platforms instantiated as transition observatories can catalog and analyze the data to understand the acceleration dynamics and emergent characteristics of regimes, niches, and landscapes (Kanger et al., 2019). Understanding transition acceleration dynamics and facilitating such scaling process for impact is reflected in the literature on amplification processes (Lam et al., 2020; Lang et al., 2012). Following the transition, management approaches using action research((Wittmayer & Bartels, 2018; Wittmayer & Schaepeke, 2014) human actors like designers can provide capacity, skills, and mediating effects on new radical alternatives (niche innovations) from predevelopment to acceleration and take-off. Furthermore, landscape, regime, and niche developments can be observed and mined through the systematic use of digital technologies such as text and image web crawlers with deep-learning algorithms and topic modeling for big data text mining (Du et al., 2020; Najafabadi et al., 2015). These digital era approaches seen as instrumental in understanding the de-stabilizing of incumbent actors in regimes. (Wittmayer & Loorbach, 2016b)

3.2 Using Digital Technologies for Augmenting Design(ers) in the Mediating and Facilitation of Transition Acceleration Processes

Augmenting transition research and Design with *non-human Agency* and digital perspectives is the goal of this section. Digital technologies, digital platforms, and digital infrastructures are changing how Design and innovation are performed (Verganti et al., 2020), leading to broader societal, organizational, and policy implications (Nambisan, 2017, 2018; Yoo et al., 2010; Yoon, 2017). Early work already shows significant promise in the use of text mining and web crawling of news articles for understanding rules and technological surges (Kanger et al., 2019), transition narratives (Hermwille, 2016), data-driven modeling, and simulating pathways for transitions (Moallemi & DeHaan, 2020). Digital era perspectives inform how to leverage digital platforms in co-designing transitions beyond the physical and geo-spatial limits resulting from the current pandemic. Such approaches to facilitating multi-level and multi-actor interaction in transition arenas are in very early stages. Designing with digital technologies also offers an upgrade in sharing systemic intervention insights, suit diverse contexts, and inclusively meeting culture-specific criteria (Ceschin & Gaziulusoy, 2016; Voß et al., 2009).

The next section presents three Deep-Design perspectives on how affordances, openness, and generativity characterize design and digital technology, highlighting the opportunities, dilemmas, tensions, and paradoxes of both.

4 Three Deep-Design Perspectives and Some Paradoxes

4.1 Perspective A: Openness

How do design and digital technologies increase the openness of sustainability transition research and practice efforts so that learning and emergent interactions can accelerate transitions?

The notion of openness in innovation centers on how diverse actors (from firms, researchers, policymakers, users, and digital technology) are involved in transition research and transition design co-creation (See examples in - (Ballon et al., 2018; Gutstein & Brem, 2018; Hienerth et al., 2014; Theodorakopoulos et al., 2014); and recent work by (Aquilani et al., 2016; Blaschke et al., 2019; Corrales-Estrada, 2019; Menny et al., 2018). The perspective of openness posits that transition work can be amplified or scaled using open ideas from diverse entities that can be exchanged more democratically and iteratively. Here, digital and Design tools afford to *share* and *exchange* knowledge, e.g., transition research data, models, simulations, and other emerging design assets across organizational boundaries to accelerate transformative innovation and transition design. The literature on openness emphasizes three potential sharing dimensions: degree, scale, and scope (Chesborough, 2003; West & Bogers, 2017). Additionally, Digital platforms such as *MIRO*^[9] augment physical collaboration, participation in transition experiments, and joint decision-making, enhancing democratic governance (e.g., (Adner & Feller, 2019; Ojasalo & Tahtinen, 2016; Shuleski et al., 2017; Wollmann & Arns Steiner, 2017). Deep-Design emphasizes openness in transformative knowledge, co-creation, social innovation, and transition design—in terms of who actors are participants, their contributions and the process of governance (Nambisan et al., 2019). Openness is instantiated in platforms such as *stateoftheheartai*^[10] and serves as an example for transdisciplinary and interdisciplinary collaboration between transitions design and sustainability transitions research.

4.2 Perspective B: Affordances

How design as a mediating process combined with digital technologies (apps, platforms, and infrastructure) as a catalyst afford the acceleration of transition dynamics in multi-actor contexts?

The notion of digital affordances^[11](Lehrer et al., 2018) is based on based on Gibson J.J. (1979) and Norman (1999) 's research, which relates to how apps, platforms, and infrastructure may help understand and facilitate research, design, or innovation processes in the context of sustainability transitions and the common good. An affordance is defined as "action potential (i.e., action possibilities or

[9] <https://miro.com/apps/>

[10] <https://www.stateoftheheart.ai/>

[11] from the design community.

opportunities for action) offered by an object (e.g., digital technology) concerning a specific user (or use context)" (Nambisan et al., 2019).

Affordances here means what transition designers or quadruple helix actors enact with digital technology to accelerate transitions. Here, transition designers' paradox is that such technology may also constrain and limit the actor from accomplishing specific goals based on their efficacy and interests (Nambisan, 2017). A digital (multi-sided) platform in pursuit of specific transition goals instantiated in a transition observatory may allow sharing and exchanging transition data and its storage. A digital analytics platform affords more complex data processing of the current corpus of texts for historical analysis. Observatories^[12] allow for more dynamic and complex visualization for engaging external transition actors (including designers) to build on (and complement) multiple case studies for sensemaking and learning. Here both top-down configurations like the Quadruple Helix Innovation Systems and bottom-up transition experiments (transformative social innovation communities) (Avelino et al., 2017) can exchange insights for robust learning.

4.3 Perspective C: Generativity Principle

How to systematically leverage digital technology instantiations such as a digital observatory for generating insights on acceleration patterns (historical, present, and future)?

How do new design methods such as Designing-as-Performance generate ideas, prototypes, and learnings to facilitate accelerating transitions through leverage points?

The concept of generativity is "the general ability to form multipart representations from elementary canonical parts" (Donald, 1993; 1991). The perspective of generativity informs leveraging digital technology in a pluralistic blending of knowledge and perspectives leading towards more holistic transdisciplinary integrations of ideas from diverse fields (Fauconnier & Turner, 2008). Generativity guiding transition research and design mean accepting that the consequences of transitions are not always linear like the transition phases depict. Such consequences are also not predictable from inputs, and new regime configurations will be radically different from the existing if transformation indeed occurs.

Digital apps, infrastructure, and internet platforms introduce generativity because they are open, distributed, can be edited or

[12] An observatory would imply a sustainability-oriented commons (of individuals or organizations) to empower truly radical and rigorous action research. By leveraging computational power and algorithms to analyze transition acceleration dynamics through local and global databases, insight can augment action research and facilitating transition arenas using the deeper leverage points.

recombined relatively. Because they are transferable, they afford iteration and might play a role in social learning (Beers et al., 2016). Extant literature shows that new digital technologies, e.g., TikTok, Twitter, and Facebook, bringing higher degrees of uncertainty and unimagined privacy issues to policy actors and society (Nambisan et al., 2019). Digital technologies are already transforming idea generation in the Design field, as reflected in a recent article (Verganti et al., 2020). Examples of digital platforms' generativity are mirrored in the project database on OpenAI[13] and the DALL·E: creating images from text.

5 Discussion and Summary

Quoting Ahlborg and colleagues, (Digital) "technology mediates human-environment relationships [...] brings ambivalence to these relationships [...] enhances and transforms human agency and provides a source of constitutive power, changes scalar relationships, enabling our interaction with and impact on the natural world across time and space" (Ahlborg et al., 2019).

Deep-Design is an ongoing work for making such digital technology explicit in the literature on agency in sustainability transitions and the practice of Transition Design.

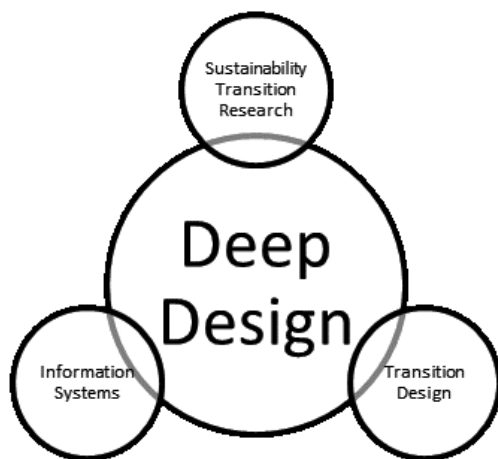


Fig. 4: *Deep-Design* Draws on Three Streams of Research and Practice.

Design is being stretched wide and has been called on to evolve beyond products, service, social innovation. Such breadth could benefit from some depth offered through designers' grounding as agents in current transition research and elaborating on how digital technologies can augment Design In achieving common good transitions. Deep-Design contrived to integrate transition research and Design by further accounting for non-human-distributed Agency. The digital paradigm perspectives on openness, affordances, and

[13] <https://openai.com/projects/>

generativity are a starting point for how artifacts and non-human agency through apps, platforms, and infrastructure can augment both transition research and practice in delivering sustainability epiphanies. Epiphanies are about doing the things we have never done before, through radically new (re)combinations/configurations, but they do not dismiss the Incremental. (Verganti, 2011).

Furthermore, new and efficient artifacts are already transforming innovation and entrepreneurship (Nambisan et al., 2019), research (Caliandro & Gandini, 2016; Foster et al., 2020; Iacus, 2017) as well as Design (Verganti et al., 2020). These developments justify the need for a radical conceptual reconfiguration, i.e., a more explicit (digital) technology theorizing in socio-ecological systems research and the deepening of Design's role in existing transition science frameworks, e.g., Multiactor Patterns and Innovation Systems. Designers and Digital may be seen as mediating helix in the Quadruple Helix Framework. This deepening has its pros and cons as well as tensions, dilemmas, and paradoxes. Here Designers might have to enlist in digital technology education to engage in Transition Design truly. Beyond simply opening new data-driven opportunities (Maass et al., 2018) for the transition design field and academic research community, digital technologies now have broader implications for co-design and research collaborations following the COVID-19 pandemic and ethics underlying data-driven approaches. The digital paradigm also offers technologies that shape (and are shaped by) society and actor behaviors. Recent work on Deep transitions explores how to use historical data to understand different socio-economic actor dynamics within society and their influence on the emergence of new technologies within and across other socio-technical systems (e.g., mobility, food, energy)- moving beyond traditional historical work, technological evolution, and diffusion.

6 Conclusion and Future Work

Deep-Design attempts to integrate and account for Design conceptually and non-human digital Agency in current sustainability transitions research and practice. Deep-Design explores how Design (ers) and digital technology can augment the understanding and facilitation of transformative innovation outcomes, particularly through acceleration. Designers have a mediating role as well as digital apps, platforms, and infrastructure. Themes such as openness, affordances, and generativity are important in leveraging the digital era for sustainability transitions. Digital paradigm offers artifacts (dashboards, algorithms) with advanced analytic computational capacity and operational instruments to *understand* the build-up of new structures, cultures, and practices. Likewise, digital apps, platforms, and infrastructure contribute agency to understanding of the break-down of existing structures, cultures, and practices (Wittmayer 2016). The application of a Deep Transitions Observato-

ry^[14] at the Hasso Plattner Institute is to leverage such data-driven approaches (Maass et al., 2018; R. C. Basole et al., 2015; Still et al., 2014). Here, we continue to explore "how to understand acceleration patterns in historical and present-day data through text mining. Furthermore, Transition Design's role in mediating multi-phase and multi-actor transitions is also an interesting research endeavor. Here, the ongoing question is how Design contributes to mediating and facilitating transition action researchers' capacity in practice on multiple scales and levels (doing transitions work).

[14] <http://deepdata.demelo.org/>

References

- Acero Lopez, A. E., Ramirez Cajiao, M. C., Peralta Mejia, M., Payan Duran, L. F., & Espinosa Diaz, E. E. (2019). Participatory Design And Technologies For Sustainable Development: An Approach From Action Research. *Systemic Practice And Action Research*, 32(2), 167–191. <https://doi.org/10.1007/S11213-018-9459-6>
- Adner, R., & Feller, D. (2019). Interdependence, Perception, And Investment Choices: An Experimental Approach To Decision Making In Innovation Ecosystems. *Organization Science*, 30(1), 109–125. <https://doi.org/10.1287/Orsc.2018.1242>
- Ahlborg, H., Ruiz-Mercado, I., Molander, S., & Masera, O. (2019). Bringing Technology Into Social-Ecological Systems Research—Motivations For A Socio-Technical-Ecological Systems Approach. *Sustainability*, 11(7), 2009. <https://doi.org/10.3390/Su11072009>
- Aquilani, B., Abbate, T., & Codini, A. (2016). Co-Creation In Small-Medium Enterprises And Open Innovation Intermediaries: The Case Of "Mercatodellinnovazione.It". In D. Vrontis, Y. Weber, & E. Tsoukatos (Chairs), *Innovation, Entrepreneurship And Digital Ecosystems*. Symposium Conducted At The Meeting Of Euromed Acad Business Euromed Res Ctr Euromed Journal Business Euromed Res Business Inst.
- Audet, R., & Guyonnaud, M.-F. (2013). Transition In Practice And Action In Research. A French Case Study In Piloting Eco-Innovations. *Innovation-The European Journal Of Social Science Research*, 26(4), 398–415. <https://doi.org/10.1080/13511610.2013.850019>
- Avelino, F [Flor], & Wittmayer, J. M. (2016). Shifting Power Relations In Sustainability Transitions: A Multi-Actor Perspective. *Journal Of Environmental Policy & Planning*, 18(5, Si), 628–649. <https://doi.org/10.1080/1523908x.2015.1112259>
- Avelino, F [Flor], Wittmayer, J. M., Kemp, R., & Haxeltine, A. (2017). Game-Changers And Transformative Social Innovation. *Ecology And Society*, 22(4). <https://doi.org/10.5751/Es-09897-220441>
- Avelino, F [Flor], Wittmayer, J. M., Pel, B., Weaver, P., Dumitru, A., Haxeltine, A., Kemp, R., Jorgensen, M. S [Michael S.], Bauler, T., Ruijsink, S., & O'riordan, T. (2019). Transformative Social Innovation And (Dis)Empowerment. *Technological Forecasting And Social Change*, 145, 195–206. <https://doi.org/10.1016/j.techfore.2017.05.002>
- Azkan, C., Spiekermann, M., & Goecke, H. (2019). Uncovering Research Streams In The Data Economy Using Text Mining Algorithms. *Technology Innovation Management Review*, 9(11), 62–74.
- Ballon, P., Van Hoed, M., & Schuurman, D. (2018). The Effectiveness Of Involving Users In Digital Innovation: Measuring The Impact Of Living Labs. *Telematics And Informatics*, 35(5), 1201–1214. <https://doi.org/10.1016/j.tele.2018.02.003>
- Barrie, J., Zawdie, G., & João, E. (2017). Leveraging Triple Helix And System Intermediaries To Enhance Effectiveness Of Protected Spaces And Strategic Niche Management For Transitioning To Circular Economy. *Undefined*. <https://www.semanticscholar.org/paper/Leveraging-Triple-Helix-And-System-Intermediaries-Barrie-Zawdie/F29c761cc1c58236dcc576c6c31ec60dcca0c663>
- Barrie, J., Zawdie, G., & João, E. (2019). Assessing The Role Of Triple Helix System Intermediaries In Nurturing An Industrial Biotechnology Innovation Network. *Journal Of Cleaner Production*, 214, 209–223. <https://doi.org/10.1016/j.jclepro.2018.12.287>
- Barton, J., Davies, L., Dooley, B., Foxon, T. J., Galloway, S., Hammond, G. P., O'grady, A., Robertson, E., & Thomson, M. (2018). Transition Pathways For A Uk Low-Carbon Electricity System: Comparing Scenarios And Technology Implications. *Renewable & Sustainable Energy Reviews*, 82(3), 2779–2790. <https://doi.org/10.1016/j.rser.2017.10.007>
- Beers, P. J., Van Mierlo, B., & Hoes, A.-C. (2016). Toward An Integrative Perspective On Social Learning In System Innovation Initiatives. *Ecology And Society*, 21(1). <https://doi.org/10.5751/Es-08148-210133>
- Berendt, B. (2018, October 30). *Ai For The Common Good?! Pitfalls, Challenges, And Ethics Pen-Testing*. <https://arxiv.org/pdf/1810.12847>
- Berkhout (2004). Socio-Technical Regimes And Transition Contexts, 48.
- Bernhard Rieder Theo, R. (2012). Digital Methods: Five Challenges. In *Understanding Digital Humanities* (pp.67–84). Palgrave Macmillan, London. https://doi.org/10.1057/9780230371934_4
- Betz, F., Carayannis, E., Jetter, A., Min, W., Phillips, F., & Shin, D. W. (2016). Modeling An Innovation Intermediary System Within A Helix. *Journal Of The Knowledge Economy*, 7(2), 587–599. <https://doi.org/10.1007/S13132-014-0230-7>
- Blaschke, M., Riss, U., Haki, K., & Aier, S. (2019). Design Principles For Digital Value Co-Creation Networks: A Service-Dominant Logic Perspective. *Electronic Markets*, 29(3), 443–472. <https://doi.org/10.1007/S12525-019-00356-9>
- Brown, R. R., Farrelly, M. A., & Loorbach, D. A. (2013). Actors Working The Institutions In Sustainability Transitions: The Case Of Melbourne's Stormwater Management. *Global Environmental Change-Human And Policy Dimensions*, 23(4), 701–718. <https://doi.org/10.1016/j.gloenvcha.2013.02.013>
- Bruin, A. De, & Read, C. (2018). Towards Understanding Social Innovation In Multicultural Societies Implications Of Maori Cultural Values For Social Innovation In New Zealand. *Social Enterprise Journal*, 14(2, Si), 194–207. <https://doi.org/10.1108/Sej-09-2017-0048>
- Bruni, A., & Teli, M. (2007). Reassembling The Social—An Introduction To Actor Network Theory. *Management Learning*, 38(1), 121–125. <https://doi.org/10.1177/1350507607073032>
- Bui, S., Cardona, A., Lamine, C., & Cerf, M. (2016). Sustainability Transitions: Insights On Processes Of Niche-Regime Interaction And Regime Reconfiguration In Agri-Food Systems. *Journal Of Rural Studies*, 48, 92–103. <https://doi.org/10.1016/j.jrurstud.2016.10.003>
- Burnap, P., Rana, O. F., Avis, N., Williams, M., Housley, W., Edwards, A., Morgan, J., & Sloan, L. (2015). Detecting Tension In Online Communities With Computational Twitter Analysis. *Technological Forecasting And Social Change*, 95, 96–108. <https://doi.org/10.1016/j.techfore.2013.04.013>
- Caliandro, A., & Gandini, A. (2016). *Qualitative Research In Digital Environments: A Research Toolkit / Alessandro Caliandro & Alessandro Gandini*. Routledge.
- Carayannis, E. G., & Campbell, D. F. (2009). 'Mode 3' And 'Quadruple Helix': Toward A 21st Century Fractal Innovation Ecosystem. *International Journal Of Technology Management*, 46(3/4), Article 23374, 201. <https://doi.org/10.1504/Ijtm.2009.023374>
- Carayannis, E. G., & Campbell, D. F. J. (2011). Open Innovation Diplomacy And A 21st Century Fractal Research, Education And Innovation (Freie) Ecosystem: Building On The Quadruple And Quintuple Helix Innovation Concepts And The "Mode 3" Knowledge Production System. *Journal Of The Knowledge Economy*, 2(3), 327–372. <https://doi.org/10.1007/S13132-011-0058-3>
- Carayannis, E. G., & Rakhmatullin, R. (2014). The Quadruple/Quintuple Innovation Helixes And Smart Specialisation Strategies For Sustainable And Inclusive Growth In Europe And Beyond. *Journal Of The Knowledge Economy*, 5(2), 212–239. <https://doi.org/10.1007/S13132-014-0185-8>

- Casaramona, A., Sapia, A., & Soraci, A. (2015). How Tri- and Quadruple Helix Innovation System Can Support The Development Of A New Model Of International Cooperation. *Journal Of The Knowledge Economy*, 6(3), 505–521. <https://doi.org/10.1007/S13132-015-0253-8>
- Celermajer, D. (2020). Distributed Agency, Responsibility And Preventing Grave Wrongs. *Contemporary Political Theory*, 19(2), 188–210. <https://doi.org/10.1057/S41296-019-00359-3>
- Ceschin (2014). How The Design Of Socio-Technical Experiments Can Enable Radical Changes For Sustainability. *Int. J. Des.*, 8, 1.
- Ceschin, F. (2014). The Societal Embedding Of Sustainable Product-Service Systems Looking For Synergies Between Strategic Design And Transition Studies. In *Product-Service System Design For Sustainability* (pp.250–276).
- Ceschin, F., & Gaziulusoy, I. (2016). Evolution Of Design For Sustainability: From Product Design To Design For System Innovations And Transitions. *Design Studies*, 47, 118–163. <https://doi.org/10.1016/J.Design.2016.09.002>
- Chen, C., Zhu, J., Yu, J.-Y., & Noori, H. (2012). A New Methodology For Evaluating Sustainable Product Design Performance With Two-Stage Network Data Envelopment Analysis. *European Journal Of Operational Research*, 221(2), 348–359. <https://doi.org/10.1016/J.Ejor.2012.03.043>
- Chesborough. (2003). *Open Innovation: The New Imperative For Creating And Profiting From Technology*.
- Cioffi-Revilla, C. A. (2014). *Introduction To Computational Social Science: Principles And Applications / Claudio Cioffi-Revilla. Texts In Computer Science, 1868-0941*. Springer. <http://www.loc.gov/catdir/enhancements/Fy1410/2013957559-B.html>
- Cohen, M. J., Brown, H. S., & Vergragt, P. (2013). *Innovations In Sustainable Consumption: New Economics, Socio-Technical Transitions And Social Practices / Edited By Maurie J. Cohen, Halina Szejnwald Brown And Philip J. Vergragt* (Advances In Ecological Economics). Edward Elgar.
- Cordoba-Pachon, J.-R., Mapelli, F., Al Taji, Farah Nabil Adel, & Donovan, D. M. Systemic Creativities In Sustainability And Social Innovation Education. *Systemic Practice And Action Research*. Advance Online Publication. <https://doi.org/10.1007/S11213-020-09530-Z>
- Corrales-Estrada, M. (2019). Sustainable Business Models And Value Creation. In M. Corralesestrada (Ed.), *Innovation And Entrepreneurship: A New Mindset For Emerging Markets* (pp.141–157). <https://doi.org/10.1108/978-1-78973-701-120191010>
- Dell'era, C., Altuna, N., Magistretti, S., & Verganti, R. (2017). Discovering Quiescent Meanings In Technologies: Exploring The Design Management Practices That Support The Development Of Technology Epiphanies. *Technology Analysis & Strategic Management*, 29(2), 149–166. <https://doi.org/10.1080/09537325.2016.1210785>
- Designforcommongood.Net. (2020). *Design For The Common Good*. <http://www.designforcommongood.net/>
- Donald, M. (1993, 1991). *Origins Of The Modern Mind: Three Stages In The Evolution Of Culture And Cognition* (1st Harvard University Press Pbk. Ed.). Harvard University Press. <https://books.google.de/books?id=6r78dwaaqbj>
- Douglas. (1980). *The World Of Goods: Towards An Anthropology Of Consumption*.
- Du, X., Kowalski, M., Varde, A. S., Melo, G. De, & Taylor, R. W. (2020). Public Opinion Matters. *Acm Sigweb Newsletter*(Autumn), 1–15. <https://doi.org/10.1145/3352683.3352688>
- Duygan, M., Stauffacher, M., & Meylan, G. (2019). A Heuristic For Conceptualizing And Uncovering The Determinants Of Agency In Socio-Technical Transitions. *Environmental Innovation And Societal Transitions*, 33, 13–29. <https://doi.org/10.1016/J.Eist.2019.02.002>
- Dwiartama, A., & Rosin, C. (2014). Exploring Agency Beyond Humans: The Compatibility Of Actor-Network Theory (Ant) And Resilience Thinking. *Ecology And Society*, 19(3). <http://www.jstor.org/stable/26269633>
- Elder, G. H. (1994). Time, Human Agency, And Social Change: Perspectives On The Life Course. *Social Psychology Quarterly*, 57(1), 4. <https://doi.org/10.2307/2786971>
- Elder-Vass, D. (2015). Disassembling Actor-Network Theory. *Philosophy Of The Social Sciences*, 45(1), 100–121. <https://doi.org/10.1177/0048393114525858>
- Eppinger, S. (2011). The Fundamental Challenge Of Product Design. *Journal Of Product Innovation Management*, 28(3), 399–400. <https://doi.org/10.1111/J.1540-5885.2011.00810.X>
- Escobar, A. (2018). *Designs For The Pluriverse: Radical Interdependence, Autonomy, And The Making Of Worlds. New Ecologies For The Twenty-First Century*. Duke University Press.
- Esslinger, H. (2011). Sustainable Design: Beyond The Innovation-Driven Business Model. *Journal Of Product Innovation Management*, 28(3), 401–404. <https://doi.org/10.1111/J.1540-5885.2011.00811.X>
- Fauconnier, G., & Turner, M. B. (2008). *Rethinking Metaphor*.
- Fazey, J., Schaepeke, N., Caniglia, G., Patterson, J., Hultman, J., Van Mierlo, B., Sawe, F., Wiek, A., Wittmayer, J., Aldunce, P., Al Waer, H., Battacharya, N., Bradbury, H., Carmen, E., Colvin, J., Cvitanovic, C., D'souza, M., Gopel, M., Goldstein, B., . . . Wyborn, C. (2018). Ten Essentials For Action-Oriented And Second Order Energy Transitions, Transformations And Climate Change Research. *Energy Research & Social Science*, 40, 54–70. <https://doi.org/10.1016/J.Erss.2017.11.026>
- Fischer, L.-B., & Newig, J. (2016). Importance Of Actors And Agency In Sustainability Transitions: A Systematic Exploration Of The Literature. *Sustainability*, 8(5). <https://doi.org/10.3390/Su8050476>
- Foster, I., Ghani, R., Jarmin, R. S., Kreuter, F., & Lane, J. I. (2020). *Big Data And Social Science: A Practical Guide To Methods And Tools / Edited By Ian Foster, Rayid Ghani, Ron S. Jarmin, Frauke Kreuter, Julia Lane* (Second Edition). *Chapman & Hall/Crc Statistics In The Social And Behavioral Sciences Series*. Chapman & Hall/Crc.
- Frantzeskaki, N [N.], Holscher, K., Bach, M., & Avelino, F [F.] (Eds.). (2018). *Future City. Co-Creating Sustainable Urban Futures: A Primer On Applying Transition Management In Cities*.
- Frantzeskaki, N [Niki], Broto, V. C., Coenen, L., & Loorbach, D. (2017). *Urban Sustainability Transitions. Routledge Studies In Sustainability Transitions*. Routledge.
- Frantzeskaki, N [Niki], Buchel, S., Spork, C., Ludwig, K., & Kok, M. T. J. (2019). The Multiple Roles Of Iclei: Intermediating To Innovate Urban Biodiversity Governance. *Ecological Economics*, 164. <https://doi.org/10.1016/J.Econ.2019.06.005>
- Frantzeskaki, N [Niki], Loorbach, D., & Meadowcroft, J. (2012a). Governing Societal Transitions To Sustainability. *International Journal Of Sustainable Development*, 15(1/2), Article 44032, 19. <https://doi.org/10.1504/IJSD.2012.044032>
- Frantzeskaki, N [Niki], Loorbach, D., & Meadowcroft, J. (2012b). Governing Societal Transitions To Sustainability. *International Journal Of Sustainable Development*, 15(1/2), Article 44032, 19. <https://doi.org/10.1504/IJSD.2012.044032>
- Fratini, C. F., Georg, S., & Jorgensen, M. S [Michael Sogaard] (2019). Exploring Circular Economy Imaginaries In European Cities: A Research Agenda For The Governance Of Urban Sustainability Transitions. *Journal Of Cleaner Production*, 228, 974–989. <https://doi.org/10.1016/J.Jclepro.2019.04.193>
- Fuenfschilling, L., & Binz, C. (2018). Global Socio-Technical Regimes. *Research Policy*, 47(4), 735–749. <https://doi.org/10.1016/J.Respol.2018.02.003>

- G. Walsham. (1997). Actor-Network Theory And Its Research: Current Status And Future Prospects. In *Information Systems And Qualitative Research* (pp.466–480). Springer, Boston, Ma. https://doi.org/10.1007/978-0-387-35309-8_23
- Gaziulusoy, I., & Brezet, H. (2015). Design For System Innovations And Transitions: A Conceptual Framework Integrating Insights From Sustainability Science And Theories Of System Innovations And Transitions. *Journal Of Cleaner Production*, 108, 558–568. <https://doi.org/10.1016/j.jclepro.2015.06.066>
- Gaziulusoy, I., & Ryan, C. (2017). Roles Of Design In Sustainability Transitions Projects: A Case Study Of Visions And Pathways 2040 Project From Australia. *Journal Of Cleaner Production*, 162, 1297–1307. <https://doi.org/10.1016/j.jclepro.2017.06.122>
- Gaziulusoy, I., & Erdoğan Öztekin, E. (2019). Design For Sustainability Transitions: Origins, Attitudes And Future Directions. *Sustainability*, 11(13), 3601. <https://doi.org/10.3390/Su11133601>
- Gaziulusoy, I., & Houtbeckers, E. (2018). *Convergences: Design For Sustainability Transitions And Degrowth*.
- Gaziulusoy, I., & Ryan, C. (2017). Shifting Conversations For Sustainability Transitions Using Participatory Design Visioning. *The Design Journal*, 20(Sup1), S1916-S1926. <https://doi.org/10.1080/14606925.2017.1352709>
- Geels, F. W. (2002). Technological Transitions As Evolutionary Reconfiguration Processes: A Multi-Level Perspective And A Case-Study. *Research Policy*, 31(8-9), 1257–1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)
- Geels, F. W. (2005). Processes And Patterns In Transitions And System Innovations: Refining The Co-Evolutionary Multi-Level Perspective. *Technological Forecasting And Social Change*, 72(6), 681–696. <https://doi.org/10.1016/j.techfore.2004.08.014>
- Geels, F. W. (2010). Ontologies, Socio-Technical Transitions (To Sustainability), And The Multi-Level Perspective. *Research Policy*, 39(4), 495–510. <https://doi.org/10.1016/j.respol.2010.01.022>
- Geels, F. W. (2011). The Multi-Level Perspective On Sustainability Transitions: Responses To Seven Criticisms. *Environmental Innovation And Societal Transitions*, 1(1), 24–40. <https://doi.org/10.1016/j.eist.2011.02.002>
- Geels, F. W. (2020). Micro-Foundations Of The Multi-Level Perspective On Socio-Technical Transitions: Developing A Multi-Dimensional Model Of Agency Through Crossovers Between Social Constructivism, Evolutionary Economics And Neo-Institutional Theory. *Technological Forecasting And Social Change*, 152, 119894. <https://doi.org/10.1016/j.techfore.2019.119894> (Technological Forecasting And Social Change, 152, 119894).
- Geels, F. W., Berkhout, F., & Van Vuuren, D. P. (2016). Bridging Analytical Approaches For Low-Carbon Transitions. *Nature Climate Change*, 6(6), 576–583. <https://doi.org/10.1038/Nclimate2980>
- Geels, F. W., Kern, F., Fuchs, G., Hinderer, N., Kungl, G., Mylan, J., Neukirch, M., & Wassermann, S. (2016). The Enactment Of Socio-Technical Transition Pathways: A Reformulated Typology And A Comparative Multi-Level Analysis Of The German And Uk Low-Carbon Electricity Transitions (1990-2014). *Research Policy*, 45(4), 896–913. <https://doi.org/10.1016/j.respol.2016.01.015>
- Geels, F. W., & Schot, J [Johan] (2007). Typology Of Sociotechnical Transition Pathways. *Research Policy*, 36(3), 399–417. <https://doi.org/10.1016/j.respol.2007.01.003>
- Gibson J. J. (1979). *Houghton Mifflin*.
- Gideon Kossoff. Transition Design: The Challenge Of Contextualizing Interventions Into Socio-Technical Systems. https://www.academia.edu/43857826/Transition_Design_The_Challenge_Of_Contextualizing_Interventions_Into_Socio_Technical_Systems
- Gideon Kossoff, Peter Scupelli, Cameron Tonkinwise, Terry Irwin, & Ezio Manzini. Design Philosophy Papers: Special Issue On Transition Design. https://www.academia.edu/20291172/Design_Philosophy_Papers_Special_Issue_On_Transition_Design
- Grabs, J., Langen, N., Maschkowski, G., & Schaepeke, N. (2016). Understanding Role Models For Change: A Multilevel Analysis Of Success Factors Of Grassroots Initiatives For Sustainable Consumption. *Journal Of Cleaner Production*, 134(A, Si), 98–111. <https://doi.org/10.1016/j.jclepro.2015.10.061>
- Grin, J., Rotmans, J., & Schot, J [Johan] (2011). On Patterns And Agency In Transition Dynamics: Some Key Insights From The Ksi Programme. *Environmental Innovation And Societal Transitions*, 1(1), 76–81. <https://doi.org/10.1016/j.eist.2011.04.008>
- Gutstein, A., & Brem, A. (2018). Lead User Projects In Practice - Results From An Analysis Of An Open Innovation Accelerator. *International Journal Of Innovation And Technology Management*, 15(2). <https://doi.org/10.1142/S0219877018500153>
- Haan, F. J. De, Rogers, B. C., Brown, R. R., & Deletic, A. (2016). Many Roads To Rome: The Emergence Of Pathways From Patterns Of Change Through Exploratory Modelling Of Sustainability Transitions. *Environmental Modelling & Software*, 85, 279–292. <https://doi.org/10.1016/j.envsoft.2016.05.019>
- Haan, F. J. De, & Rotmans, J. (2018). A Proposed Theoretical Framework For Actors In Transformative Change. *Technological Forecasting And Social Change*, 128, 275–286. <https://doi.org/10.1016/j.techfore.2017.12.017>
- Han Shaohua, Zhou Yide, & Chen Hanging (2014). Exploratory Sustainable Designing Of Product Service System. In L. Yang, J. Kantola, A. De Hoyas, K. Kaminishi, & G. Duysters (Chairs), *Proceedings Of The 11th International Conference On Innovation And Management, Vols I And Ii*. Symposium Conducted At The Meeting Of Vaasa Univ Appl Sci Nef Pontif Cathol Univ Sao Paulo Yamaguchi Univ Eindhoven Univ Technol Tilburg Univ Wuhan Univ Technol.
- Hansen, U. E., Nygaard, I., Romijn, H., Wieczorek, A., Kamp, L. M., & Klerkx, L. (2018). Sustainability Transitions In Developing Countries: Stocktaking, New Contributions And A Research Agenda. *Environmental Science & Policy*, 84, 198–203. <https://doi.org/10.1016/j.envsci.2017.11.009>
- He, W., & Li, W. (2017). Research On Green Product Design And Sustainable Development. In L. Zhou & K. Xie (Chairs), *Proceedings Of The 2017 9th International Economics, Management And Education Technology Conference (Iemetc 2017)*.
- Hermwille, L. (2016). The Role Of Narratives In Socio-Technical Transitions-Fukushima And The Energy Regimes Of Japan, Germany, And The United Kingdom. *Energy Research & Social Science*, 11, 237–246. <https://doi.org/10.1016/j.erss.2015.11.001>
- Hienert, C., Lettl, C., & Keinz, P. (2014). Synergies Among Producer Firms, Lead Users, And User Communities: The Case Of The Lego Producer-User Ecosystem. *Journal Of Product Innovation Management*, 31(4), 848–866. <https://doi.org/10.1111/jpim.12127>
- Hussain, W. (2018). *The Common Good*. <https://plato.stanford.edu/entries/common-good/>
- Hyysalo, S., Marttila, T., Perikangas, S., & Auvinen, K. (2019). Code-sign For Transitions Governance: A Mid-Range Pathway Creation Toolset For Accelerating Sociotechnical Change. *Design Studies*, 63, 181–203. <https://doi.org/10.1016/j.destud.2019.05.002>
- Iacus, S. M. (2017). Big Data And Social Science - A Practical Guide To Methods And Tools. *Journal Of Statistical Software*, 78(Book Review 2). <https://doi.org/10.18637/jss.V078.B02>
- Irwin, T. (2015). Transition Design: A Proposal For A New Area Of Design Practice, Study, And Research. *Design And Culture*, 7(2), 229–246. <https://doi.org/10.1080/17547075.2015.1051829>

- Jenkins, K., Sovacool, B. K., & McCauley, D. (2018). Humanizing Sociotechnical Transitions Through Energy Justice: An Ethical Framework For Global Transformative Change. *Energy Policy*, 117, 66–74. <https://doi.org/10.1016/j.enpol.2018.02.036>
- Kanda, W., Kuisma, M [Mika], Kivimaa, P., & Hjelm, O. (2020). Conceptualising The Systemic Activities Of Intermediaries In Sustainability Transitions. *Environmental Innovation And Societal Transitions*, 36, 449–465. <https://doi.org/10.1016/j.eist.2020.01.002> (Environmental Innovation And Societal Transitions).
- Kanger, L. (2020, February 24). What Does It Take To Achieve Radical Societal Change? *Deep Transitions*. <https://deeptransitions.net/2020/02/24/what-does-it-take-to-achieve-radical-societal-change/>
- Kanger, L., Geels, F. W., Sovacool, B., & Schot, J [Johan] (2019). Technological Diffusion As A Process Of Societal Embedding: Lessons From Historical Automobile Transitions For Future Electric Mobility. *Transportation Research Part D-Transport And Environment*, 71(Si), 47–66. <https://doi.org/10.1016/j.trd.2018.11.012>
- Kivimaa, P., Boon, W., Hyysalo, S., & Klerkx, L. (2019). Towards A Typology Of Intermediaries In Sustainability Transitions: A Systematic Review And A Research Agenda. *Research Policy*, 48(4, Si), 1062–1075. <https://doi.org/10.1016/j.respol.2018.10.006>
- Kivimaa, P., Hyysalo, S., Boon, W., Klerkx, L., Martiskainen, M., & Schot, J [Johan] (2019). Passing The Baton: How Intermediaries Advance Sustainability Transitions In Different Phases. *Environmental Innovation And Societal Transitions*, 31, 110–125. <https://doi.org/10.1016/j.eist.2019.01.001>
- Koehler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F [Flor], Bergek, A., Boons, F., Funfschilling, L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., Mcmeekin, A., Muehlemeier, M. S., . . . Wells, P. (2019). An Agenda For Sustainability Transitions Research: State Of The Art And Future Directions. *Environmental Innovation And Societal Transitions*, 31, 1–32. <https://doi.org/10.1016/j.eist.2019.01.004>
- Koene, B. (2006). Situated Human Agency, Institutional Entrepreneurship And Institutional Change. *Journal Of Organizational Change Management*, 19(3), 365–382. <https://doi.org/10.1108/09534810610668364>
- Kohler, J., & Holtz, G. (2020). Transitions Modelling Status, Challenges And Strategies. In E. A. Moallemi & F. J. Dehaan (Eds.), *Routledge Studies In Sustainability Transitions. Modelling Transitions: Virtues, Vices, Visions Of The Future* (pp.10–27).
- Kok, K. P., Loeber, A. M., & Grin, J. (2021). Politics Of Complexity: Conceptualizing Agency, Power And Powering In The Transitional Dynamics Of Complex Adaptive Systems. *Research Policy*, 50(3), 104183. <https://doi.org/10.1016/j.respol.2020.104183>
- Kompella, L. (2019). Digital Innovation In The Public Sector: The Role Of Embeddedness In Socio-Technical Transitions. *International Journal Of Innovation And Technology Management*, 16(7). <https://doi.org/10.1142/S0219877019500597>
- Kossoff, G., Irwin, T., & Willis, A.-M. (2015). Transition Design. *Design Philosophy Papers*, 13(1), 1–2. <https://doi.org/10.1080/14487136.2015.1085681>
- Kuokkanen, A., Nurmi, A., Mikkilä, M., Kuisma, M [M.], Kahiluoto, H., & Linnanen, L. (2018). Agency In Regime Destabilization Through The Selection Environment: The Finnish Food System's Sustainability Transition. *Research Policy*, 47(8), 1513–1522. <https://doi.org/10.1016/j.respol.2018.05.006>
- Lam, D. P. M., Martín-López, B., Wiek, A., Bennett, E. M., Frantzeskaki, N [Niki], Horcea-Milcu, A. I., & Lang, D. J. (2020). Scaling The Impact Of Sustainability Initiatives: A Typology Of Amplification Processes. *Urban Transformations*, 2(1), 1–24. <https://doi.org/10.1186/S42854-020-00007-9>
- Lang, D. J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., Swilling, M., & Thomas, C. J. (2012). Transdisciplinary Research In Sustainability Science: Practice, Principles, And Challenges. *Sustainability Science*, 7(S1), 25–43. <https://doi.org/10.1007/S11625-011-0149-X>
- Laszlo, A., Luksha, P., & Karabeg, D. (2017). Systemic Innovation, Education And The Social Impact Of The Systems Sciences. *Systems Research And Behavioral Science*, 34(5, Si), 601–608. <https://doi.org/10.1002/Sres.2492>
- Latour, B. (2005). *Reassembling The Social. An Introduction To Actor-Network-Theory*. https://www.researchgate.net/profile/Gabrielle_Durepos/publication/280206085_Reassembling_The_Social_An_Introduction_To_Actor-Network-Theory-20082bruno_Latour_Reassembling_The_Social_An_Introduction_To_Actor-Network-Theory_Oxford_University_Press_2005/links/58e96e330f7e9b978f814014/Reassembling-The-Social-An-Introduction-To-Actor-Network-Theory20082bruno-Latour-Reassembling-The-Social-An-Introduction-To-Actor-Network-Theory-Oxford-University-Press-2005.pdf
- Latour, B. (2013). *Reassembling The Social. An Introduction To Actor-Network-Theory*. https://www.researchgate.net/profile/Gabrielle_Durepos/publication/280206085_Reassembling_The_Social_An_Introduction_To_Actor-Network-Theory-20082bruno_Latour_Reassembling_The_Social_An_Introduction_To_Actor-Network-Theory_Oxford_University_Press_2005/links/58e96e330f7e9b978f814014/Reassembling-The-Social-An-Introduction-To-Actor-Network-Theory20082bruno-Latour-Reassembling-The-Social-An-Introduction-To-Actor-Network-Theory-Oxford-University-Press-2005.pdf
- Lehrer, C., Wieneke, A., Vom Brocke, J., Jung, R., & Seidel, S. (2018). How Big Data Analytics Enables Service Innovation: Materiality, Affordance, And The Individualization Of Service. *Journal Of Management Information Systems*, 35(2), 424–460. <https://doi.org/10.1080/07421222.2018.1451953>
- Leong, B. D., & Lee, B. Y. H. (2014). Learning The Unlearned Product Design For Sustainability. In *Product-Service System Design For Sustainability* (pp 471–488).
- Loorbach, (2004). *Governance And Transitions: A Multi-Level Policy-Framework Based On Complex Systems Thinking*.
- Loorbach, (2007). *Transition Management: New Mode Of Governance For Sustainable Development*.
- Loorbach, D [D.], Wittmayer, J. M [J. M.], Shiroyama, H., Fujino, J., & Mizuguchi, S. (Eds.). (2016). *Theory And Practice Of Urban Sustainability Transitions. Governance Of Urban Sustainability Transitions: European And Asian Experiences*.
- Loorbach, D., Avelino, F [Flor], Haxeltine, A., Wittmayer, M, Julia, O'riordan, T., Weaver, P., & Kemp, R. (2016). The Economic Crisis As A Game Changer? Exploring The Role Of Social Construction In Sustainability Transitions. *Ecology And Society*, 21(4). <https://doi.org/10.5751/Es-08761-210415>
- Loorbach, D., Frantzeskaki, N [Niki], & Avelino, F [Flor]. (2017). Sustainability Transitions Research: Transforming Science And Practice For Societal Change. In A. Gadgil & T. P. Tomich (Eds.), *Annual Review Of Environment And Resources. Annual Review Of Environment And Resources, Vol 42* (Vol. 42, pp.599–626). <https://doi.org/10.1146/Annurev-Environ-102014-021340>

- Loorbach, D., Frantzeskaki, N [Niki], & Thissen, W. (2011). *European Research On Sustainable Development: Transformative Science Approaches For Sustainability* (European Research On Sustainable Development). Springer.
- Loorbach, D., Wittmayer, J., Avelino, F [Flor], Wirth, T. Von, & Frantzeskaki, N [Niki] (2020). Transformative Innovation And Translocal Diffusion. *Environmental Innovation And Societal Transitions*, 35, 251–260. <https://doi.org/10.1016/j.eist.2020.01.009>
- Maass, W., Parsons, J., Purao, S., Storey, V. C., & Woo, C. (2018). Data-Driven Meets Theory-Driven Research In The Era Of Big Data: Opportunities And Challenges For Information Systems Research. *Journal Of The Association For Information Systems*, 19(12), 1253–1273. <https://doi.org/10.17705/1jais.00526>
- Matschoss, K., & Heiskanen, E. (2018). Innovation Intermediary Challenging The Energy Incumbent: Enactment Of Local Socio-Technical Transition Pathways By Destabilisation Of Regime Rules. *Technology Analysis & Strategic Management*, 30(12), 1455–1469. <https://doi.org/10.1080/09537325.2018.1473853>
- Menny, M., Palgan, Y. V., & McCormick, K. (2018). Urban Living Labs And The Role Of Users In Co-Creation. *Gaia-Ecological Perspectives For Science And Society*, 27(1), 68–77. <https://doi.org/10.14512/Gaia.27.51.14>
- Mercure, J.-F., Pollitt, H., Bassi, A. M., Vinuales, J. E., & Edwards, N. R. (2016). Modelling Complex Systems Of Heterogeneous Agents To Better Design Sustainability Transitions Policy. *Global Environmental Change-Human And Policy Dimensions*, 37, 102–115. <https://doi.org/10.1016/j.gloenvcha.2016.02.003>
- Meynard, J.-M., Jeuffroy, M.-H., Le Bail, M., Lefevre, A., Magrini, M.-B., & Michon, C. (2017). Designing Coupled Innovations For The Sustainability Transition Of Agrifood Systems. *Agricultural Systems*, 157, 330–339. <https://doi.org/10.1016/j.agsy.2016.08.002>
- Miller, T. R., Wiek, A., Sarewitz, D., Robinson, J., Olsson, L., Kriebel, D., & Loorbach, D. (2014). The Future Of Sustainability Science: A Solutions-Oriented Research Agenda. *Sustainability Science*, 9(2), 239–246. <https://doi.org/10.1007/S11625-013-0224-6>
- Moallemi, E. A., & Dehaan, F. J. (Eds.). (2020). *Routledge Studies In Sustainability Transitions. Modelling Transitions: Virtues, Vices, Visions Of The Future*.
- Mok, L., & Hyysalo, S. (2018). Designing For Energy Transition Through Value Sensitive Design. *Design Studies*, 54, 162–183. <https://doi.org/10.1016/j.destud.2017.09.006>
- Moro, S. R., Cauchick-Miguel, P. A., & Campos, L. M. S. Product-Service Systems Towards Eco-Effective Production Patterns: A Lean-Green Design Approach From A Literature Review. *Total Quality Management & Business Excellence*. Advance Online Publication. <https://doi.org/10.1080/14783363.2019.1655398>
- Nadkarni, S., & Prügl, R. (2020). Digital Transformation: A Review, Synthesis And Opportunities For Future Research. *Management Review Quarterly*, 1–109. <https://doi.org/10.1007/S11301-020-00185-7>
- Najafabadi, M. M., Villanustre, F., Khoshgoftaar, T. M., Seliya, N., Wald, R., & Muharemagic, E. (2015). Deep Learning Applications And Challenges In Big Data Analytics. *Journal Of Big Data*, 2(1), 1–21. <https://doi.org/10.1186/S40537-014-0007-7>
- Nambisan, S. (2017). Digital Entrepreneurship: Toward A Digital Technology Perspective Of Entrepreneurship. *Entrepreneurship Theory And Practice*, 41(6), 1029–1055. <https://doi.org/10.1111/Etap.12254>
- Nambisan, S. (2018). Architecture Vs. Ecosystem Perspectives: Reflections On Digital Innovation. *Information And Organization*, 28(2), 104–106. <https://doi.org/10.1016/j.infoandorg.2018.04.003>
- Nambisan, S., Wright, M., & Feldman, M. (2019). The Digital Transformation Of Innovation And Entrepreneurship: Progress, Challenges And Key Themes. *Research Policy*, 48(8), 103773. <https://doi.org/10.1016/j.respol.2019.03.018>
- Norman, D. A. (1999). Affordance, Conventions, And Design. *Interactions*, 6(3), 38–43. <https://doi.org/10.1145/301153.301168>
- Ojasalo, J., & Tahtinen, L. (2016). Integrating Open Innovation Platforms In Public Sector Decision Making: Empirical Results From Smart City Research. *Technology Innovation Management Review*, 6(12), 38–48.
- Ortiz-Crespo, B., Steinke, J., Quiros, C. F., Van De Gevel, J., Daudi, H., Mgemiloko, M. G., & Van Etten, J. User-Centred Design Of A Digital Advisory Service: Enhancing Public Agricultural Extension For Sustainable Intensification In Tanzania. *International Journal Of Agricultural Sustainability*. Advance Online Publication. <https://doi.org/10.1080/14735903.2020.1720474>
- Öztekin, E. E., & Gaziulusoy, A. I. (2019). Designing Transitions Bottom-Up: The Agency Of Design In Formation And Proliferation Of Niche Practices. *The Design Journal*, 22(Sup1), 1659–1674. <https://doi.org/10.1080/14606925.2019.1594999>
- Perez Nunez, S. M., & Serrano-Santoyo, A. (2020). Multi-Actor Network Perspective: Calibaja An Emergent Binational Innovation Ecosystem. *Technology Innovation Management Review*, 10(1), 5–15. <https://doi.org/10.22215/Timreview/1320>
- Pesch, U. (2015). Tracing Discursive Space: Agency And Change In Sustainability Transitions. *Technological Forecasting And Social Change*, 90(B), 379–388. <https://doi.org/10.1016/j.techfore.2014.05.009>
- Phillips, M. A., & Ritala, P. (2019). A Complex Adaptive Systems Agenda For Ecosystem Research Methodology. *Technological Forecasting And Social Change*, 148(C). https://econpapers.repec.org/article/eeetefoso/V_3a148_3ay_3a2019_3ai_3ac_3as0040162519305505.Htm
- Powell, W. W., Oberg, A., Korff, V., Oelberger, C., & Kloos, K. (2017). *Institutional Analysis In A Digital Era: Mechanisms And Methods To Understand Emerging Fields*. Edward Elgar Publishing. https://econpapers.repec.org/Repec:Elg:Eqchap:16487_12
- R. C. Basole, M. G. Russell, J. Huhtamäki, N. Rubens, K. Still, & H. Park (2015). Understanding Business Ecosystem Page 5726 Dynamics: A Data-Driven Approach. *Acm Transactions On Management Information Systems (Tmis)*, Vol. 6, No. 2, p.6, 2015.
- Roberts, C., Geels, F. W., Lockwood, M., Newell, P., Schmitz, H., Turnheim, B., & Jordan, A. (2018). The Politics Of Accelerating Low-Carbon Transitions: Towards A New Research Agenda. *Energy Research & Social Science*, 44, 304–311. <https://doi.org/10.1016/j.erss.2018.06.001>
- Rogers, R. P. A. (2019). *Doing Digital Methods* (1st). Sage Publications Ltd.
- Rotmans, J., & Loorbach, D. (2009). Complexity And Transition Management. *Journal Of Industrial Ecology*, 13(2), 184–196. <https://doi.org/10.1111/j.1530-9290.2009.00116.x>
- Russo Spena, T., & Cristina, M. (2019). Practising Innovation In The Healthcare Ecosystem: The Agency Of Third-Party Actors. *Journal Of Business & Industrial Marketing*, 35(3, Si), 390–403. <https://doi.org/10.1108/jbim-01-2019-0048>
- Schlosser, M. (2015). *Agency*. <https://plato.stanford.edu/archives/fall2015/entries/agency/>
- Schot, J [J.] (2001). Towards New Forms Of Participatory Technology Development. *Technology Analysis & Strategic Management*, 13(1), 39–52. <https://doi.org/10.1080/09537320120040437>

- Schot, J [Johan], & Kanger, L. (2018). Deep Transitions: Emergence, Acceleration, Stabilization And Directionality. *Research Policy*, 47(6), 1045–1059. <https://doi.org/10.1016/j.respol.2018.03.009>
- Schot, J [Johan], & Steinmueller, W. E. (2018). Three Frames For Innovation Policy: R&D, Systems Of Innovation And Transformative Change. *Research Policy*, 47(9), 1554–1567. <https://doi.org/10.1016/j.respol.2018.08.011>
- Scupelli, P. (2015). Designed Transitions And What Kind Of Design Is Transition Design? *Design Philosophy Papers*, 13(1), 75–84. <https://doi.org/10.1080/14487136.2015.1085682>
- Shuleski, D., Pricop, C. L., Loan, A. C., & Zaharia-Radulescu, A.-M. (2017). Improving The Public Sector Decision Making Process With Digital Approach. Case Study Radet Bucharest, Romania. In I. Popa, C. Dobrin, & C. N. Ciocoiu (Eds.), *International Management Conference, Proceedings Of The 11th International Management Conference: The Role Of Management In The Economic Paradigm Of The Xxist Century (Imc 2017)* (pp.211–220). Editura Ase.
- Smith, A., Stirling, A., & Berkhout, F. (2005). The Governance Of Sustainable Socio-Technical Transitions. *Research Policy*, 34(10), 1491–1510. <https://doi.org/10.1016/j.respol.2005.07.005>
- Smith, K. (2000). Innovation As A Systemic Phenomenon: Rethinking The Role Of Policy. *Enterprise And Innovation Management Studies*, 1(1), 73–102. <https://doi.org/10.1080/146324400363536>
- Steen, M. (2016). Reconsidering Path Creation In Economic Geography: Aspects Of Agency, Temporality And Methods. *European Planning Studies*, 24(9), 1605–1622. <https://doi.org/10.1080/09654313.2016.1204427>
- Steward, F. (2012). Transformative Innovation Policy To Meet The Challenge Of Climate Change: Sociotechnical Networks Aligned With Consumption And End-Use As New Transition Arenas For A Low-Carbon Society Or Green Economy. *Technology Analysis & Strategic Management*, 24(4, Si), 331–343. <https://doi.org/10.1080/09537325.2012.663959>
- Still, K., Huhtamaki, J., Russell, M. G., & Rubens, N. (2014). Insights For Orchestrating Innovation Ecosystems: The Case Of Eit Ict Labs And Data-Driven Network Visualisations. *International Journal Of Technology Management*, 66(2-3, Si), 243–265. <https://doi.org/10.1504/ijtm.2014.064606>
- Straker, K., Wrigley, C., & Rosemann, M. (2015). The Role Of Design In The Future Of Digital Channels: Conceptual Insights And Future Research Directions. *Journal Of Retailing And Consumer Services*, 26, 133–140. <https://doi.org/10.1016/j.jretconser.2015.06.004>
- Sung, B., & Park, S.-D. (2018). Who Drives The Transition To A Renewable-Energy Economy? Multi-Actor Perspective On Social Innovation. *Sustainability*, 10(2). <https://doi.org/10.3390/Su10020448>
- Swiss Design Network. (2020, May 10). *Sdn 2021 | Online Conference: Design As Common Good Framing Design Through Pluralism And Social Values*. <https://www.designascommongood.ch/>
- Taylor, & Charles. (1985). What Is Human Agency?" pp.15–44 In *Philosophical Papers. Vol. 1, Human Agency And Language*. Cambridge: Cambridge University Press.
- Theodorakopoulos, N., Bennett, D., & Sanchez Preciado, D. J. (2014). Intermediation For Technology Diffusion And User Innovation In A Developing Rural Economy: A Social Learning Perspective. *Entrepreneurship And Regional Development*, 26(7-8), 645–662. <https://doi.org/10.1080/08985626.2014.971077>
- Tonkinwise, C. (2017). *Cameron Tonkinwise Discusses Transition Design [Designing Our Future: A Conversation About The Anthropocene, Transition Design & Sustainability]*. Socialdesignsydney. <https://www.youtube.com/watch?v=Sqwdxvlt4ne>
- Tonkinwise, C., Irwin, T., & Kossoff, G. (2015). Transition Design: An Educational Framework For Advancing The Study And Design Of Sustainable Transitions (Presented At The Strn Conference 2015, Sussex). https://www.academia.edu/15283122/Transition_Design_An_Educational_Framework_For_Advancing_The_Study_And_Design_Of_Sustainable_Transitions_Presented_At_The_Strn_Conference_2015_Sussex
- Tonkinwise, C., Kossoff, G., & Irwin, T. (2015a). Transition Design Overview. https://www.academia.edu/13122242/Transition_Design_Overview
- Tonkinwise, C., Kossoff, G., & Irwin, T. (2015b). Transition Design: The Importance Of Everyday Life And Lifestyles As A Leverage Point For Sustainability Transitions (Presented At The Strn Conference, 2015, Sussex). https://www.academia.edu/15403946/Transition_Design_The_Importance_Of_Everyday_Life_And_Lifestyles_As_A_Leverage_Point_For_Sustainability_Transitions_Presented_At_The_Strn_Conference_2015_Sussex
- Van Lente, H., Hekkert, M., & Smits, R [R.]. Roles Of Systemic Intermediaries In Transition Processes". *International Journal Of Innovation Management*.
- Van Lente, H., Hekkert, M., Smits, R [R.], & ... (2003). Roles Of Systemic Intermediaries In Transition Processes. *International Journal Of ...*
- Van Lente, H., Hekkert, M., Smits, R [R.], & ... (2011). Systemic Intermediaries And Transition Processes. ... : *Intermediaries And ...* <https://books.google.com/books?hl=en&lr=&id=Hcezh7kisumc&oi=fnd&pg=pa36&dq=Systemic+Intermediaries&ots=E2vpuss-jfz&sig=Lm8zbb72y5eg9mje86sel4tkuj8>
- Van Mierlo, B., Leeuwis, C., Smits, R [Ruud], & Woolthuis, R. K. (2010). Learning Towards System Innovation: Evaluating A Systemic Instrument. *Technological Forecasting And Social Change*, 77(2), 318–334. <https://doi.org/10.1016/j.techfore.2009.08.004>
- Venkatraman, V. (2017). *Digital Matrix: New Rules For Business Transformation Through Technology*. Lifetree Media Ltd.
- Verbeek, P.-P. (2005). *What Things Do: Philosophical Reflections On Technology, Agency, And Design*. Pennsylvania State University Press.
- Verbong, G., & Geels, F. (2007). The Ongoing Energy Transition: Lessons From A Socio-Technical, Multi-Level Analysis Of The Dutch Electricity System (1960-2004). *Energy Policy*, 35(2), 1025–1037. <https://doi.org/10.1016/j.enpol.2006.02.010>
- Verganti, R. (2011). Radical Design And Technology Epiphanies: A New Focus For Research On Design Management. *Journal Of Product Innovation Management*, 28(3), 384–388. <https://doi.org/10.1111/j.1540-5885.2011.00807.x>
- Verganti, R., Vendraminelli, L., & Iansiti, M. (2020). Innovation And Design In The Age Of Artificial Intelligence. *Journal Of Product Innovation Management*, 37(3), 212–227. <https://doi.org/10.1111/jpim.12523>
- Vineis, P. (2014). Public Health And The Common Good. *J Epidemiol Community Health*, 68(2), 97–100. <https://doi.org/10.1136/jech-2013-203067>
- Vlaisavljevic, V., Medina, C. C., & Van Looy, B. (2020). The Role Of Policies And The Contribution Of Cluster Agency In The Development Of Biotech Open Innovation Ecosystem. *Technological Forecasting And Social Change*, 155. <https://doi.org/10.1016/j.techfore.2020.119987>
- Vorraber, W., Neubacher, D., Moesl, B., Brugger, J., Stadlmeier, S., & Voessner, S. (2019). Uctm-An Ambidextrous Service Innovation Framework-A Bottom-Up Approach To Combine Human- And Technology-Centered Service Design. *Systems*, 7(2). <https://doi.org/10.3390/Systems7020023>
- Voß, J.-P., Smith, A., & Grin, J. (2009). Designing Long-Term Policy: Rethinking Transition Management. *Policy Sciences*, 42(4), 275–302. <https://doi.org/10.1007/S11077-009-9103-5>

- Walwyn, D., Bertoldi, A., & Gable, C. (2019). Building The Hydrogen Economy Through Niche Experimentation And Digitalisation. *Journal Of Manufacturing Technology Management*, 30(8, Si), 1179–1195. <https://doi.org/10.1108/Jmtm-11-2017-0247>
- Werbelloff, L., Brown, R. R., & Loorbach, D. (2016). Pathways Of System Transformation: Strategic Agency To Support Regime Change. *Environmental Science & Policy*, 66, 119–128. <https://doi.org/10.1016/j.envsci.2016.08.010>
- West, J., & Bogers, M. (2017). Open Innovation: Current Status And Research Opportunities. *Innovation-Organization & Management*, 19(1), 43–50. <https://doi.org/10.1080/14479338.2016.1258995>
- Wieczorek, A. J., & Hekkert, M. P. (2012). Systemic Instruments For Systemic Innovation Problems: A Framework For Policy Makers And Innovation Scholars. *Science And Public Policy*, 39(1), 74–87. <https://doi.org/10.1093/scipol/scr008>
- Wigboldus, S., Klerkx, L., Leeuwis, C., Schut, M., Muilerman, S., & Jochemsen, H. (2016). Systemic Perspectives On Scaling Agricultural Innovations. A Review. *Agronomy For Sustainable Development*, 36(3). <https://doi.org/10.1007/s13593-016-0380-z>
- Wittmayer, J. M., Avelino, F [Flor], Van Steenbergen, F., & Loorbach, D. (2017). Actor Roles In Transition: Insights From Sociological Perspectives. *Environmental Innovation And Societal Transitions*, 24, 45–56. <https://doi.org/10.1016/j.eist.2016.10.003>
- Wittmayer, J. M., & Bartels, K. P. R. (2018). Critical And Relational Action Research For Policy Change And Sustainability Transitions Conclusion. In K. P. Bartels & J. M. Wittmayer (Eds.), *Routledge Advances In Research Methods. Action Research In Policy Analysis: Critical And Relational Approaches To Sustainability Transitions* (Pp. 247–259).
- Wittmayer, J. M., & Loorbach, D. (2016a). Governing Transitions In Cities: Fostering Alternative Ideas, Practices, And Social Relations Through Transition Management. In D. Loorbach, J. M. Wittmayer, H. Shiroyama, J. Fujino, & S. Mizuguchi (Eds.), *Theory And Practice Of Urban Sustainability Transitions. Governance Of Urban Sustainability Transitions: European And Asian Experiences* (pp.13–32). https://doi.org/10.1007/978-4-431-55426-4_2
- Wittmayer, J. M., & Loorbach, D. (2016b). *Transition Management, Action Research And Actor Roles: Understanding Local Sustainability Transitions*. Erasmus University Rotterdam.
- Wittmayer, J. M., & Schaepeke, N. (2014). Action, Research And Participation: Roles Of Researchers In Sustainability Transitions. *Sustainability Science*, 9(4), 483–496. <https://doi.org/10.1007/s11625-014-0258-4>
- Wollmann, D., & Arns Steiner, M. T. (2017). The Strategic Decision-Making As A Complex Adaptive System: A Conceptual Scientific Model. *Complexity*. Advance Online Publication. <https://doi.org/10.1155/2017/7954289>
- Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). The New Organizing Logic Of Digital Innovation: An Agenda For Information Systems Research. *Information Systems Research*, 21(4), 724–735. <https://doi.org/10.1287/isre.1100.0322>
- Yoon, D. (2017). The Regional-Innovation Cluster Policy For R&D Efficiency And The Creative Economy With Focus On Daedeok Innopolis. *Journal Of Science And Technology Policy Management*, 8(2), 206–226. <https://doi.org/10.1108/jstpm-09-2016-0025>
- Zhang, X., Chen, H., Wang, W., & Ordonez De Pablos, P. (2016). What Is The Role Of It In Innovation? A Bibliometric Analysis Of Research Development In It Innovation. *Behaviour & Information Technology*, 35(12), 1130–1143. <https://doi.org/10.1080/0144929x.2016.1212403>

Acknowledgements

The Hasso Plattner Foundation has granted the researcher a scholarship as part of the HPI-Stanford Design Thinking Research Programme in the Research-to-Impact Project led by Dr. Jonathan Antonio Edelman. The views expressed in this article are solely the author's responsibility and do not necessarily reflect the funding source's views or the research group. The authors thank *Helene Baum* for figure 2 illustrations and *Oyinkansola Ige* for reviews and language editing.

Legible AI by Design: Design Research to Frame, Design, Empirically Test and Evaluate AI Iconography

Keywords: Artificial Intelligence,
Legibility, Iconography, Digital Workshops,
Research through Design.

Franziska Pilling^{a*},
Haider Akmal^a,
Adrian Gradinar^a,
Joseph Lindley^a,
Paul Coulton^a

^aLancaster University, Imagination
*f.pilling@lancaster.ac.uk

Artificial Intelligence (AI) is becoming increasingly ubiquitous. Implemented into a wide range of everyday applications from social media, shopping, media recommendations and is increasingly making decisions about whether we are eligible for a loan, health insurance and potentially if we are worth interviewing for a job. This proliferation of AI brings many design challenges regarding bias, transparency, fairness, accountability and trust etc. It has been proposed that these challenges can be addressed by considering user agency, negotiability and legibility as defined by Human Data Interaction (HCD). These concepts are independent and interdependent, and it can be argued, by providing solutions towards legibility, we can also address other considerations such as fairness and accountability. In this design research, we address the challenge of legibility and illustrate how design-led research can deliver practical solutions towards legible AI and provide a platform for discourse towards improving user understanding of AI.

1 Introduction

User adoption of AI, infused into a plethora of products and services operating via the Internet of Things has been expeditious (Lindley et al., 2017). Enabling service providers to monitor in significant detail users behaviour through data (often without explicit consent (Zuboff, 2019)) and subsequently turn this data into decisions and predictions which are increasingly cited as potentially producing harmful results (Angwin, et al., 2016). In an attempt to combat this harm, we have seen a proliferation of frameworks, principles and guidance documents for AI. Of particular note for our research towards legibility is the identified theme of transparency and explainability, which is considered one of the principal challenges needed for AI implementation (Fjeld et al., 2020). Whilst design thinking is cited in many frameworks as a means of potentially addressing AI concerns; it is merely the outlining of problems, rather than providing practical responses. This may be seen as the false promise of design thinking (Kolko, 2018), though in reality, it perhaps reflects the need to articulate better how designers can provide approaches which traverse the current gap between abstract principles and specific implementation. To address this issue, we present research that practically addresses AI legibility through a Research through Design (RtD) enquiry into AI iconography. Taking inspiration from lived experience, with the use of icons to convey effectively important information to a user, we have designed icons to communicate and diffuse the complexity of AI functions to raise user awareness of how AI is operating within the products and services they use. This paper will provide not only the theoretical underpinnings that led to the project and the first designs but also detail the process of iterating the AI icons via a series of workshops using a set of bespoke tools.

The paper proceeds as follows, first by framing AI's relevant pitfalls and the rationale for AI legibility and the role of design towards this end; secondly, a synopsis of designing AI iconography through researching semiotics; thirdly, a summary of empirical testing the prototypical set of AI icons through a series of workshops using bespoke tools; fourthly; an overview of the second iteration of AI icons, designed through analysis of workshop data. In conclusion, we will showcase how a design-led enquiry can respond towards making our relationship with AI more legible and provide a platform for framing the challenge and relevant research landscape for improving user agency.

2 Addressing AI Legibility

An important consideration for this research is to frame what we mean when we say AI and the challenge of legibility. The challenge of AI is socio-technical and therefore requires the complex integration of diverse disciplines, which design is well suited to accomplish. We utilised an RtD approach (Frayling, 1993) as it is generative and geared towards nesting disparate disciplines together (Gaver, 2012) and incorporating various appropriate research ideas,

theories and perspectives into design artefacts. Making a user aware, and their interaction with data and AI legible, is a key concern for the field of Human-Computer Interaction (HCI). Contemporary HCI research is concerned with re-evaluating conventional methods towards designing 'exploded interfaces' to provide richer and more tenable inter-relationships with systems as they become 'smarter', networked and complex; evolving beyond the traditional duality of interaction between user and computers-as-artefacts (Bowers & Rodden, 1993). The relatively new field of HDI is concerned with recentring the human to explicitly interact with these systems, the data, and the ramifications that transcend from these interactions (Mortier et al., 2015). HDI's perspective is that data is ontologically malleable and changes depending on the observer. This notion is established via the concept of 'Boundary Objects', (Star, 2010) where *things* 'are both adaptable to different viewpoints and robust enough to maintain identity across them' (Star & Griesemer, 1989, p.387). The challenges raised by HDI are organised into three interrelated, though distinct core themes - legibility, agency, and negotiability. Legibility is considered a 'precursor' (Mortier et al., 2015) to exercise agency within these systems, where manifestations of agency influence negotiability, enabling a user to build a relationship with those who receive data as means to negotiate how they use data (HDI network, ND).

2.1 The Duality of AI: Mundane vs Sentient Robots and Magic

Commonly and misleadingly AI simultaneously refers to the grand vision of producing a machine with a human level of general intelligence, *as well as* describing a range of real technologies which are in general use today often described as narrow AI. This paradox of misinterpretation between these two divergent, though entangled concepts of AI has been defined as the 'Definitional Dualism of AI' (Lindley et al., 2020a).

The *theoretically* straightforward concept of narrow AI (Neural Networks, Expert Systems and Machine Learning) is, in reality, deceptively multifaceted and confused, hindered by the lack of AI legibility and explainability. This misunderstanding is further hampered by the AI found in science-fictions such as the sentient AI cyborg killers in *The Terminator* (1984), and also products falsely claiming to be AI-infused for profitable gains known as AI snake oil. Additionally, AI-infused products are also presented as *magic*, where misleading accounts of AI-technology are deemed as beyond comprehension within the remit of users. Generally, when magic and technology are discussed, Clarke's third law is often quoted - '[a]ny sufficiently advanced technology is indistinguishable from magic' (Clarke, 1976, p.21). Clarke's quote is repeatedly taken out of context; rather, his three laws are meant to express his aspiration for humanities technological endeavours. However, the misperception of technology echoes the statement in Brackett's short story *The Sorcerer of Rhiannon* - 'Witchcraft to the ignorant, [...] simple science to the learned' (1942). Concerning AI technology, the

user is not ignorant by choice, as there is currently very little in the way in which users can legibly understand when AI functions are being performed.

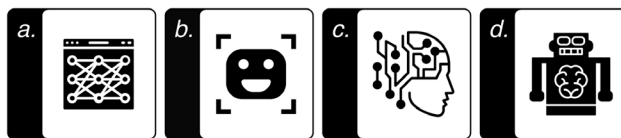
There are more pitfalls that besiege AI, and subsequently, its users and those affected by governing algorithmic decisions. Individually these challenges are too expansive to unpack them all in this paper and go beyond the scope of this research. An important point for this research is that AI reflects the coding and data they are trained on which, are often societally biased and inaccurate (Angwin, et al., 2016; O'Neil, 2016; Suresh & Guttag, 2020). A common misconception is that AI systems are free from human influence and therefore, bias. However, humans are always part of the system, a contagion, if you will, spreading disturbances in several ways from feature extraction, data curation to providing oversight on algorithmic outputs (Lindley & Coulton, 2020). As Turing speculated computers are limited by our instructions, codes and given structures, meaning that they would essentially share and also create blind spots in logic (Turing, 1938). To this end, AI is often cited as a black box (BB). Latour described the notion of Black Boxing as; '[t]he way scientific and technical work is made invisible by its own success' (Latour, 1999, p.304). This emulates Stahl's findings that '[w]hen a technology is a black box it becomes magical' (Stahl, 1995, p.252). AI is a BB for both its users and its creators; where some AI-experts state that they are not sure how AI-systems reach an output, as AI based on Machine Learning is coded to exponentially expand through training data and its interrelation with thousands of weights and variables, eventually evolving beyond human intelligibility and accessibility. Additionally, experts cannot explain the algorithms used to create the AI in the first place, where Rahimi (former Google researcher) stated that 'machine learning has become alchemy' (Elish & Boyd, 2018), arguing that even though alchemy 'worked' the foundations of alchemy were formed upon unverifiable and for modern times dubious theories. To this end, our interest in design research is principally concerned in contemporary, functional and practical uses of AI.

Creating transparent AI systems is repeatedly called for to oppose the BB nature of current AI systems as well as the legibility and explainability of these systems. These terms are used almost interchangeably, though they describe subtly different things. Transparency is concerned with how open the data and algorithms are to outsider auditing to be verified or challenged. In comparison, legibility and explainability are similar and focused on how we can make AI systems and their decisions understandable and readable to non-AI experts. Making a system transparent does not equate to making it legible or explainable, where explainability can come from the legibility of a system via more appropriate metaphors and as this research will show - iconography.

3 Researching AI legibility through Design

To address the existing illegibility of AI, we started with a survey of current AI imagery by searching icon and stock image repositories. What we found was that while some icons represent the underlying system such as neural networks (see Figure 1a) and some might suggest what it's doing such as face detection (see Figure 1b), the vast majority of icons play into AI's definitional dualism of human-like machines (see Figure 1c and 1d). With closer inspection, the existing imagery seldom articulates how an AI would function and in what context, or if it did it would raise more questions than answers (e.g. see Figure 1a, does this network have three layers, is it adaptive?). Furthermore, no imagery articulated the ramifications or implications of use.

Fig. 1: Typical examples of current AI Iconography.

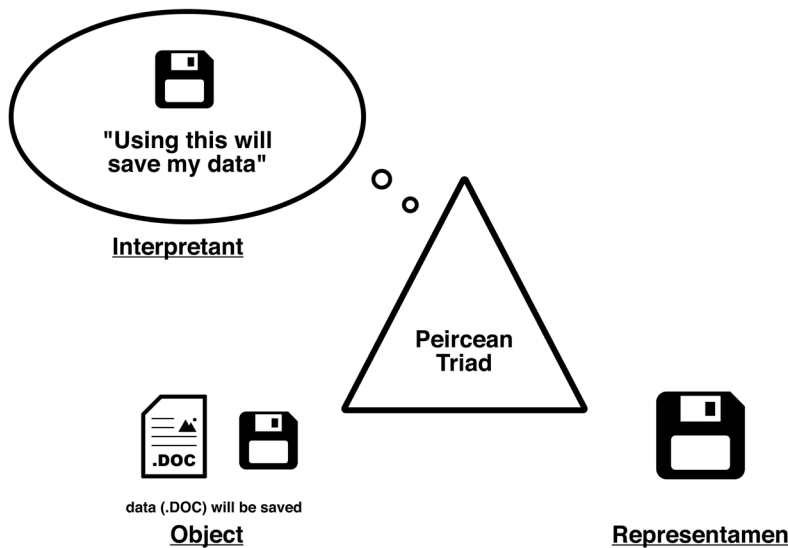


3.1 Establishing the Semiotics of AI

The lack of semantics or communication within current AI imagery indicates there is scope to develop a visual language which would help to enhance AI legibility (Lindley et al., 2020a). Research into the design, theory and effectiveness of icons in the field of HCI is diverse underpinned by the theory of Semiotics, for instance - semiotic analysis for user interfaces (Ferreira et al., 2002), icon taxonomy to categories computer icons (Ma et al., 2015), the advantages and disadvantages of icon based dialogues in HCD (Gittins, 1986), relationships between different presentation modes of graphical icons and user attention (Lin et al., 2016), testing the intuitiveness of icons (Ferreira et al., 2006). Iconography has proven to be a useful tool for encapsulating the complexity of a particular interaction for users so that they know how it works, and thereafter infer implications of said interaction. Influenced by how semiotics can help designers improve their communication (de Souza et al., 2001) and aligning with HCI scholars (Ferreira et al., 2002) we have referred to the renowned theory the Peircean triad (Peirce, 1991). Peirce's model (see Figure 2) consists of a triadic relationship; comprising the *representamen* (the symbol used to represent an idea, e.g. a save icon), the *object* (the actual construct being represented, e.g.

data or document being *saved*), and the *interpretant* (the logical implication of the sign, e.g. using this icon will save my data). Central to Peirce's thesis is the 'classification of signs' which is based on the relationship between object and representamen; these categories are; *indexical*, signs which refer to the object indirectly, through an association (e.g. smoke signifies fire), *symbolic* signs which have meaning based solely on convention and may be culturally specific, such as alchemy symbols (e.g. a triangle to represent fire); *iconic* signs have a signifier which resembles the signified package (e.g. flames pictorial).

Fig. 2: A triadic view of the save icon (the document icon used here will have its own triadic view).



Peirce noted that categories are not mutually exclusive, as most signs contain elements of indexicality, symbolism and iconicity in varying degrees. Taking this theory back to the analysis of the existing AI icons (see Figure 1c and 1d) the representamen forces the notion of AI's dualism, which we could argue is 'misleadingly' both categories of symbolism and iconicity. In some cases, the interpretant functions to some degree (see Figure 1b facial recognition); however, there is no understanding of the greater AI system (Lindley et al., 2020b). There is clearly a distortion in AI communication where categories are used misleadingly through the lack of conventions for AI and as previously outlined cultural understanding.

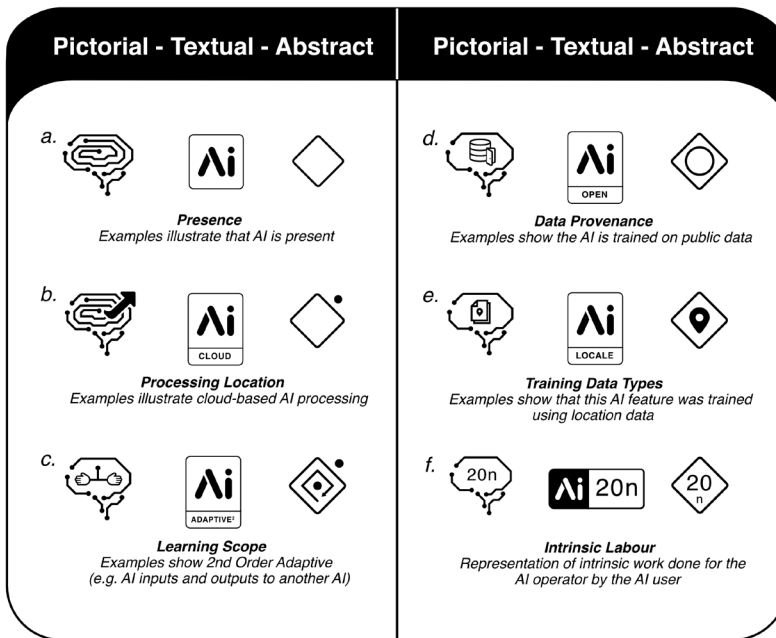
Timeframe for designing icons is also an essential consideration as symbols can change meaning over time by appropriation or other means, which pointed towards taking inspiration from an already functional system of icons - laundry care labels. Whilst we may not always take notice of these icons, or indeed always understand their meaning, they provide a means of understanding how we can most easily maintain a working relationship with our

clothes standing the test of time. This archetypal iconography system further influenced us into considering that multiple icons could be used together to form a language of interaction, suiting the complexity of the issues that confound AI legibility.

3.2 Generative Designing of AI Iconography

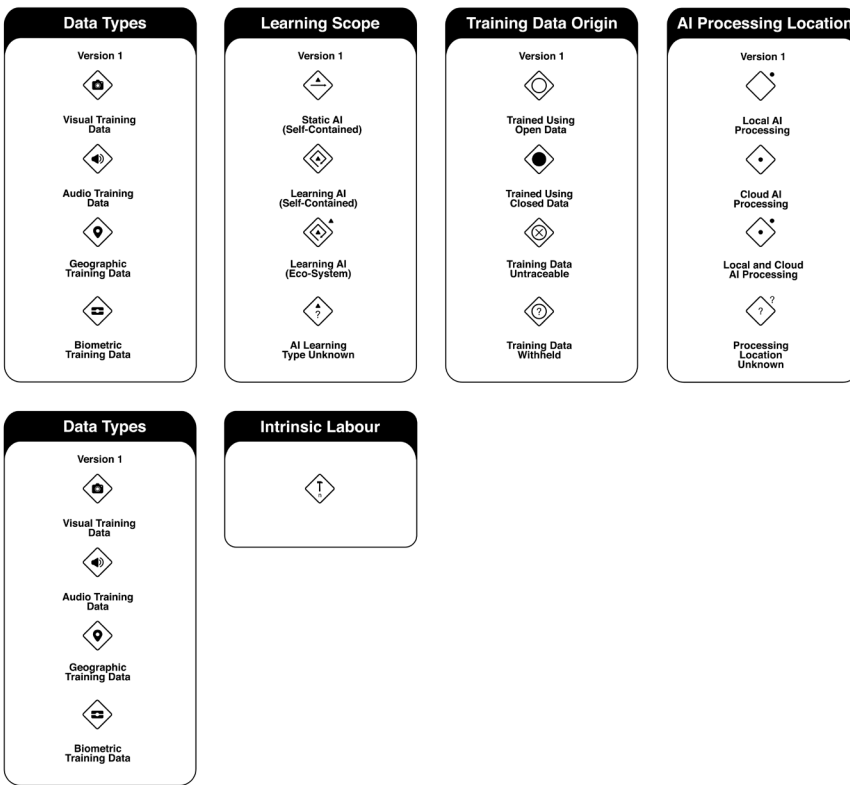
Consolidating and reviewing prior AI research, we identified six key AI factors to package into a system of AI iconography, whereby effectively communicating AI functions and operations for user legibility (see Figure 3). These relevant factors for AI legibility are as follows; 1. Presence - denoting that some form of AI processing is happening heeding to the principle of 'informed use' (EPRS, 2020) (see Figure 3a). 2. Processing Location - in the cloud, on the edge or elsewhere. The location of processing impacts users perception of accountability (Rader et al., 2018)(see Figure 3b). 3. Learning Scope - how does the AI learn or adapt over time, through usage or is it static? Communicating to a user changes and adaptations of an AI system is deemed a fundamental guideline for human-AI interaction (Amershi et al., 2015)(see Figure 3c). 4. Data Provenance - What is the source of the training data? Is it proprietary, public or the user? Data quality directly reflects the AI and therefore, its trustworthiness (Arnold et al., 2019)(see Figure 3d). 5. Training Data types - what data types are used to train the AI? Visual, audio, location? Similar to data Provenance this factor is more granular account on the type of data, which is a crucial element to reduce opacity (Burrell, 2016) increase trust (Arnold et al., 2019) and reduce bias (Angwin, et al., 2016; O'Neil, 2016)(see Figure 3e). 6. Intrinsic Labour - is 'work' being done for the AI operator. This is more of a philosophical and discursive factor, as it reflects the monetisation of data through the commodification of users and their interactions with AI-infused products and services (Greengard, 2018; Zuboff, 2019).

Fig. 3: The identified AI factors arranged in different visual styles.



Merging the AI research with semiotics, we designed three different visual styles (see Figure 3 Pictorial, Textual and Abstract). The pictorial concept which deliberately utilises the sort of iconography resulting from AI's dualism. Though despite conforming to the current problem, unexpectedly iconic imagery emerged and established a baseline to move forward. The textual concept explored the use of a brand identity inspired by the symbology employed by trade organisations. However, we theorised that there is a limit to how much textual information can be gleaned in a single instance. The abstract concept as per Peirce's thesis hybridises symbolic, indexical and iconic categories equivalent to laundry labels. We elected to develop the abstract concept further (see Figure 4), minimising the problematic aspects of the former two concepts and the flexibility to incorporate iconic imagery into the abstract style (see Figure 3e and Figure 4 Data Types). As with laundry labels, a degree of a convention is necessary to understand these abstract icons, though once core elements are deciphered, such as triangle denoting learning (see Figure 4 Learning scope), readability begins to emerge.

Fig. 4: Version 1 iconography.



4 Empirical Testing and Co-Designing

4.1 Uncanny AI to Legible AI Workshops

The difficulty in predicting how or why an icon may become adopted or stay in use supports the premise that an RtD investigation of using icons to improve AI legibility is a productive first step. Barr, Biddle and Noble (2002) state an icons' successfulness' is guaranteed if the user matches the interpretant to the intended object, concept or implication. To determine if the interpretant matches the designer's intention is through performing icon intuitiveness, and usability tests (Ferreira et al., 2006), by asking participants to match AI functions to the icons in a set.

To test our prototypical AI icons, we presented them in the form of physical cards with separate matching card descriptors. Participants were encouraged to intuitively match and establish connections between the defined AI functions, and their visual representations. The deck of cards as a playful medium, allowed participants to engage with, in a tangible manner, the intangible functions and operations of AI by completing a series of stylised game-like exercises, which were designed to not only test icon intuitiveness but also enter a discourse to question the legibility within AI systems. There were no rules as to what the participants could do with the cards in the first *Making Connections* exercise, leaving it open for the participants to intuitively start to figure out, cluster and pair with their associated descriptor cards.

The workshop was designed to take ‘a wide and playful view’ (Gaver, 2002) of AI technology and its implications. As such the workshop was consciously designed to instil traces of play through the range of exercises by adopting Gaver’s stance on ‘playful curiosities’, as ‘play is [...] an essential way of engaging with and learning about our world’ (Ibid,2002). The second exercise called *What’s in my AI*, tasked participants to predict the AI functions that would characteristically occur in randomly presented AI-infused products and generate an icon map using our AI icons. Encouraging an attitude of speculation and ambiguity builds a space for participants to ‘intermesh’ their own experiences of AI. Fortuitously, the icons unexpectedly developed into a form of pedagogical tool for learning about AI functions, with participants leaving the workshop with a greater critical awareness of AI technology.

4.2 Bespoke Tools for Distance Empirical Testing

Through the pandemic, we adapted the workshop to a digital counterpart. Rather than sourcing an online tool to support what was a face to face workshop; we instead developed an interactive workshop to suit our research medium and replicate the game like mechanics of the physical workshop. To reproduce the playful interactions steered us to use *Godot*, an open-source game-engine, with each task built and coded as a 2D game ‘scene’ with a Graphical User Interface with flexible components (see Figure 5). These components were the icons cards that could be coded with rules in multiple ways, from game physics to movement dependant on the exercise. This transition to digital required an experimental approach in making, while also considering customary design considerations from ‘user-onboarding’ experience, ‘paths of interaction’ (Verplank, 2009) and affordances (Norman, 1999). Using the game-engine afforded the opportunity to quickly build, test and make changes and add supplementary exercises that embodied the physical interactions that originally happened spontaneously within exercises, which on reflection were areas of research and further investigation. In particular, blank ‘playing’ cards allowed participants to design icons if they felt we had missed representing any AI factors. In the digital workshop, this translated into the exercise *Draw Your Own*, where participants were presented with a digital canvas and drawings tools, reminiscent of *Microsoft Paint*, to design and present their icons, which would later be analysed to help develop the second iteration of icons to avoid ‘designs becoming purely self-indulgent’ (Gaver, 2002).

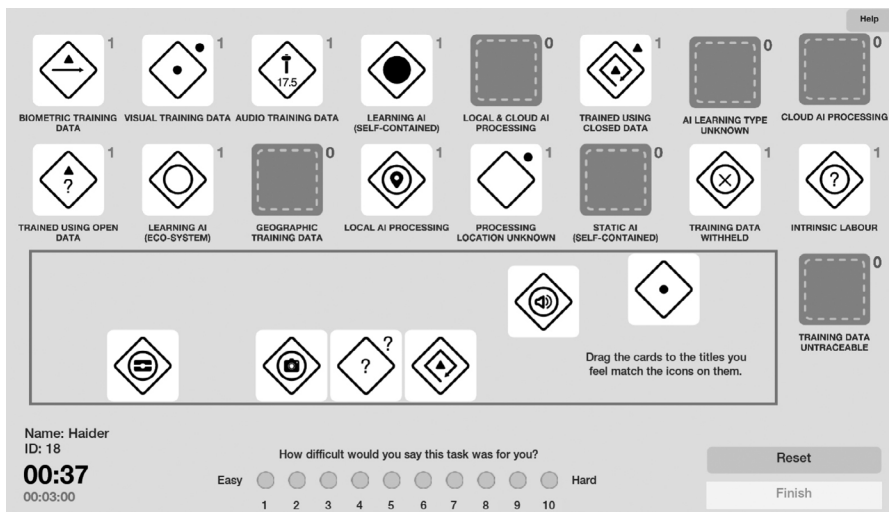


Fig. 5: Screenshot from Making Connections exercise. Participants drag and drop the digital icon cards to a matching descriptor.

The digital workshop can collect a large volume of data, creating the possibility of too many data points to pick from. Consequently, we devised a data analyser (see Figure 6) through a combination of PHP and MySQL API, a standard implementation for querying and storing information on web-based platforms. The data from the workshop could then be visualised immediately after each exercise. The responses were organised and structured in a predetermined fashion for quickly articulating participants responses, which was used as a tool to analyse the responses together live in the workshops, thereby promoting richer conversations. Moving to an online format has permitted rigorous testing of the icons with a global and divergent audience, perhaps creating a more holistic empirical test for icon intrusiveness.































AI Legibility Analyser					
Name	 Intrinsic Labour	 Geographic Training Data	 Audio Training Data	 Visual Training Data	 Biometric Training Data
Participant 1					
Participant 2					
Participant 3					
Participant 4					
Participant 5					

Fig. 6: A sample of results from Making Connections. The top row is the icons and descriptor. Below are the participants matches. The bounding box quickly identifies which icons were matched correctly. (Identities intentionally obscured).

5 Analysis, Second Iteration and Beyond

It was apparent in the analysis of data that this RtD-based inquiry was successful to some degree at producing an 'intuitive' set of AI icons. Though, as predicted, the icons that embodied more symbolic (see Figure 4. Learning Scope, triangle to symbolise learning) or indexical (see Figure 4. Learning Scope, rotational arrow signifies a round of training) categories were less intuitive. Participants who 'correctly' read the icons did it through a systematic process of non-verbal reasoning, grouping clusters of icons together, whereby the first icon had to be correctly placed for the rest to follow suit. Reflecting back, laundry icons are introduced in small digestible additions over time with the arrival of new laundry technology and instructions. The AI icons were introduced simultaneously and are communicating more complex and fluctuating concepts. Though, as identified from the workshop discussions, the icons offered a sign towards 'more is happening here', and over time the icons could be 'learnt like road signs and the highway code'. This might seem like a bias interpretation of our results; however, in keeping with the RtD methodology we adopt, these findings are 'contingent and aspirational', manifesting into research which 'creatively challenge[s] status quo thinking' (Gaver, 2012). That is not to say that the results are not useful; moreover, they serve as conceptually rich research artefacts subject to ongoing AI developments.

AI Assisted Decisions

- P Prediction**: An AI output derived from analysing and comparing historical data with new data to create a forecast of a most likely outcome.
- R Recommendation**: An output of a predictive algorithm, designed to suggest products, services or information based on analysis data.
- C Classification**: An AI algorithm used to draw conclusions from data and subsequently uses these conclusions to categorise new data being received.
- G Generative**: AI algorithms that trains and learns the underlying patterns of input data and generates similar content.

Data Types

- Visual Training Data**: Trained using visual data such as video footage or photographs.
- Audio Training Data**: Trained using audio data. Think when Alexa or Google Home gets you to say something specific to 'improve' their services.
- Geographic Training Data**: Trained using geographic data. Think Tesla cars or smart phone navigation apps.
- Biometric Training Data**: Data which is physical or behavioural human characteristics such as fingerprints, facial patterns, voice or gait patterns.

Training Data Origin

- Trained Using User Data**: This AI algorithm was trained using user data.
- Trained Using Auditable Data**: This AI algorithm was trained using data that is open to be audited externally.
- Trained Using Non-Auditable Data**: The AI algorithm was trained using data that is not auditable or withheld from external scrutiny. Perhaps for proprietary purposes.
- Training Data Unknown**: The AI algorithm was trained on data that is unknown. This could be for a number of reasons e.g. because the data is from a 3rd party.

Data Processing Locations

- External Processing**: The data is processed in the cloud, on the edge Or at data centres.
- Internal Processing**: The Data is processed on the device itself.
- Internal & External Processing**: Specific data is either processed on the device or externally elsewhere.
- Processing Location Unknown**: The data processing location is unknown. This could be for a number of reasons e.g. Location explicitly not declared.

Learning Scope of AI

- Static AI**: A static model is trained offline exactly once and then that model is used for a while.
- Dynamic AI**: A dynamic model is trained online with data continually entering the system and incorporated into the model through continuous updates.
- AI to AI Learning**: One AI trains or is trained by another AI. An AI Learning Ecosystem.
- Learning Type Unknown**: The learning type is unknown, perhaps for proprietary reasons or owned/ operated by a 3rd party.

Fig. 7: AI icons Version 2 with indepth descriptions. Note the AI Assisted Decisions are textual however, as singular letters which can quickly be read and infer meaning.

Figure 7 introduces the second iteration of the icons developed from the analysis of the first series of workshops. In this version, the significant development is the introduction of a new AI factor – AI Assisted Decisions. While the supplementary AI factors serve more as building blocks of the system, the overall inference and immediate implication of the AI was not accounted for. This notion was deduced from many of the participants expressing that

they just wanted the surface level of information – ‘why is AI being used?’. Through discussions, this idea was speculated further towards designing a hierarchical system of icons (see Figure 8), with ‘Presence of AI’ at the top collapsing down towards the more ‘technical’ AI factors. A type of vocabulary logic within the iconography system for users to make their own value-judgements and take into account what’s important to them, rather than a proscribed qualitative assessment. Deciding the order of hierarchical system will be an exercise in the next series of workshops to test the new icon iteration where we will ask participants ‘what’s important to you as a user’.

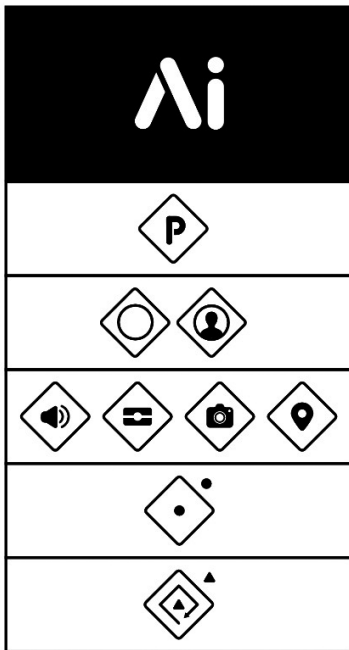
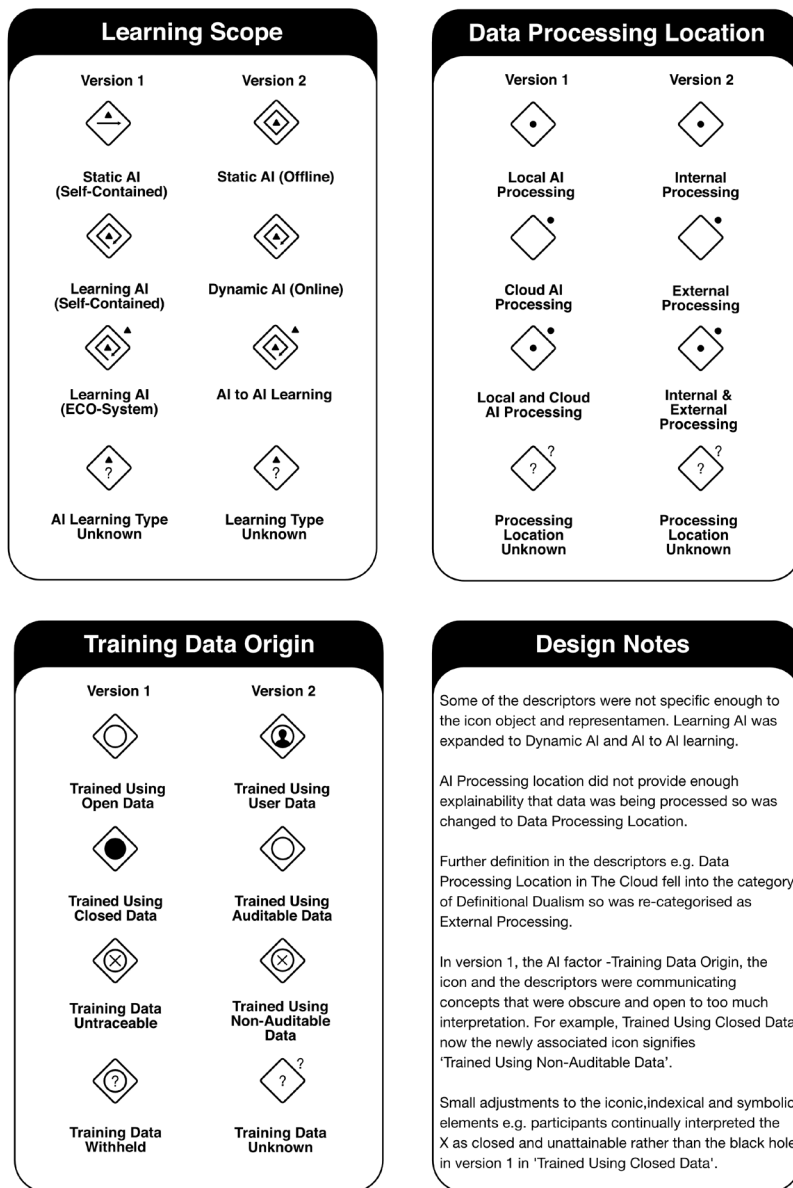


Fig. 8: *The icons lend themselves to be modularised into a hierarchical structure, forming a AI ‘ontological’ language.*

Overall slight adjustments were made to the iconography set and icons that were not intuitive and therefore not ‘successful’. To illustrate Static AI in the first iteration (see Figure 9) was presented with a triangle signifying training and an arrow moving in a forward direction, obverse to the notion of static and therefore Static AI, where the model is trained once and used. Small adjustments are further pointed out in Figure 9 with accompanying explanations and design thinking. Further empirical testing of the second iteration of icons will continue the generative process of designing intuitive icons for AI legibility, in an attempt of establishing an ‘equilibrium’ within the icons.

Fig. 9: A direct comparison between version 1 and version 2 of the icons. The accompanying design notes highlight some of the thinking behind the changes.



6 Conclusion

The research presented here is not intended to conclude or solve the problem of AI legibility, but rather articulate and triangulate the reality of AI's challenges, the diverse AI research landscape and designs role in improving AI legibility. In summary, the contributions of this paper are as follows. First, we framed AI legibility and the challenge to establish this, in doing so we pinpointed possible factors that aided in obscuring AI. This highlighted the cross-sectoral and interdisciplinary perspectives and research required to face the challenges imposed by AI. Next, we described a design-led response for legible AI by providing a synopsis of our RtD-enquiry, with a reflective account of designing AI iconography

and empirically testing their intuitiveness. We also gave an overview of creating a bespoke research tool to actively continue the research during the pandemic, offering another branch of research into building workshops online via game-engines. Although this contribution may seem beyond the scope of the research, we have included it here as it demonstrates the generative and aspirational qualities afforded through an RtD methodology and the freedom of following the research where it takes you. Finally, we pinpointed the next research phase of testing our second iteration of AI icons.

AI adoption is widespread, obscured by its own success, and subsequent lack of knowledge grounded in the reality of these devices, used for socially consequential classifications, which 'valorises some point of view and silences another' (Bowker & Star, 1999). There are currently no supportive and standardised ways of communicating the 'shapeless and faceless, everywhere and nowhere' (Pierce & DiSalvo, 2017) constructs of AI. Often all that users have to work with is metaphors that confuse the reality of AI technology. Advocation for 'interactive explanation systems' (Weld & Bansal, 2019) is in high demand, evidenced in the diverse authored frameworks and guidelines for future AI implementation. Design research similar to ours can strive for accessible and more empowering methods of describing technology and its working parameters for users.

References

- Amershi, S., Chickering, M., Drucker, S. M., Lee, B., Simard, P., & Suh, J. (2015). ModelTracker: Redesigning Performance Analysis Tools for Machine Learning. *CHI '15: Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 337–346. <https://doi.org/10.1145/2702123.2702509>
- Angwin, J., Larson, J., Mattu, S., & Kirchner, L. (2016). *Machine Bias There's software used across the country to predict future criminals. And it's biased against blacks*. ProPublica. <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>
- Arnold, M., Bellamy, R. K. E., Hind, M., Houde, S., Mehta, S., Mojsilovic, A., Nair, R., Ramamurthy, K. N., Reimer, D., Olteanu, A., Piorowski, D., Tsay, J., & Varshney, K. R. (2019). FactSheets: Increasing Trust in AI Services through Supplier's Declarations of Conformity. *ArXiv:1808.07261 [Cs]*. <http://arxiv.org/abs/1808.07261>
- Arthur C. C. (1976). *Profiles of The Future*.
- Barr, P., Noble, J., & Biddle, R. (2002). *Icons R Icons: User interface icons, metaphor and metonymy* (CS-TR-02/20). Victoria University of Wellington School of Mathematical and Computing Sciences Computer Science.
- Bowers, J., & Rodden, T. (1993). Exploding the interface: Experiences of a CSCW network. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '93*, 255–262. <https://doi.org/10.1145/169059.169205>
- Bowker, G., & Star, S. L. (1999). *Sorting Things Out Classification and Its Consequences*. The MIT Press.
- Brackett, L. (1942). The Sorcerer of Rhiannon. In C. John W (Ed.), *Astounding Science Fiction* (6th ed., Vol. 28, pp.36–48). Street & Smith Publications, Inc.
- Burrell, J. (2016). How the machine 'thinks': Understanding opacity in machine learning algorithms. *Big Data & Society*, 3(1), 205395171562251. <https://doi.org/10.1177/2053951715622512>
- de Souza, C. S., Barbosa, S. D. J., & Prates, R. O. (2001). *A Semiotic Engineering Approach to HCI*. 55–56.
- Elish, M. C., & Boyd, D. (2018, November 13). Don't Believe Every AI You See [Research]. *Don't Believe Every AI You See*. <https://ai.shorensteincenter.org/ideas/2018/11/12/dont-believe-every-ai-you-see-1>
- EPRS. (2020). *The ethics of artificial intelligence: Issues and initiatives* (STUDY PE 634.452; Panel for the Future of Science and Technology). Scientific Foresight Unit. [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/634452/EPRS_STU\(2020\)634452_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/634452/EPRS_STU(2020)634452_EN.pdf)
- Ferreira, J., Barr, P., & Noble, J. (2002). The Semiotics of User Interface Redesign. *Proceedings of the Sixth Australasian Conference on User Interface*, 40, 47–53.
- Ferreira, J., Noble, J., & Biddle, R. (2006). *A Case for Iconic Icons*. 50, 87–90.
- Fjeld, J., Achten, N., Hilligoss, H., Nagy, A., & Srikumar, M. (2020). Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-Based Approaches to Principles for AI. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3518482>
- Frayling, C. (1993). *Research in Art and Design*. 1.
- Gaver, W. (2002). DESIGNING FOR HOMO LUDENS. *13 Magazine*.
- Gaver, W. (2012). What should we expect from research through design? *Proceedings of the 2012 ACM Annual Conference on Human Factors in Computing Systems - CHI '12*, 937. <https://doi.org/10.1145/2207676.2208538>
- Gittins, D. (1986). Icon-based human-computer interaction. *International Journal of Man-Machine Studies*, 24(6), 519–543. [https://doi.org/10.1016/S0020-7373\(86\)80007-4](https://doi.org/10.1016/S0020-7373(86)80007-4)
- Greengard, S. (2018). Weighing the impact of GDPR. *Communications of the ACM*, 61(11), 16–18. <https://doi.org/10.1145/3276744>
- HDI network. (ND). What is Human-Data Interaction? [HDI network]. *HDI Network*. https://hdi-network.org/intro_to_hdi/
- Kolko, J. (2018, June). THE DIVISIVENESS OF DESIGN THINKING. *Interactions*, 25, 28.
- Latour, B. (1999). *Pandora's hope: Essays on the reality of science studies*. Harvard University Press.
- Lin, H., Hsieh, Y.-C., & Wu, F.-G. (2016). A study on the relationships between different presentation modes of graphical icons and users' attention. *Computers in Human Behavior*, 63, 218–228. <https://doi.org/10.1016/j.chb.2016.05.008>
- Lindley, J., Akmal, H. A., Pilling, F., & Coulton, P. (2020a). Researching AI Legibility through Design. *CHI '20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 13. <http://doi.acm.org/10.1145/3313831.3376792>
- Lindley, J., Akmal, H. A., Pilling, F., & Coulton, P. (2020b). Signs of the Time: Making AI Legible. *Proceedings of Design Research Society Conference 2020*. DRS 2020, Australia. <https://doi.org/10.21606/drs.2020.237>
- Lindley, J., & Coulton, P. (2020). *AHRC Challenges of the Future: AI & Data*. <https://doi.org/10.13140/RG.2.2.29569.48481>
- Lindley, J., Coulton, P., & Sturdee, M. (2017). Implications for Adoption. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 265–277. <https://doi.org/10.1145/3025453.3025742>
- Ma, X., Matta, N., Cahier, J.-P., Qin, C., & Cheng, Y. (2015). From action icon to knowledge icon: Objective-oriented icon taxonomy in computer science. *Displays*, 39, 68–79. <https://doi.org/10.1016/j.displa.2015.08.006>
- Mortier, R., Haddadi, H., Henderson, T., McAuley, D., & Crowcroft, J. (2015). Human-Data Interaction: The Human Face of the Data-Driven Society. *ArXiv:1412.6159 [Cs]*. <http://arxiv.org/abs/1412.6159>
- Norman, D. (1999). Affordance, conventions, and design. *Interactions*, 6(3), 38–43. <https://doi.org/10.1145/301153>
- O'Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Crown.
- Peirce, C. S. (1991). On a New List of Categories. In J. Hoopes (Ed.), *Peirce on Signs* (pp.23–33). University of North Carolina Press; JSTOR. http://www.jstor.org/stable/10.5149/9781469616810_hoopes.7
- Pierce, J., & DiSalvo, C. (2017). Dark Clouds, lo+, and [Crystal Ball Emoji]: Projecting Network Anxieties with Alternative Design Metaphors. *Proceedings of the 2017 Conference on Designing Interactive Systems*, 1383–1393. <https://doi.org/10.1145/3064663.3064795>
- Rader, E., Cotter, K., & Cho, J. (2018). Explanations as Mechanisms for Supporting Algorithmic Transparency. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–13. <https://doi.org/10.1145/3173574.3173677>
- Stahl, W. A. (1995). Venerating the Black Box: Magic in Media Discourse on Technology. *Science, Technology, & Human Values*, 20(2), 234–258. <https://doi.org/10.1177/016224399502000205>
- Star, S. L. (2010). This is Not a Boundary Object: Reflections on the Origin of a Concept. *Science, Technology, & Human Values*, 35(5), 601–617.
- Star, S. L., & Griesemer, J. R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–39. *Social Studies of Science*, 19(3), 387–420.
- Suresh, H., & Gutttag, J. V. (2020). A Framework for Understanding Unintended Consequences of Machine Learning. *ArXiv:1901.10002 [Cs, Stat]*. <http://arxiv.org/abs/1901.10002>
- Turing, A. (1938). *Systems of Logic Based on Orinals*. Princeton University.
- Verplank, B. (2009). *Interaction Design Sketchbook*. <http://www.billverplank.com/lxDSketchBook.pdf>

Weld, D. S., & Bansal, G. (2019). The challenge of crafting intelligible intelligence. *Communications of the ACM*, 62(6), 70–79. <https://doi.org/10.1145/3282486>

Zuboff, S. (2019). *The Age of Surveillance Capitalism*. Profile Books Ltd.

Acknowledgements

This research has been supported through the Ucanny AI project funded through the PETRAS National Centre for Excellence in Cyber-security EPSRC project EP/S035362/1

Designing the Exploration of Common Good within Digital Environments: A Deliberative Speculative Design Framework and the Analysis of Resulting Narratives

Keywords: Digital Public Environments, Speculative Design, Common Good, Deliberation, Narrative.

Michel Hohendanner^{a*},
Chiara Ullstein^{a**},
Daijiro Mizuno^{a***}

^a*KYOTO Design Lab,
Kyoto Institute of Technology*
^{*}michelhohendanner@gmail.com
^{**}chiara.ullstein@gmail.com
^{***}daijirom@kit.ac.jp

In the course of ongoing digitization of living environments, digital public environments like social media platforms have gained significant influence over societies and individuals. It is therefore decisive for future-viable societies to discuss and explore how these environments should be constituted in the future. This research introduces a framework embedded into a digital workshop format for collaborative speculative design, that enables this exploration in the sense of common good. It was validated in three online workshops and is accessible under the CC-License at www.perfectfuturedesign.com. This work classifies the framework, workshop processes and results according to notions of common good exemplifying how design can contribute to and be or become common good. Empirical studies show, first, the framework supports participants to speculate about the future of digitized environments. Second, a narrative analysis on workshop results reveals that omnipotent actors predominate future scenarios and threaten or impede self-regulation and common good.

1 Introduction

“Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. [...] We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth. We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity. Your legal concepts of property, expression, identity, movement, and context do not apply to us.” (Barlow, 1996).

This excerpt from the Declaration of the Independence of Cyberspace illustrates the high hopes and aims the first generation of internet pioneers had in mind regarding the decentralized digital realm that had just been created through collaborative efforts (Münker, 2009). The conception of the internet, including the web, as a common good in the sense of common resources open to everyone’s creativity and contribution to innovation (Peugeot, 2018), which others perceive as the true common good emerging from the communal force (Etzioni, 2009), has fueled the emergence of web-based services since the mid-1990s (Peugeot, 2018). As Peugeot (2018) points out, in contrast to the initial intent to provide an alternative to proprietary monopolies, today power is concentrated in the hands of a few international companies structuring the digital realm. This constellation evokes debates of whether the digital realm can still be perceived as a common good or whether it contributes to the common good (Peugeot, 2018).

A major change compared to the mass-media age was the internet’s technical potential for participatory and democratic media usage (Münker, 2009). The internet allows everyone to publish individual content and gives every user access to public communication processes (Neuberger, 2009). The resulting innumerable daily publications require structuring to assign the respective content to the appropriate audience (Lischka & Stöcker, 2017). Today, this task is performed by algorithmic decision-making systems, creating the algorithmically structured public (Lischka & Stöcker, 2017; Boehme-Neßler, 2018). The dominant structure of digital environments that allows algorithmically structured processes of publication, interaction, and communication is constituted by intermediaries currently mainly provided by private companies like Google, Facebook, YouTube, or Twitter (Lischka & Stöcker, 2017). These digital spaces are in the following referred to as digital public environments. The selection criteria of the respective algorithms determine the reach of content and consequently which information is accessible to a public audience (Lischka & Stöcker, 2017; Hillje, 2019).

Thereby, intermediary-providers have gained substantial influence on how people inform themselves and communicate using digital environments. This has led to contrasting consequences.

Demonstrations against Covid-19 related hygiene measures in Germany influenced by mis- and disinformation through social media channels (Hurtz, 2020) or the ongoing debates about the role of intermediaries during elections, such as the presidential elections in Brazil in 2018 (Evangelista & Bruno, 2019), which illustrate their manipulative potential. On the other hand, this technology can be of societal benefit. This became visible when social media helped to shape political debates, to connect activists, and to spread democratic ideas across international borders during the Arab Spring in 2010 and 2011 (Howard et al, 2011). Another example was the role of social media in the aftermaths of the Great East Japan Earthquake in 2011, where people were able to inform themselves and connect with each other after the information and communication infrastructure broke down (Peary, Shaw & Takeuchi, 2012). With the growing impact of interactions within digital spaces and corresponding global negative impacts, some companies have begun addressing their social responsibility through changes in their corporate policies (Hao & Basu, 2020). Similarly, governments are reacting with laws and enforcements, like the Digital Services Act (Rudl & Fanta, 2020).

As this exemplifies, the effects and functions of digital public environments, which are subject to structural design decisions, still need to be improved. As Buether (2018) points out the technologies that enable these processes are, in principle, neither good nor bad; whether they are of societal benefit or not depends on their purpose and application. Crucial questions in this context are: who has the sovereignty over their usage, what motivates this actor, and how are these factors related to societal benefit (Buether, 2018). The ongoing challenge for future-viable societies is to assess how digitization and the design of digitized environments can be constituted for societal benefit in the sense of common good. To explore notions of common good in the context of digital public environments, they must first be perceived as designable instead of as given spaces. Then, their implications on societies and potential alternatives must be discussed by a broad and diverse audience.

This research contributes to the design as common good discussion by introducing a design framework provided under the Creative Commons License using research through design to collectively explore futures of digitized environments in the sense of common good. By using speculative design to collectively think about and discuss future developments and corresponding issues, like individual privacy, disinformation, and digital participation, diverse discussion contributions can be created to enhance a pluralistic discourse. Furthermore, it is demonstrated how crucial societal values and relevant ethical questions that both should be included in the discourse can be derived from the results. In the following relevant interpretations of common good are reviewed, and the framework and underlying principles are introduced and

classified under common good terminology. Following, the results of an empirical study with data-gathering phases in April, June, and October/November 2020 are presented, analyzed, and corresponding values derived. A discussion of the results concludes this paper.

2 Notions of Common Good in Internet and Design Discourses

Interpretations of common good include the well-being or common interest of a society, and material or immaterial common resources (e.g. Gutmann & Thompson, 2013; Hussain, 2018). Examples range from civil liberties including freedom of speech, to public safety, clean water or air, public parks or public transportation, and national defense (Hussain 2018).

With reference to digital spaces, some scholars define the internet as a common good in the sense of resources available to everyone (e.g. Peugeot, 2018). Others perceive the creativity and innovation enabled by and emerging from the internet as a common good (Etzioni, 2009). Both the internet and the web were designed as nonproprietary systems open for everyone to use (Peugeot, 2018). With the invention of cyberspace, an extraterritorial space that eludes state law (Barlow, 1996), companies have discovered new web-based business opportunities. These have profited from freeware and would have been previously unimaginable because of geographical limits or legal restrictions in specific countries (Etzioni, 2009; Peugeot, 2018). Thereby, companies also neglected and still neglect value judgements collectively agreed upon by societies (Etzioni, 2009; Peugeot, 2018). Today, the web has become a place where control over personal data is not guaranteed, manipulation of people on a large scale is facilitated, and surveillance of citizens is enabled through new methods of data collection (Berners-Lee, 2017; Peugeot, 2018). Therefore, regulations must be collectively reconsidered to find proper ways to govern the common good as common resources (Peugeot, 2018) and contribute to the well-being of global societies. Tim Berners-Lee, inventor of the web, points out that it “has taken all of us to build the web we have, and now it is up to all of us to build the web we want – for everyone” (Berners-Lee, 2017).

There are various design approaches that are increasingly oriented towards achieving common good. For example, public interest design concerns social coexistence, citizens involvement and active participation in political affairs, and each individual’s responsibility to create and sustain common good (Aulich & Blankenheim, 2018). Regarding the production and application of digital technologies in accordance with the common good, the ethical positioning of designers is crucial (Buether, 2018). Additionally, design methods and approaches can represent common good itself with reference to generated outcomes or processes evoked. Regarding the concept of common good as resource, Deneulin & Townsend (2007) differentiate between collective goods “that are produced through collective action” (p.25), and common goods whose production

equals the good itself, such as a musical performance. Only when participating either as an actor or audience can one benefit from these goods. Both categories of goods necessitate shared action (Deneulin & Townsend, 2007).

In the digital realm, it can be further distinguished between the production and the usage of goods (Vaccaro & Beltran, 2019). For digital products such as open-source software or wikis like Wikipedia, the production takes place in regulated communities, and the use and consumption are usually open access (Vaccaro & Beltran, 2019). This is enabled through licensing frameworks such as the Creative Commons License (De Filippi & Tréguer, 2015). De Filippi and Tréguer (2015) point out that key features of governing Creative Commons and Free Software projects are transparency and inclusiveness, including decision-making procedures based on deliberation. Finally, for deliberation a common good orientation has among other ideals been a standard for early and also recent deliberative theorists (Bächtiger, Dryzek, Mansbridge, & Warren, 2018).

In both internet and design discourses regarding notions of common good, deliberation and participation play a crucial role. These key factors must be perceived as important aims when conceiving design methods in context of common good. Considering the future as a project of collective deliberation on prospective rules of action to achieve the common good, this research proposes the inclusion of all voices willing to participate. The following section presents a speculation design framework for this collaborative process.

3 The Collaborative Speculative Design Framework

3.1 Description of the Framework and Classification in Common Good Terminology

The presented design approach takes the form of a framework embedded in a digital workshop format enabling people with different backgrounds to discuss topics related to digital public environments and digitized living environments in general. The framework and its application within a workshop format were validated in the course of three different workshops in 2020 in Japan and Germany. To enable digital workshop sessions, including live deliberation and simultaneous co-creation processes, the collaborative interface design tool figma and a video call application were utilized. The framework (Figure 1) was provided as a predefined layout structure with several workshop phases and templates embedded into the shared document. This allowed for collaborative speculation and prototyping.

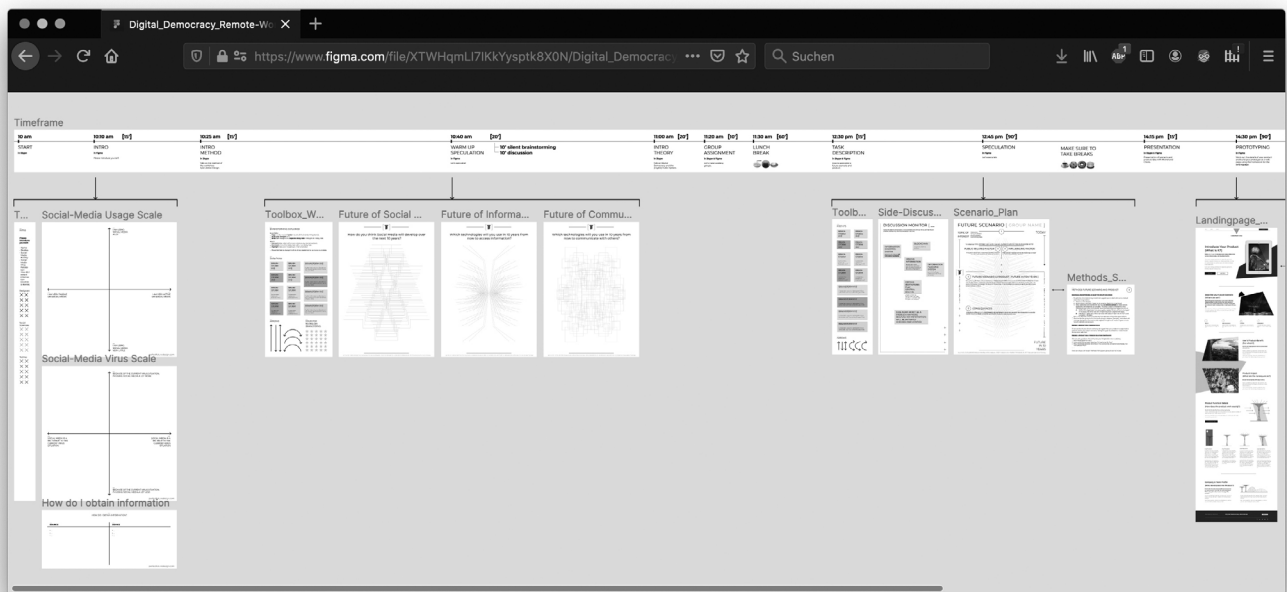


Fig. 1: Framework Structure in Figma.

The integrated approach of speculative design proposes the use of future scenarios as “a medium to aid imaginative thought — to speculate with.” (Dunne & Raby, 2013, p.3). Speculative design processes result in the creation of proposals about future realities in the form of design artifacts, which serve again as discussion contributions (Dunne & Raby, 2013; Malpass, 2017), and allow a broader audience to take part in discourses (Auger, 2013).

Taking legitimate criticism of speculative design into account, the framework contains recurring elements of deliberation in groups of different sizes. Through informative components, it enables all participants to get involved and engage in discourses without requiring prior knowledge. After learning about the topic at hand and engaging in a joint brainstorming session, working groups discuss issues related to digital public environments, and conceive narratives in the form of future scenarios. These are in the following visualized as design artifacts. Design choices regarding the narrative are based on deliberation. Each working group includes at least one designer contributing to the formation of the narrative and transforming the ideas to a visual format. An optional editable template for the design of a webpage as a transportation and visualizing tool for scenario and design artefact is provided. The template serves the purpose of highlighting important facets of scenario storytelling for the communication of a holistic vision and also helps non-designers to engage in the creation process.

The framework can be associated with common good at several levels (Figure 2). First, it enables common good to emerge from the interaction of the intrinsically motivated citizens during the deliberation phases. Second, through the collaborative efforts the designed web pages can be perceived as collective goods. The web pages are published online encouraging further deliberation. Third, the framework itself is licensed under the Creative Commons License. Fourth, the framework enables the generation of data that can be analyzed with respect to the values contributing to or hindering the achievement of common good within digitized living environments.

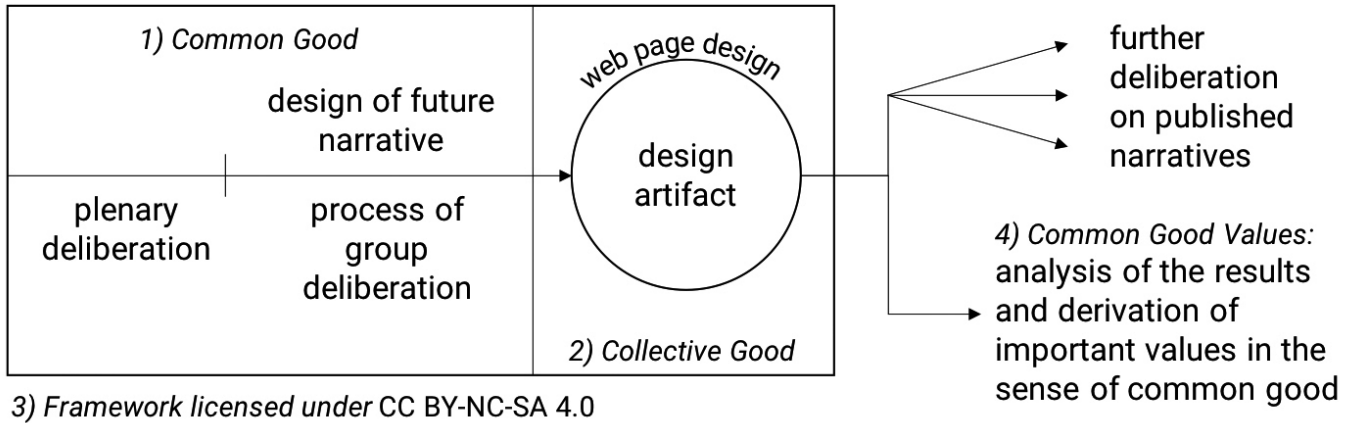


Fig. 2: Processes and Results of the Collaborative Speculative Design Framework.

3.2 Narrative Framework Results

While the workshop process contributes to common good by educating participating citizens and allowing them to take part in discourses, the workshop results have to be considered separately. They are websites transporting narrative scenarios by introducing fictional futuristic products or services and constitute discussion contributions, rather than proposals for solutions. The webpages intend to irritate and provoke questions that make observers think about the depicted future scenario and reflect the status quo. An analysis of the created websites reveals the values and value systems that are consciously and unconsciously included into the communicated narratives.

The term narrative presupposes a narrative structure with a starting point, a transformation, and an ending (Grimm & Kuhnert, 2018). Because this structure can be found in all workshop results, they can be considered to contain narratives. They exhibit a transformation, often triggered by the futuristic product itself, from our current status quo to a future scenario.

Narratives are central transmitters of meaning, that can illustrate values and norms, abstract facts, and processes by adding context (Grimm, Keber & Zöllner, 2017; Grimm & Kuhnert, 2018). They can influence society and individuals through news coverage and reports by and through media channels, but also through cultural outlets, like science-fiction literature, movies, or video games (Grimm, Keber & Zöllner, 2017; Grimm & Kuhnert, 2018), and can therefore be definitive for societies (Reichardt, 1979). Hence, they also play an important role in the design and utilization of digital spaces. In the context of internet ethics, for example, values can take the form of certain attitudes and virtues, like cautiousness and honesty when it comes to sharing personal data or respecting the copyrights of others (Funiok, 2012).

Conversely, by analyzing narratives, key values can be derived and used to assess desirable and undesirable developments and tendencies. Additionally, by giving individuals the opportunity to create and tell their own narratives, they are enabled to express their perspective on a specific topic and thereby to communicate crucial context-specific values.

4 Presentation and Interpretation of the Results

The following describes a selection of workshop outputs (all results are accessible at www.perfectfuturedesign.com/results) analyzed using Greimas' actantical model (Greimas, 1971) to extrapolate key values and to relate them to common good. The actantical model is an analytical tool to differentiate between different narrative positions (actants) and to understand the nature of their relations, including their function within the plot (Müller & Grimm, 2016). As Greimas (1971) describes, the different actants are: the hero (sometimes called subject), the object of desire (object), the helper, the opponent, the sender, and the receiver. Each actant can be represented by one or multiple persons, but also animals or things (Müller & Grimm, 2016). Not every actant has to be present in every narrative and some actants can represent several positions within the constellation (Greimas, 1971; Müller & Grimm, 2016).

4.1 Description and Analysis of Internet Jam

The first selected result from a workshop held in Kyoto in June 2020 presents the product *Internet Jam* (Figure 3), a tool that was conceived to enable its users to protest against the control and surveillance of digital environments by governmental forces in the year 2030. Following debates about cyberbullying, the Japanese government passed a law allowing governmental forces to monitor all actions on digital public environments, like social media platforms, and assess whether a user's statement may be published or not. To protest against the status quo, a citizen's movement releases *Internet Jam*, a tomato sauce that has to be heated in the microwave. By following instructions on time, duration, and settings depicted on the product packaging, the user's microwave interferes

with Wi-Fi connections nearby. When multiple users perform this action simultaneously the combined interferences are meant to jam internet connections nationwide, making digital environments unusable and protesters untraceable. Workshop members indicated main inspirations for the conception were the protest movement in Hongkong, which also used the videogame Animal Crossing as a resource for protesting (Bernhard, 2020), as well as the Black Lives Matter protests preceding June 2020.

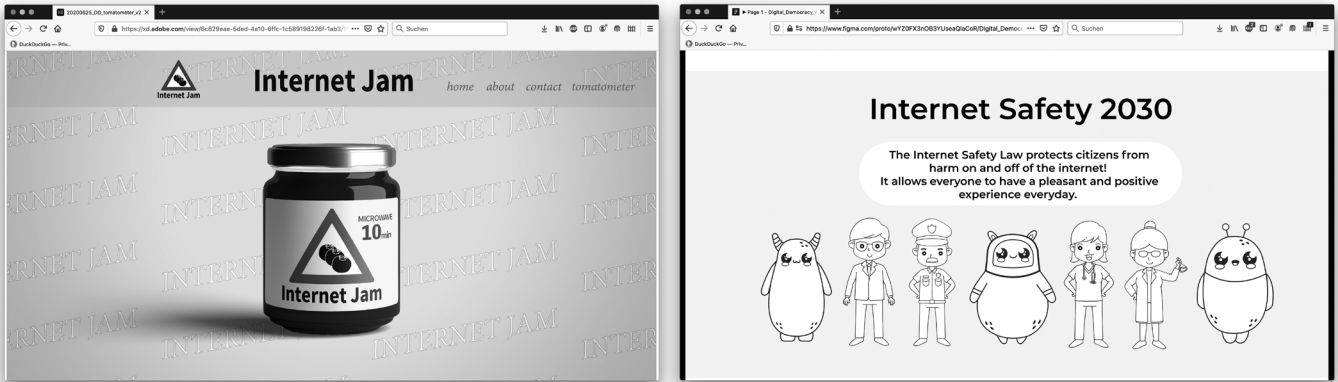


Fig. 3: Product Website Internet Jam.

The analysis of the different actants shows the following constellation. The hero-actant is constituted by the producer of the tomato sauce and the movement that emerges out of its usage. The object of desire is represented by a digital sphere free from governmental control and observation, corresponding with the values of participation and privacy. Being motivated by this prospective uncontrolled online environment and driven by the societal need for free (public) exchange, the hero in this case is also the sender. The helper is the tomato sauce, that, in combination with the microwave and its user, enables protest and further organization of the movement. This movement, respective all individuals who want to protest against the status quo of the digital sphere, represents the receiver. In the long run, society as a whole can also be perceived as a receiver. Lastly, the opponent is embodied by the government.

This constellation implies the question which values to apply in the transformation of digital spaces intended to liberate the digital realm from harmful actors and behavior, like cyberbullying or the spread of misinformation. The government has created a digital sphere dominated by content filtering and digital surveillance. In this scenario, the aim of establishing common good within digital spaces has in the long run an opposing effect. The omnipotent position of the government weakens values like privacy, autonomy, freedom of speech, and (digital) participation. Technology becomes

a tool for establishing an imbalance of power within societal structures, which the hero and the helper oppose and demand that the values important to them be restored.

4.2 Description and Analysis of Gatekeeper

Another result from a workshop held in Kyoto in April 2020 describes a situation, in which harmful behavior, primarily the spread of disinformation, has essentially made digital public environments unusable due to the impossibility to verify information. To solve this problem, the company HoaxHunters releases the software Gatekeeper (Figure 4), which is preinstalled on all new technical devices and freely available for devices already in use. Gatekeeper automatically pre-checks all information within digital public and communication environments and only displays validated information. It also employs the user's connected smart devices to monitor vital signs like the heart rate to assess whether the user is telling the truth when intending to publish information. When a high stress level is detected, the user's publication attempt is denied, preventing false information from spreading. Publications from devices on which Gatekeeper is not installed are also excluded.

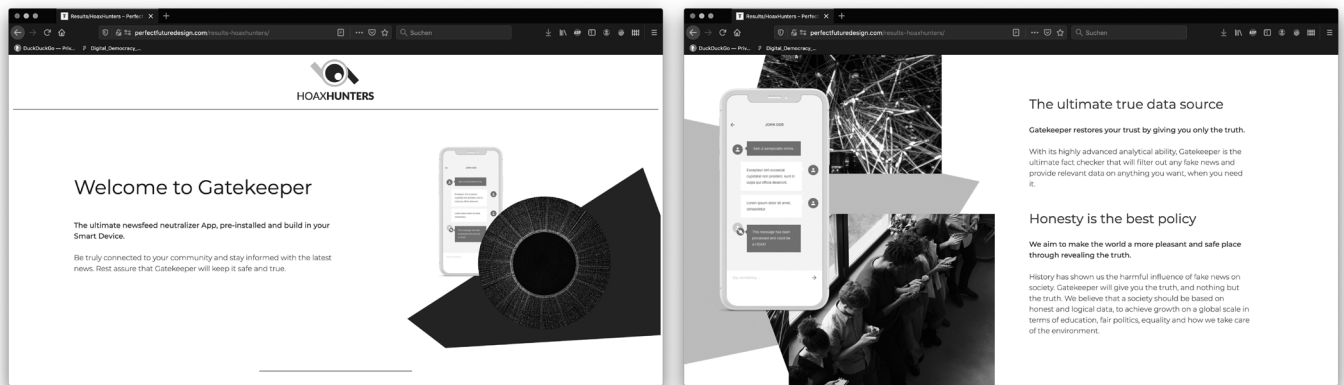


Fig. 4: Product Website Gatekeeper.

Within this scenario, the hero actant is the company HoaxHunters that develops and releases Gatekeeper. The object of desire is represented by digital spaces which are free of misinformation and untrustworthy content. The sender is the need for reliable information within digital public spaces, especially in the light of their influence on society. The product Gatekeeper itself, its users, and the providers of smart devices represent the helper. The receiver equals the users. The opponent is represented by misinformation and harmful behavior, but also digital autonomy and privacy.

It is noticeable that integrating Gatekeeper into the communication processes of digital environments is analogous to the circumstances that Internet Jam opposes. Establishing Gatekeeper creates an omnipotent actor that decides, putative in the sense of common good, who and what is published online, thereby excluding everyone who does not use the service.

4.3 Derivation of a Meta-Narrative

This narrative constellation prevails in different workshop results, creating a meta-narrative, which are recurring narrative structures of differing narratives that share mutual propositions (Müller & Grimm, 2016). Comparing the narratives of Gatekeeper, MacroChip and all inclusive (workshop in Munich in October/November 2020), the following propositions of a mutual meta-narrative can be identified:

- P1: Negative influences of digital public environments are a threat to societies and individuals.
- P2: One actor is granted omnipotent power and information within digitized living environments.
- P3: All negative aspects of digitized living environments are solved.

The following list illustrates the meta-narrative using the example Gatekeeper:

- P1: It has become impossible to use digital public environments because of the prevalence of disinformation.
- P2: The software Gatekeeper becomes a standard for digital devices. It displays only information validated by the software itself and thereby has decisive power over digital publication and communication.
- P3: Obeying the rules of Gatekeeper, digital public environments are made usable again.

MacroChip (Figure 5) takes this constellation to an extreme. The product itself is an implantable microchip that allows every individual to gain cognitive power, but also connects digital public environments with the human brain. The chip acts as a synchronizer, making the emotions and thoughts of others accessible and, in the long run, creating a hive mind with the goal of establishing global harmony.

The product all inclusive (Figure 5), a powerful AI system, transports a resembling but less severe development. The system is integrated into all eligible devices as a personal AI companion that analyses the user and makes independent decisions for the user. Even very decisive questions like early education, choice of career, social contacts, or choice of a partner are included, practically preventing disharmonious encounters on all levels.

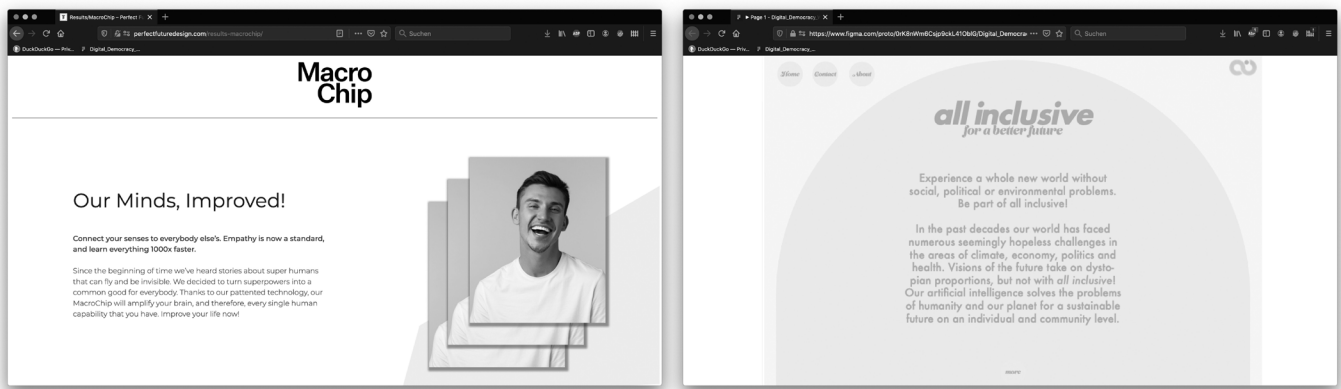


Fig. 5: Product Website MarcoChip and Product Website all inclusive.

All results, which share the aforementioned meta-narrative, deal with the conflict between the assumed need for a strong regulative actant that prevents harmful behavior within digitized environments and the maintenance of values like digital autonomy, participation, privacy and transparency.

5 Conclusion

This work offers, first, a framework for collaborative speculative design to collectively deliberate on futures within digitized environments. The framework and corresponding workshop processes were classified according to notions of common good to show how design can be utilized to aim for common good as well as become or be a common good itself. Second, an analysis approach to deriving critical value judgements contained in the created results was demonstrated. The workshop sessions as empirical studies show that the framework had a positive impact in supporting participants to speculate about the future of digitized environments and enabled them to deepen their discussions.

The selected results illustrate different aspects of digital public environments and digitized living environments in general. By focusing on issues of harmful human behavior and centralized structures of power within mentioned environments, the results debate associated crucial values, like (digital) autonomy, participation, accessibility, freedom of speech, transparency and privacy. Because all selected scenarios depict a dystopian vision, it is noticeable that the threat of losing autonomy and individual rights in connection to enforced (artificial), sometimes totalitarian, control in offline and digital spaces, represents a crucial topic for the majority of participants. Additionally, participants tend not to perceive self-regulated community approaches as a solution. This perception could be based on the ongoing centralization and powershift to few central service providers jeopardizing one of the Internet's founding principles of an end-to-end network (De Filippi & Tréguer, 2015).

More group results including participants from countries worldwide would be needed to derive conclusions representing diverse perspectives. A wider scope would allow to derive more meta-narratives and to analyze how the main themes are influenced by national contexts. The framework can also be applied to different thematic contexts by choosing topic-specific introductory brainstorming questions and providing adequate information material.

Finally, utilizing the findings of this research, it is emphasized that trust in the possibility and power of self-regulation of communities in digitized environments should be promoted and added to the societal discourse about future developments. To illustrate this potential and to conceive innovative ways of application, specific counter-narratives could be created in the course of further research using the described framework. The concept of common good in all its facets should serve as a guiding principle and play a crucial role in the generation of new approaches on digital public environments and digitized living environments. This process could be enhanced through design methods as presented in this paper. Ultimately, the integration of new perspectives, such as the derived value judgments, can inform the discourse and contribute to an adjustment of existing systems, thereby promoting individual responsibility, self-regulation approaches and new forms of social behavior within digital environments.

References

- Auger, J. (2013). Speculative design: crafting the speculation, *Digital Creativity*, 24(1), 11-35, doi:10.1080/14626268.2013.767276
- Aulich, S., & Blankenheim, B. (2018). Alte Theorie und aktuelle Relevanz. »Neue Rhetorik« und öffentlicher Raum bei Aristoteles und Richard McKeon [Ancient theory and contemporary relevance. 'New Rhetoric' and Public Space in Aristotle and Richard McKeon]. In C. Rodatz & P. Smolarski (Eds.), *Was ist Public Interest Design? Beiträge zur Gestaltung öffentlicher Interessen* (pp.313-337). Bielefeld: transcript Verlag.
- Bächtiger, A., Dryzek, J. S., Mansbridge, J., & Warren, M. E. (2018). Deliberative Democracy: An Introduction. In A. Bächtiger, J. S. Dryzek, J. Mansbridge, & M. E. Warren (Eds.), *The Oxford Handbook of Deliberative Democracy* (1 ed., pp.1-31). Oxford: Oxford University Press.
- Barlow, J. P. (1996). A Declaration of the Independence of Cyberspace. Electronic Frontier Foundation. Retrieved November 29, 2020, from <https://www EFF.org/cyberspace-independence>
- Berners-Lee, T. (2017). Three challenges for the web, according to its inventor. *World Wide Web Foundation*. Retrieved December 3, 2020, from <https://webfoundation.org/2017/03/web-turns-28-letter/>
- Bernhard, M. (2020). On lockdown, Hong Kong activists are protesting in Animal Crossing. *Wired*. Retrieved December 8, 2020, from www.wired.co.uk/article/animal-crossing-hong-kong-protests-coronavirus
- Boehme-Neßler, V. (2018). *Das Ende der Demokratie? Effekte der Digitalisierung aus rechtlicher, politologischer und psychologischer Sicht [The End of Democracy? Effects of Digitization from a Legal, Political and Psychological Perspective]*. Berlin: Springer Nature.
- Buether, A. (2018). Gestaltung der Digitalisierung. Gestaltung öffentlicher Interessen im digitalen Wandel vernetzter Gesellschaften [Shaping digitalization. Shaping public interests in the digital transformation of networked societies]. In C. Rodatz & P. Smolarski (Eds.), *Was ist Public Interest Design? Beiträge zur Gestaltung öffentlicher Interessen* (pp.373-400). Bielefeld: transcript Verlag.
- De Filippi, P., & Tréguer, F. (2015). Expanding the Internet Commons: The Subversive Potential of Wireless Community Networks. *Journal of Peer Production*(6). Retrieved from <https://hal.archives-ouvertes.fr/hal-01265208>
- Deneulin, S., & Townsend, N. (2007). Public goods, global public goods and the common good. *International Journal of Social Economics*, 34(1/2), 19-36. doi:10.1108/03068290710723345
- Dunne, A., & Raby, F. (2013). *Speculative everything: design, fiction, and social dreaming*. London: MIT press.
- Etzioni, A. (2009). The Challenge of the Internet Commons in Communitarian Perspective. *Journal of Law, Philosophy and Culture*, 4, 59-62.
- Evangelista, R., & Bruno, F. (2019). WhatsApp and political instability in Brazil: targeted messages and political radicalisation. *Internet Policy Review*, 8(4), 1-23. doi:10.14763/2019.4.1434
- Funiok, R. (2012). Wertorientierte Strategien zum Schutz der Privatheit in Sozialen Netzwerken [Value-based strategies for the protection of privacy in social networks]. In P. Grimm & O. Zöllner (Eds.), *Schöne neue Kommunikationswelt oder Ende der Privatheit? Die Veröffentlichung des Privaten in Social Media und populären Medien*. Stuttgart: Franz Steiner Verlag.
- Greimas, A. J. (1971). *Strukturelle Semantik: Methodologische Untersuchungen [Structural semantics: methodological studies]*. Wiesbaden: Vieweg+Teubner Verlag.
- Grimm P., Keber T. O., & Zöllner, O. (2017). *Digitale Ethik. Leben in vernetzten Welten [Digital ethics. Living in networked worlds]*. Stuttgart: Reclam Verlag.
- Grimm, P., & Kuhnert, S. (2018). Narrative Ethik in der Forschung zum automatisierten und vernetzten Fahren [Narrative ethics in research on automated and connected driving]. In P. Grimm & O. Zöllner (Eds.), *Mensch - Maschine. Ethische Sichtweisen auf ein Spannungsverhältnis* (pp.93-109). Stuttgart: Franz Steiner Verlag.
- Gutmann, A., & Thompson, D. (2013). Valuing Compromise for the Common Good. *Daedalus*, 142(2), 185-198.
- Hao, K., & Basu, T. (2020, February 12). The coronavirus is the first true social-media "infodemic". *MIT Technology Review*. Retrieved November 15, 2020, from www.technologyreview.com/2020/02/12/844851/the-coronavirus-is-the-first-true-social-media-infodemic/
- Hillje, J. (2019). *Plattform Europa - Warum wir schlecht über die EU reden und wie wir den Nationalismus mit einem neuen digitalen Netzwerk überwinden können [Platform Europe - Why we talk bad about the EU and how we can overcome nationalism with a new digital network]*. Bonn: J.H.W. Dietz Nachf. GmbH.
- Howard, P., Duffy, A., Freelon, D., Hussain, M., Mari, W., & Mazaid, M. (2011). Opening Closed Regimes: What Was the Role of Social Media During the Arab Spring?. *SSRN Electronic Journal*. doi:10.2139/ssrn.2595096
- Hurtz, S. (2020, Mai 12). Diese Feindbilder einen die Corona-Querfront [These enemy images unify the Corona front]. *Süddeutsche Zeitung*. Retrieved Mai 12, 2020, from <https://www.sueddeutsche.de/digital/coronavirus-verschwoerungstheorie-bill-gates-you-tube-telegram-1.4904814>
- Hussain, W. (2018). The Common Good. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2018 ed.). Stanford: Metaphysics Research Lab, Stanford University.
- Lischka, K., & Stöcker, C. (2017). *Digitale Öffentlichkeit. Wie algorithmische Prozesse den gesellschaftlichen Diskurs beeinflussen [Digital public sphere. How Algorithmic Processes Influence Social Discourse]*. Gütersloh: Bertelsmann Stiftung.
- Malpass, M. (2017). *Critical design in context: History, theory, and practices*. London: Bloomsbury Publishing.
- Müller, M., & Grimm, P. (2016). *Narrative Medienforschung. Einführung in Methodik und Anwendung [Narrative Media Research. Introduction to methodology and application]*. UVK Verlagsgesellschaft.
- Münker, S. (2009). *Emergenz digitaler Öffentlichkeit: Die Sozialen Medien im Web 2.0 [Emergence of Digital Public Spheres: Social Media in Web 2.0]*. Frankfurt am Main: Suhrkamp Verlag.
- Neuberger, C. (2009). Internet, Journalismus und Öffentlichkeit [Internet, journalism and the public]. In Neuberger, C.; Nuernbergk, C.; Rischke, M., *Journalismus im Internet*. Wiesbaden: VS Verlag für Sozialwissenschaften | Springer Fachmedien Wiesbaden GmbH.
- Peary, B., Shaw, R., & Takeuchi, Y. (2012). Utilization of Social Media in the East Japan Earthquake and Tsunami and its Effectiveness. *Journal of Natural Disaster Science*. 34(1). 3-18. doi:10.2328/jnds.34.3
- Reichardt, R. (1979). Wertstrukturen im Gesellschaftssystem - Möglichkeiten makrosoziologischer Analysen und Vergleiche [Value Structures in the Social System - Possibilities of Macro-sociological Analyses and Comparisons]. In H. Klages & P. Kmiecik (Eds.), *Wertwandel und gesellschaftlicher Wandel* (pp.23-40). Frankfurt/New York: Campus Verlag.
- Peugeot, V. (2018). Internet est-il un (bien) commun? [Is the internet a common good?]. *Enjeux Numériques*, 4(Décembre), 12-17. Retrieved from <http://Annales.org/enjeux-numeriques/2018/en-04-12-18.pdf>
- Rudl, T., & Fanta, A. (2020, July 13). Das Plattformgrundgesetz [The platform basic law]. *Netzpolitik.org*. Retrieved July 20, 2020, from <https://netzpolitik.org/2020/eu-plattformgrundgesetz-digital-services-act/>

Vaccaro, I., & Beltran, O. (2019). What Do We Mean by “the Commons?” An Examination of Conceptual Blurring Over Time. *Human Ecology*, 47(3), 331-340. doi:10.1007/s10745-019-00081-z

Acknowledgements

The authors thank all participants who attended a workshop in Kyoto or in Munich in 2020 and the anonymous reviewers for their valuable feedback.

Design, Toys and Commoning. A Panel of Pluriversal Approaches

Toy Stories for the Common Good

Athina Fousteri, Georgios D. Liamadis

Spaces of Commoning: Critical Reflection on Urban Commons (in ex-Yugoslavia)

Iva Čukić, Jovana Timotijevic

Telling Stories on Commoning with Design of Models and Simulations

Selena Savić, Yann Patrick Martins

Digital Tools for Collaborative Design Processes

Moritz Greiner-Petter, Merle Ibach

Re-Imagining Commoning Infrastructures and Economies

Viktor Bedö, Shintaro Miyazaki

Toy Stories for the Common Good

Keywords: Children's Participation,
Toys, Design by Children.

Athina Fousteri^{a*},
Georgios D. Liamadis^a

^a*Industrial Design Lab,
Department of Visual and Applied Arts,
School of Fine Arts, Aristotle
University of Thessaloniki, Greece*
*afousteri@vis.auth.gr

Design in the 21st century, has as its pointers: participation and collaboration, open-endedness and aims to social change. This paper seeks to explore what common good can entail through the perspective of toy objects designed for/with/by children. Toys as artefacts encode various ideologies and transmit meaningful stories. The connection between toys and the common good, can be investigated through those 'toy stories' as they can open the way to two different narrations, one engaging social impact and another aiming for social change. Six case studies are closely selected and classified on the basis of their form to realistic and abstract, and in terms of their function to prefixed and open-ended. Advocating for open-ended and abstract toys, it is argued that letting children imagine and create our world and be the designers of their future will undoubtedly be for the common good.

1 Introduction

1.1 Design in the 21st Century

Once upon a time, in a land not far from ours, design was considered to be affirmative and innovational, providing answers and solving problems in the service of industry. The what-was-so-called 'Old Design' was product-driven, and only professional designers and experts could be part of it. Design was about consumerism, aiming to make people buy more and more stuff (Wasserman, 2004; Antonelli, 2014). Things have changed and 'New Design' is now process-driven, embedding co-development with users, while "next to Technology-Driven Invention it draws upon Human-Center Innovation" (Liamadis, 2014: 171). As Paola Antonelli argues in her keynote speech about the new frontiers of Design (2014), the 'New Design' is critical and provocative, asking for questions in the service of society, acting as a medium, seeking to make us think more and more as citizens. The pure difference that distinguishes the 'Old' with the 'New Design' lays upon the perspective one has on looking the world, discusses Wasserman (2004) and clearly describes it as the difference between two 'ontologies'.

As set forth by Arturo Escobar (2018) these principles are introducing new methods that highlight front-end research and new roles for the designer, who acts more as a facilitator and mediator rather than an expert. Ezio Manzini (2015) had earlier pointed out the differences and the interactions between design that can be performed by everyone (diffuse design) and performed exclusively by those who have been trained for it (expert design). It is clear that the designer's role has shifted away from being the all-knowing professional and swapped with the perception that everybody can use design methods and tools and design should be learned by everyone, even as a knowledge subject (K-12) actively engaging young children in the context described so far. In line with the discussion about experience and practices of design education initiatives for children, George Liamadis (2013) using Design Lab for Kids example (www.designlabkids.org), he reports that incorporating design thinking in primary and secondary education doesn't have the intention to educate future design experts, but instead will foster different ways of perceiving the world through design, as a skill for life. Therefore, both critical thinking and thinkering (thinking-with-hands) skills are developed, aiming to encourage children to be future active citizens and decision makers, so as to live happily ever after and let the story continue.

The main conclusion that can be drawn is that Design in the 21st century, has as its pointers: participation and collaboration, open-endedness and aims to social change. This paper seeks to explore what common good can entail through the perspective of toy objects designed for, with or sometimes by children.

1.2 Being a Child in an Ever-Changing World

If we now turn to the contemporary concerns about children and childhood, the notion of participation is clearly emerging. Children's participation in education, research and of course in design are strongly connected with the following points, forming a theoretical common ground; a framework that educators, researchers, designers can advise and adopt, while performing in-discipline or collaborating interdisciplinary. Based on Clark, Kjørholt and Moss's (2005) work, enriched with recent studies (Bae, 2009; Christensen & James, 2017; Nigel, 2017) children's participation is related with the following points:

- The movement for the protection of children's rights, as it was formally expressed in the United Nations Convention on the Rights of the Child (UNCRC). Mainly article no.12 addresses the right for children to form his or her own views and express those views freely in all matters affecting his/her life.
- The 17 UN Sustainable Development Goals. Target 16.1 mentions the ensuring of responsive, inclusive, participatory and representative decision-making at all levels (SDG, Sustainable Development Goals).
- The academic perspectives, especially the 'new paradigm' of the sociology of childhood as it was identified by Alison James and Alan Prout in the 1990s.
- The viewpoint that children are the experts of their own lives
- The socioeconomic status where children are identified as customers and consumers.
- The recognition of children "voices" pluralism and the development of appropriate ways adults can listen to them in educational and research context.
- The development of models, schemata and theories of children's participation: 1992 Rogert Hart's 'ladder of children participation', 1997 Phil Treseder's 'degrees of participation', 2001 Harry Shier's 'pathways to participation', 2002 Francis and Lorenzo's 'seven realms of children's participation', 2001 Allison Druin's 'roles of children participation' and 2018 Mayne, Howitt, & Rennie's 'model (Hart, 1992; Francis & Lorenzo, 2002; Wong, Zimmerman & Parker, 2010; Mayne, Howitt, & Rennie, 2018).

Roots of these points can be spotted in the previous century, described as the 'Century of the Child, paying honour to Ellen Key's work that was published at its dawn. Key (1909) proposed progressive design as the means of shaping children's experience of living in an ever-changing world, while she argued for the importance that should be given to the rights, development, and well-being of the children. Lichtman (2013) states that Key's ideas:

"helped change and direct design and, more specifically, the concept of social reform through design through-out the century".

A very interesting link between childhood and design, inspired by Key's work, was the main theme of an exhibition held in the Museum of Modern Art (MoMA) in 2012. The exhibition titled 'Century of the Child: Growing by Design, 1900–2000', curated by Juliet Kinchin and Aidan O'Connor indicated how artifacts construct cultural beliefs in the way that design intersects with childhood. Alexandra Lange (2018) in her recent study suggest that it is time to make childhood a better place, learning from the past, since for the last two centuries products -such as toys- practices and approaches of childhood, were trying to make children better and more insightful citizens, better behaved, more creative and social, more independent and active and more inquiring.

Beyond question, play is essential for children to learn and live, to understand the world and express themselves, to thrive and develop, in other words, to be children in an authentic way. The universal need of human play is satisfied through the use of objects specifically designed for this purpose, toys. Toys, constitute a crucial part of children's material culture and as designed artifacts they are bodies of cultural and historical significance, performing as powerful tools for play. As Brandow-Faller (2018) points out, only more recently have toys and the material culture of childhood emerged as important categories for serious scholarly inquiry and so this paper aims to contribute to this field.

1.3 Research Questions

The intention of this article is to dig into the relationship between children, toys and the common good. Two main research questions will be addressed:

- How toy design contributes to the common good?
- What is the role of children in the design of the toys?

The cases presented later on this paper are drawn mainly from two main sources: International Toy Fairs, as Spielwarenmesse 2020 in Nuremberg, and catalogues/books spotlighting designs created exclusively for kids. After a closely review of a wide range of toys, two significant factors contributed to the final selection of the presented cases, associated with their form and function.

This paper is a preliminary attempt to explore the role of children's participation, concerning toy design in a post-industrial context, as a PhD study is in progress further extending on this issue.

2 The Form and Function of Toys

As a number of writers have argued, toys are tangible objects widely considered to be one of the most important parts in children's material life. It is commonly believed that toys are commercially made objects and Sutton-Smith (1992) argues that "are typically treated as if they do not have much to do with children's creativity". However, for Sutton-Smith toys have plenty of functions: social, educational, characterological, commercial and cultural. As designed objects, they can produce metaphors and a series of meanings, which over time can turn into stories.

Several taxonomies for toys have been developed and different methods and systems have been proposed to classify them (Kudrowitz & Wallace, 2010). This paper suggests that toys may be classified on the basis of their form to realistic and abstract, and in terms of their functions to prefixed and open-ended (Figure 1).

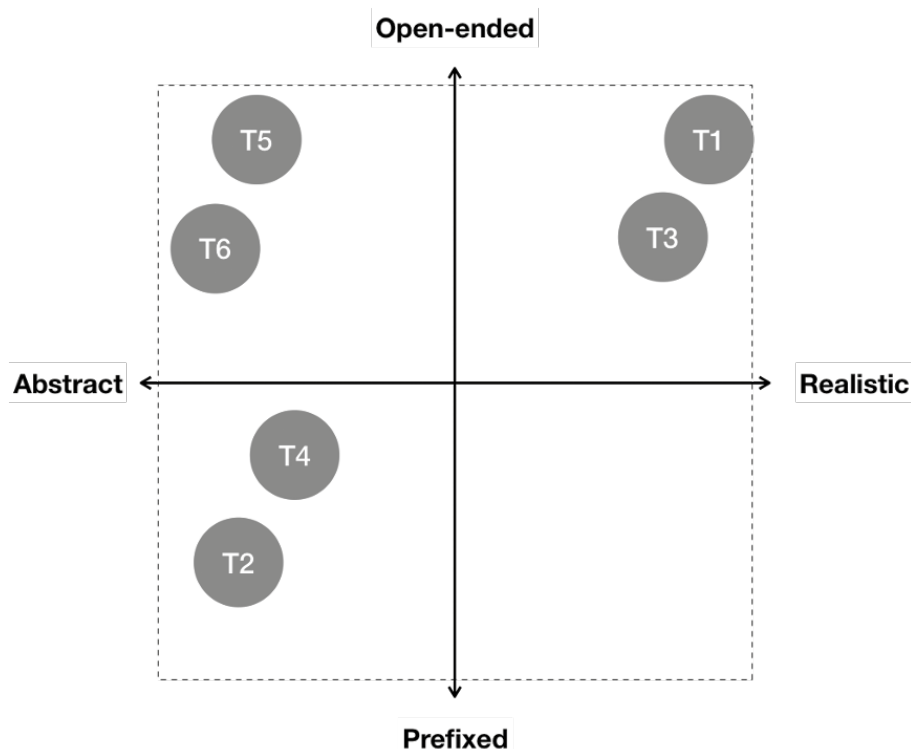


Fig. 1: *The form and function of toys.*
Diagram loosely based on Gielen's (2009)
Diagram of behavioural types.

On vertical axis (function) toys may be classified as belonging to open-ended or prefixed categories, whereas on horizontal axis (form) toys may be placed according to how much they approach an abstract or a realistic form. Each quadrant responds respectively to the four possible junctions, namely open-ended and realistic, realistic and prefixed, prefixed and abstract, abstract and open-ended.

2.1 Realistic/Abstract

In his influential study of toys, Ronald Barthes (1972) discusses about the reproduction of the known world and connotes the invention of a new one as reflected through playthings. A child playing with toys-reduced copies of human objects imitating the adult world can never, according to Barthes, invent a new world, as the child can identify himself/herself only as a user and an owner, but never as creator. Realistic toys it is supported that prepare children to accept and reproduce a world as it is already known, learning skills and attitudes that adopt to the modern adult society and leave behind joy, wonder, risk and adventure.

On the other hand, taking as an example a few sets of blocks, Barthes claims that other toys, are challenging children to invent dynamic forms; forms which can walk, roll and act by themselves. Abstract forms are ideal to "inaugurate a world of barely concretized fantasy" (Sutton-Smith, 1984b) and are associated with the selection of appropriate materials and methods to shape them. For Barthes (1972) wood is an ideal material to be used for toys, because of its "familiar and poetic substance", because of its firmness and softness. In contrast with plastic material, wood allows the removal of sharp angles and indulges a natural warmth when being touched, rather than the chemical coldness of metal, he argues.

Abstract identities in form inspire imagination and set up the opportunities for children to invent their own stories. A relevant and clear example of this case is Rolling Stories (<http://rolling-stories.blogspot.com>). It's about an on-going project where young designers propose wooden objects in four wheels, detached from the stereotypes and norms of the automobile. The abstract forms of the designs, strictly speaking, the removal of information, spotlight the rolling motion and deconstruct the automobile's social and cultural connotations. Taken together, these findings suggest that abstract forms leave more space for children to imagine, thus abstract toys are up to more interpretations, respectively.

2.2 Prefixed/Open-Ended

Toys that came with instructions or generate specific and narrow play experiences constitute prefixed toys. Playing in a closed, pre-determined way permits children to explore the known and deal solely with the expected.

Open-endedness has become a critical issue in the design of toys. Open-ended play has been explained by Tilde Bekker, Ben Schouten and Linda de Valk (2020), as being a play format in the middle between institutionalized, rule-based play and the spontaneous, free play. In other words, referring to the two poles of Roger Caillois' (2001) play universe, *paidia* and *ludus*. Gudiksen and Skovbjerg (2020:21) mention some more aspects of open-endedness in toys. They set an example of toy companies such as LEGO and HABA, where toy design is recognized not to be either too closed or prefixed. In such a way, companies activate personalized experiences

to their customers, providing opportunities for more play styles and preferences, while at the same time generate a “higher degree of ownership and attachment to the product” (Gudiksen & Skovbjerg, *ibid.*). Moreover, open-ended toys are related to less consumption, as they can be replayed and re-used creating meaningful experiences, repeatedly.

The design of open-ended toys derives from or aims to provoke open-ended questions. The methodology of addressing broad open-ended questions is common ground among designers (Liamadis, Kaltsa, Moustakas, Korkoriadou, 2017; Liamadis, 2021). As aptly described by toy designer Cas Holman (Vasarhelyi, 2019), if we give children a set of parts and ask them to build a car, there will be a right or wrong answer since the archetype of a car is quite strong and concrete. Instead, Holman argues, if we address a more open-ended question i.e. “Build a way to get to school” then suddenly room for plenty of ideas is created.

For Kenya Hara (2014), “creativity is to discover a question that has never been asked. If one brings up an idiosyncratic question, the answer he gives will necessarily be unique as well”.

Likewise, according to Liamadis (2021) if we aim at the development of innovative design proposals, then forming broader questions is always fundamental from the outset.

In other words, open-ended toys allow children to perform in a more creative, free and divergent way. In contrary to the prefixed toys mentioned at the beginning of this section, open-ended toys welcome the unknown, the unexpected and the unordinary.

It is necessary here to clarify exactly what is meant by the term ‘common good’. As mentioned by Hussain (2018):

“In ordinary political discourse, the “common good” refers to those facilities - whether material, cultural or institutional—that the members of a community provide to all members in order to fulfill a relational obligation they all have to care for certain interests that they have in common. [...] As a philosophical concept, the common good is best understood as part of an encompassing model for practical reasoning among the members of a political community”.

3 Toy Stories for the Common Good

This definition allows for links with the terms ‘social impact’ and ‘social change’. The term ‘social impact’ has come to be used to refer to the effect on people and communities that occurs as a result of an action, an activity, project, programme or policy. Social change, as explained by Form (2020) is a term in sociology referring to:

“the alteration of mechanisms within the social structure, characterized by changes in cultural symbols, rules of behavior, social organizations, or value systems”.

As previously stated, toys as artefacts encode various ideologies and transmit meaningful stories. The next section investigates the connection between toys and the common good, as toy stories can open the way to two different narrations, one engaging social impact and another aiming for social change.

Closely selected six cases (T1-T6) will be presented corresponding to the factors discussed earlier (open-ended/ prefixed, abstract/ realistic), beneficial to illustrate and strengthen the authors’ argument.

3.1 Toys with Social Impact

Toys that take a stand towards the matters of environment, inclusion, sustainability, health, well-being, equity have undoubtedly social impact. Environmental concerns result in the design of stimulating and educational toys with a sustainability and/or climate protection aspect as well as the usage of sustainable and recycled materials. New materials are being selected so as to reduce the use of plastic, such as homegrown bioplastics, organic plastics, and recycled plastics, sugarcane, bamboo or even wood appears to have a growing come back. Moreover, the ideas of circular economy: re-cycle, re-use and up-cycle are returning, this time affecting the toy industry. The concept of open-endedness that was earlier mentioned is once again appearing. Likewise, Stefanie Lein (2019) argues that toys can have a positive impact on the quality of life of people with intellectual or physical disabilities. This can be achieved by stimulating their senses, developing fine or gross motor skills, or offering children moments of pure enjoyment and relaxation. Toys with social impact seek to empower children, looking forward for a better future, a better version of the present world.

Case Studies:

(T1) The concept of creative upcycling transpires Toyi (Image 1). Introduced by a social enterprise founded by Elif Atmaca and Ögeday Uçurum, it is a kit consisting of wheels, feet, hands, eyes, joints, sticks, flexible connectors that can be adjusted to everyday objects, such as a plastic bottle, and redefine them, transforming the later into toys (toyi.io/en).



Image 1: *Toyi* ©Toyi.

(T2) Designer Yaara Nusboim proposes Alma Dolls (Image 2), a series of dolls that may be used as part of a child's therapeutic process. Each doll represents the range of emotions a child can encounter during a session, aiming to facilitate his/her connection to his/her inner world. This project clearly depicts how a toy can assist the progress of a child's mental health. (www.yaaranusboim.com/almatherapydolls)



Image 2: *Alma Dolls* © Achikam Ben Yosef.

(T3) Gendering of many mass-produced toys can give rise to thoughts about how gender stereotypes influence toys and/ or vice versa. Creatable World is a gender-neutral doll launched by Mattel

short while ago. Each doll kit includes a few items of clothing, several pairs of shoes, accessories and the possibility to change hair styles with wigs (www.mattel.com/en-us/creatable-world).

(T4) Piks by Oppi is designed by Hansel Schloupt asking for children to stack provided elements wooden surfaces and silicone cones. Supporting the development of children, it promises to help them stay focused, growing their attention and concentration skills, while improving fine motor skills (www.oppitoys.com).

3.2 Toys for Social Change

Another significant aspect of the relationship between common good and toys is the aspiration to lead to social change. Italian designer Enzo Mari said, "if we cannot bring about change, it is not a good progetto" (Diseno Yucatan, 2020). Design process can be also be seen as a political process, and Mari's work is a bright example of this idea, infusing ideology and technology into designed artefacts. He supported that design is an action aiming to clarify one's social standing (Moro, 2020). A change can be brought as a consequence of discharge from what is known. In order to envision the unknown and thus design (for) it, in a unique and innovative way, it is necessary to be ready to exempt from ordinary stereotypes and norms (Liamadis, 2021). The transitional process from what is already known (knowledge) to what is unknown (non-knowledge), is described by Hara with the term "exformation" (2007 at Liamadis, 2021).

Toys for social change, thereby, do not look for a better version of the present world, but instead look forward for creating a whole new world.

Case Studies:

(T5) The concept of using single parts to create a variety of new forms inspires Imaginary Language. Alessandra Fumagalli Romario designed a set of basic geometric forms that can be assembled together, fostering children's' creativity and challenge them to build up their own systems, assigning functions and meanings (www.alessandrafumagallioromario.com/#/imaginary-language).



Image 3: *Imaginary Language* ©Alessandra Fumagalli Romario/designer.

(T6) Rigamajic designed by Cas Holman. is a kit of wooden planks, wheels, pulleys, nuts, bolts and ropes that allows children to build following solely their own imagination and curiosity. (casholman.com/rigamajig)

3.3 Social Impact and Social-Change According to the Form and Function of Toys

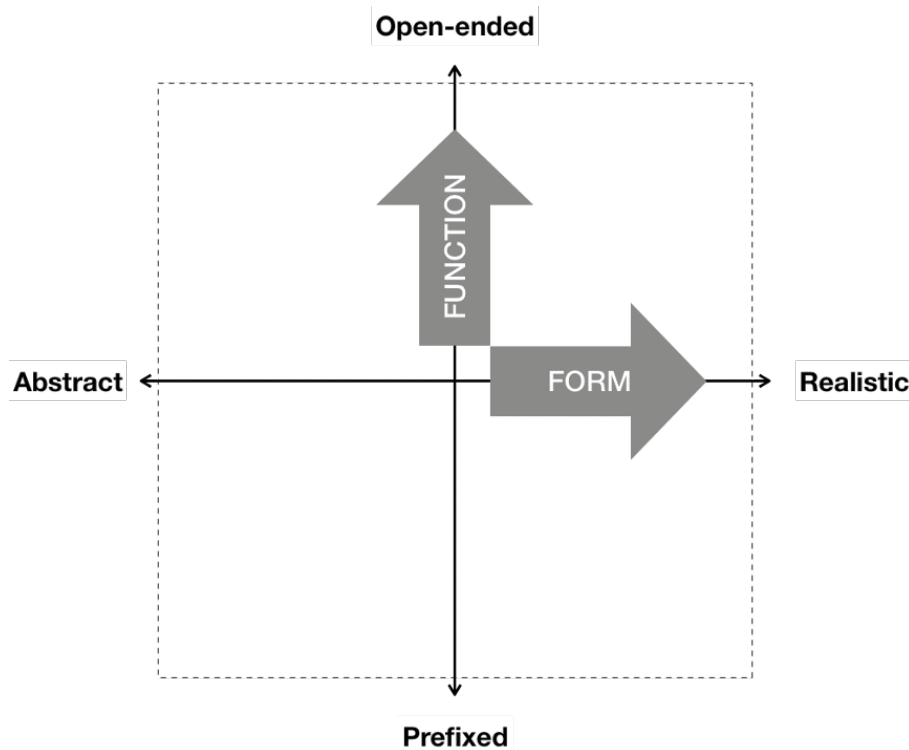


Fig. 2: The six cases placed according to their form (abstract/realistic) and function (open-ended/prefixed).

- T1 uses realistic elements (hands, feet, wheels) but in the meantime provides open-ended options for children to explore at their own pace (Realistic and Open-ended).
- T2 is an abstract render of a scaled human shape that functions in a predefined way (Abstract and Prefixed).
- T3 keeps the average concept of a doll, however the versatile pieces allow children to build freely the characters they want, playfully looking into the aspects of personal identity (Realistic and Open-ended).
- T4 while has an abstract form, leads to limited formations (Abstract and Prefixed).
- T5 is a system of abstract formed parts that can be assembled together freely (Abstract and Open-ended).
- T6 consist of building elements that can lead to the construction of a new form with any instructions (Abstract and Open-ended).

What can be clearly seen in this diagram is how cases are distributed to the quadrants. Toys either “Abstract and Prefixed” or “Realistic and Open-ended” stand for toys with social impact, whereas “Abstract and Open-ended” toys indicate toys for social change. What is interesting is that “Prefixed and Realistic” do not fall into any of the two categories.

4 Exploring Children’s Participation in Toy Design

Having discussed how toys are related with the common good, the final section of this paper addresses the second research question concerning children’s role in the design of toys. As explained in the introduction, it is clear that recently there has been growing interest in children’s participation in design (Francis & Lorenzo, 2002). In the design scale of architecture and urban planning there are recorded notable attempts examining the question of how children’s involvement and participation in planning processes work (Clark, 2005; Hofmann, 2014; Diamantouli & Fousteri, 2017, 2020). The infusion of play as a concept in design process is claimed to be essential (Lefaivre & Doll, 2007), along with the critical reflection upon designers’ role and respect towards children. However, moving on to the scale of object design, a recent review of the literature on this area found that still few studies have been published on children’s participation in toy design, embedding participatory and co-design methods.

The modern concept of what we call a toy arrived, according to Sutton-Smith (1984a), shortly before the Industrial Revolution, between 1550-1570 and the first mass-produced toys appeared during the early industrial period. As Lange (2018) reminds us, looking at the material culture of childhood it isn’t until early to mid-nineteenth century one sees a range of products designed particularly for children and used by the middle and upper classes.

Thereafter, designers and companies have noticed the values of focusing on children as users and consumers and hence developed and implemented user-centered methods (Feder, 2020), co-design practices (Escalante, Ruiz, Anturi & Castro, 2019) and research upon children’s perspectives on toys (Mertala, Karikoski, Tähtinen & Sarenius, 2016; Meral, 2018). These studies clearly indicate that the transition from ‘design for children’ to ‘design with children’ does exist, generating a participatory scene. However, an important theme emerges from what is discussed so far: “when children are involved as design partners, design methods need to suit them too” (Gielen, 2008). In the same vein, Escalante et al. (2019) in their recent study highlight the need for multidisciplinary approaches when designing with children. They brought together the field of industrial design with that of early childhood education, engaging the significant educational approach of Reggio Emilia in their work.

What if we now switch this perspective around and embrace the notion of participation as a means to take positions by creating one's own structures through the concept of open-endedness (Bekker et al., 2020). That is when children find themselves to be actively involved in the creation, modification and later interpretation of a toy which is open-ended. As noted by Barthes (1972) the child explores a way to create meaningful objects, performing actions of a "demiurge". A long before mass-produced toys, children designed and constructed their own toys, using all available materials (textiles, rocks, wooden sticks etc.). This early phase of playful and creative experiment with the physical materials can be described as 'design by children' (fig.3).

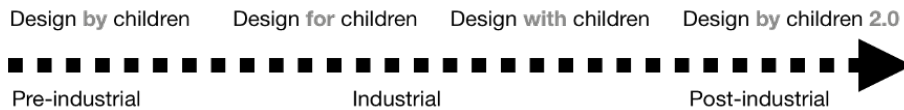


Fig. 3: The four-phase model of children-design relationship's objective. Credits to Fousteri, A. (on-going PhD study).

Figure 3 reveals the gradual transition in the objective of the relationship between design and children. 'Design by children' can be dated in the pre-industrial era, to be replaced by 'Design for children'. 'Design with children' is the next phase, promising to somehow actively involve children in the process. Still 'design for/ with children' is often looked from the perspective of the designer. Appealing to the contemporary do-it-yourself culture, which is expressed through the maker movement, digital fabrication tools (3D printers, laser cutters, CAD software and CNC milling machines) are embraced, giving children a range of new tools and techniques to experiment with. Outlined with the term 'Design by children 2.0' a whole new phase defines children as designers, reclaiming what is offered by the post-industrial condition.

5 Conclusion-Discussion

As stated in Eric Zimmerman's manifesto (2015) the 21st century is a ludic century since "information has been put at play". For Zimmerman, media and culture are among all increasingly systemic, participatory, modular and customizable, forcing people to construct a 'breathing' relationship to the system that we inhabit, learning to perform as designers, recognizing how and why systems are constructed and trying to make them better.

For many researchers, educators and designers play -and hence toys- are the heart of our becoming. Mathias Poulsen (2020) mentions that "just like design, play is political because it makes statements about how we might live together". As long as play connects people and cultivates communities, demonstrating the value of an activity even if the outcome is not measurable, play remains deeply political. Politics in play are related with politics in design as expressed through Mari's notorious work and play in design, as according to Barthes (1972) open-ended toys allow children to act

as “demiurge”. In this context, the notion of open-endedness lays children as designers.

The purpose of the current study was to determine the connections between toys, as objects designed for play, and the common good. Both social impact and social change are aiming to the common good, following a different path and thus their relationship with toys is examined. It is supported, that abstract and open-ended toys leave more space for children to imagine, create and construct, play and interpret the world on their own. In contrary to abstract and open-ended features of a toy, prefixed and realistic toys eliminate children’s ability to create and thereafter do not relate to social change or social impact. Earlier in this paper, a design education initiative (Design Lab for Kids) was mentioned (Liamadis, 2013; Liamadis et al. 2017). In accordance with Design Lab for Kids’ theoretical framework, empowering children to ask big, open questions, aims to bridge the gap between STEM and the ARTS & Humanities, and leaves room to children’s ideas to be developed in an innovative way. Overall, this study strengthens the idea that toys are powerful tools that have the potential to challenge children to ask open questions and to re-imagine the world we all live in; and undoubtedly, as children are the corner stone of our present and future societies, this will be for the common good.

Advocating for abstract and open-ended toys, the second aim of this study was to investigate the role of children in the design of their toys. A four-phase model was presented seeking to identify how children were related in the design of their toys through time. Prepositions ‘for, by, with’ emerged as indicators of compromise between design and children. The transition through design performed *by* children gave its place to design *for* children. Then design *with* children follows, embodying the contemporary concepts of participatory design and co-design. Taken together, these findings suggest a new role for children in toy design. Welcoming a forthcoming phase, design *by* children 2.0, responds to a post-industrial call and brings the ‘children as designers’ concept to the latest context.

The study is limited by the small size of the dataset; however, this paper has thrown up many questions in need of further investigation. Considerably more work will need to be done regarding the role of children’s participation in design and particularly in toy design would be worthwhile. Further research should be undertaken to explore how toy design can be performed by children in a playful, creative and innovative way.

Doing our best so as to all live together, happily ever after.

References

- Antonelli, P. (2014, May 22). *The New Frontiers of Design - Solid 2014 Keynote* [Video]. YouTube. <https://www.youtube.com/watch?v=u6mDAEOFGWQ>
- Bae, B. (2009). Children's right to participate – challenges in everyday interactions. *European Early Childhood Education Research Journal*. 17 (3),391-406. DOI: 10.1080/13502930903101594
- Barthes, R. (1972). *Mythologies*. The nounday press
- Bekker, T., Schouten, B., de Valk, L. (2020) Designing play solutions with the lenses of play card tool. At S. Gudiksen & H.M. Skovbjerg (Eds.) *Framing play design: a hands-on guide for designers, learners and innovators*. BIS Publishers B.V.
- Brandow-Faller, M. (2018). *Childhood by Design: toys and the material culture of childhood, 1700-Present*. Bloomsbury Publishing PLC
- Caillou, R. (2001). *Man, play and games*. University of Illinois Press
- Christensen, P., & James, A. (Eds.). (2017). *Research with children: perspectives and practices* 3rd edition. Routledge.
- Clark, A. (2005). Ways of seeing: using the Mosaic Approach to listen to young children's perspectives. At A. Clark, A. Kjørholt, & P. Moss (Ed.) *Beyond Listening: Children's perspectives on early childhood education services*. Policy Press.
- Clark, A., Kjørholt, A., & Moss, P. (2005). *Beyond listening: children's perspectives on early childhood services*. Policy Press.
- Diamantouli, E. & Fousteri, A. (2017). Μια Π.Χ. από συμμετοχή: Χώροι Παιχνιδιού στην Πόλη της Λάρισσας [A participatory playground: A network of playscapes in the city of Larissa]. In K. Tsoukala, D. Germanos (Eds.), *Children's spaces or spaces for children? When education intersects with the everyday life in the city* (pp.805-820) DOI: <http://dx.doi.org/10.12681/χπ.1461>
- Diamantouli, E. & Fousteri, A. (2020). Playscapes in the city of Larissa: a participatory design approach engaging architects, children and adults. *The Urban Transcripts Journal*. 3(1).
- Diseno Yucatan (2020, October 14) Enzo Mari on the french revolution and his design for MUJI. <http://disenoyucatan.com/enzo-mari-on-the-french-revolution-and-his-design-for-muji/>
- Escalante, E., Ruiz, M., Anturi, M. & Castro, L. (2019). Codiseño de juguetes: una experiencia de construction social entre niños, educadores infantiles y diseñadores industriales [Codesign of toys: an experience of social construction among children, child educators and industrial designers]. *Revista* 180(43), 75-86. [http://dx.doi.org/10.32995/rev180.Num-43.\(2019\).art-592](http://dx.doi.org/10.32995/rev180.Num-43.(2019).art-592)
- Escobar, A. (2018). *Designs for the pluriverse: radical interdependence, autonomy and the making of worlds. New ecologies for the twenty-first century*. Duke University Press
- Feder, K. (2020). Designing for play with a child-centered design approach. At S. Gudiksen & H.M. Skovbjerg (Eds.) *Framing play design: a hands-on guide for designers, learners and innovators*. BIS Publishers B.V.
- Foro, W. (2020, November 16) Social change. In Britannica. Retrieved in December 01,2020, from <https://www.britannica.com/topic/social-change>
- Gielen, M. (2008). Exploring the child's mind – contextmapping research with children. *Digital Creativity* 19(3), 174-184. DOI: 10.1080/14626260802312640
- Gielen, M. (2009). Essential concepts in Toy Design Education: Aimlessness, Empathy and Play Value. *International Journal of Arts and Technology* 3(1) DOI: 10.1504/IJART.2010.030490
- Gudiksen, S. & Skovbjerg, H.M. (Eds.) *Framing play design: a hands-on guide for designers, learners and innovators*. BIS Publishers B.V.
- Hara, K. (2014). *White*. Lars Muller Publishers
- Hara, K. (2007). *Designing Design*. Lars Muller Publishers
- Hart, R. (1992). *Children's participation: from tokenism to citizenship*. Florence: UNICEF International Child Development Centre.
- Hofmann, S. (2014). *Architecture is participation: die Baupiloten methods and projects*. Jovis
- Hussain, W. (2018, February 26), The Common Good. In The Stanford Encyclopedia of Philosophy (Spring 2018 Edition), Edward N. Zalta (ed.) Retrieved December 01, 2020, from <https://plato.stanford.edu/entries/common-good/#toc>
- Key, E. (1909). *The Century of the Child*. The Knickerbocker Press
- Kudrowitz, B. M., & Wallace, D. R. (2010). The play pyramid : a play classification and ideation tool for toy design. *International Journal of Arts and Technology*, 3(1), 36–56
- Lefavre, L. and Döll. (2007). *Ground-up City: Play as a design tool*. 010 Publishers.
- Lein, S. (2019). 2020 Toy trends. At *Spirit of Play: The global toy magazine* 4, 22-23
- Liamadis, G.D. (2013). Researching Design Pedagogies in different levels and fields of Education: Towards a New Ideology in the Agenda of Design Education. In *the 6th International Student Triennial Symposium Connecting the Dots*
- Liamadis, G.D. (2014) Design Workshop in "Active Art & Design Workshops for the Unemployed", 2nd Exhibition Catalogue, Macedonian Museum of Contemporary Art (MMCA), kindly sponsored by the Stavros Niarchos Foundation (SNF), June 2014, p.168-203
- Liamadis, G.D. (2021) Space in Between. MDFF 2021 - Athens edition catalogue
- Liamadis, G.D., Kaltsa, M., Moustakas, K., Korkoriadou, S. (2017). «Τρόποι να κάθεται». Με εργαλείο το Design τα παιδιά διερευνούν τη βιωματική εμπειρία στην αντίληψη του χώρου [‘Ways of sitting’. Using Design as a tool, children explore the living experience in space perception.]. In K. Tsoukala, D. Germanos (Eds.), *Children's spaces or spaces for children? When education intersects with the everyday life in the city* (pp.1064-1076)
- Lichtman, S. (2013). Review: Century of the Child: Growing by Design, 1900–2000. *West 86th: A Journal of Decorative Arts, Design History, and Material Culture*, 20(1), 139–145. <https://doi.org/10.2752/175470813x13638640370931>
- Manzini, E. (2015) *Design when everybody designs*. MIT Press
- Mayne, F., Howitt, C., & Rennie, L. J. (2018). A hierarchical model of children's research participation rights based on information, understanding, voice, and influence. *European Early Childhood Education Research Journal*, Vol. 26, pp.644–656. <https://doi.org/10.1080/1350293X.2018.1522480>
- Meral, D. T. (2018). The examination of the toy perceptions of the children who attend preschool education at the age of 5-6. *8th International Toy Research Association World Conference, Toys and Material Culture: Design and Consumption*. Paris.
- Mertala, P., Karikoski, H., Tähtinen, L., & Sarenius, V. (2016). The value of toys: 6-8-year-old children's toy preferences and the functional analysis of popular analysis of popular toys. *International Journal of play*, 5(1), 11-27.
- Moro, C. (2020, March 5). The bear, the duck, the apple: Enzo Mari's visual language. <https://www.domusweb.it/en/from-the-archive/2020/03/05/the-bear-the-duck-the-apple-enzo-maris-visual-language.html>
- Nigel, T. (2017). Turning the tables: children as researchers. At P. Christensen & A. James (ed.), *Research with children: perspectives and practices*. Routledge.
- Poulsen, M. (2020). The politics of play. At S. Gudiksen & H.M. Skovbjerg (Eds.) *Framing play design: a hands-on guide for designers, learners and innovators*. BIS Publishers B.V.
- Sutton-Smith, B. (1984a). *Toys as culture*. New York: Gardner Press.
- Sutton-Smith, B. (1984b). A toy semiotics. *Children's Environments Quarterly* 1(1), 19-21
- Sutton-Smith, B. (1992). The role of toys in the instigation of playful creativity, *Creativity Research Journal*, 5(1),3-11, DOI: 10.1080/10400419209534418

- UN (1989, November 20) Convention on the Rights of the Child
<https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>
- Vasarhelyi, E. (Director). (2019, September 25). Cas Holman: Design for Play alone (Season 2, Episode 4) [Netflix series episode]. In S. Dadich, M. Neville, D. O'Connor, J. Kamen, J. Wilkes, J. Spingarn-Koff, B. Cotner & L. Nishimura (Executive Producers), Abstract: The Art of Design
- Wasserman, A. (2004). The new design: human-centered innovation in products, communications, environments, experiences, processes, programs and policies and why design is too important to leave to designers. INDEX magazine: design to improve life, 6-(11)
- Wong, N. T., Zimmerman, M. A., & Parker, E. A. (2010). A typology of youth participation and empowerment for child and adolescent health promotion. *American Journal of Community Psychology*, 46(1), 100-114. <https://doi.org/10.1007/s10464-010-9330-0>
- Zimmerman, E. (2015). Manifesto for a ludic century. The gameful world: Approaches, issues, applications, 19-22.

Spaces of Commoning: Critical Reflection on Urban Commons (in ex-Yugoslavia)

Keywords: Commodification,
Urban Commons, Spatial Resources,
Self-Management.

Iva Čukić^a,
Jovana Timotijević^{a*}

^a*Ministry of Space Collective,
Belgrade, Serbia*
^{*}jovanatimotijevic88@gmail.com

With the imperative of constant economic growth, cities and their development have become paradigms for the intensive exploitation of resources and accumulation of capital. Decrease in urban public spaces and their privatization, residential segregation, prioritization of construction investments over public interest – all have transformed city planning, which is often unable to perceive and push for alternative solutions against the overexploitation of urban territory and the increase in inequalities, caused by the very logic that drives the political economy of today. As a response to ongoing processes within neoliberal capitalism, the commons in urban contexts have thus (re)emerged as a potential driver of wider socio-economic transformation. The ex-Yugoslav region also reflects these global tendencies, but with some specific features. This paper aims to critically reflect upon this specific context through analysis of contemporary spatial processes that challenge the contemporary economic logic and power relations, through presenting part of the study conducted in Serbia, Kosovo and Montenegro.

1 Introduction

Entire cities world-wide are becoming more increasingly the sites of spatial segregation and social inequality through different state- and market-led mechanisms - from privatisation of land or various public services, deregulation of planning and construction processes, enclosure of public spatial resources through explicit or hidden manoeuvres, etc. As a response to such processes within neoliberal capitalism, the commons in urban contexts have thus (re)emerged as a potential driver of wider socio-economic transformation.

The very concept of the commons, popularized with the work of Elinor Ostrom, refers to shared resources and social practices maintained by communities in a sustainable way (Ostrom 1990). However, building on Ostrom, authors such as Helfrich, Linebaugh, De Angelis, Stavrides, Harvey, and Marcuse have offered somewhat different positions on how the commons are defined, and have also articulated a normative set of criteria that include equality, resilience, social cohesion and social justice, re-signifying the commons as a framework, invaluable to the establishment of radical democracy and just social transformation. Such politically charged understanding of commons also informs the study that will be presented in this paper.

Namely, research scholars from Serbia, Kosovo and Montenegro have joined forces to map and analyse some of the spatial practices and struggles in their local contexts - examples of collective actions challenging the existing capitalist regime and power relations. Borrowing part of the title from the book *Spaces of Commoning: Artistic Research and Utopia of the Everyday* (Baldauf et al. 2016), the study was envisioned as a context-specific investigation of the transformational spatial practices based on the normative aspects within the *critical theory of commons*, but also in relation to the legacy of Yugoslav self-management and societal property. These case studies reinsert the values of solidarity, collective governance and collective property into societies that have undergone a rapid transformation to capitalist states on the European periphery. Rather than romanticizing the concept, the study aimed to substantially rethink and unpack the notion of urban commons within a specific context "burdened" with the recent socialist history.

As Ulrike Hamman and Ceren Türkmen (2020) stated in their article on spatial struggles in Berlin, our collective position was also that of a researcher deeply immersed in urban struggles for the commons. As the Ministry of Space collective has been dedicated, for a decade now, to building self-organised collective and spatial commons, we do not write from the position of a typical scholar-researchers, but as well the very protagonists of some of these struggles. We thus did not strive for full objectivity, but rather have drawn on our own involvement and knowledge gained

through experience of participation, as well as through reflection on the resultant challenges, failures and impacts. In this way, we aimed to contribute to a responsible research approach where knowledge was not simply extracted, but has been and is yet to be shared, amplified and further developed within the communities represented in the research.

2 Urban Commons

2.1 What is Urban in Urban Commons?

The urban commons discourse evolves from the economic theory of common-pool resources (Ostrom 1990), subsequently applied to the context of the city (Susser and Tonnelat 2013; Harvey 2012). Ostrom's theory and the rules for common-pool resources were developed in primarily localized rural contexts, and so the dense human-made environments of the city brought with them new socio-political contexts for the commons to exist within (Felstead et al. 2019, p.4). The revival of the commons in an urban context is linked by Harvey to:

“the seemingly profound impacts of the recent wave of privatizations, enclosures, spatial controls, policing, and surveillance upon the qualities of urban life in general, and in particular upon the potentiality to build or inhibit new forms of social relations (a new commons) within an urban process influenced if not dominated by capitalist class interests.” (Harvey, 2012, p.67)

The *neoliberal forms of urbanization* (Brenner et al. 2012) have inevitably been followed by social stratification, making the social costs of this neoliberalization process most visible in the lack of affordable housing and in reduced social and public services. The principle of treating space as a potential or real investment, rather than asserting a basic right to decent shelter or public space endangers not only the reproduction of everyday life in the city, but also *bare life* itself. Against such a background, cities are becoming new arenas in which people organize and fight for justice, equality and real democracy (Hancox 2015).

Nevertheless, it is important to mention that the concept of urban commons fits differently in globally distinct socio-economic systems, and different uses of this term make it almost impossible to apply one generic definition across all the different existing and emerging urban commons. For critical urban theorists (Brenner et al. 2012; Marcuse 2009) various forms of civic activities are emerging all around the globe, mobilizing in common pursuit of alternatives in opposition to capitalist urban development. Hence, urban commons are about collectively appropriating and regulating the shared concerns of the everyday (Dellenbaugh et al. 2015, p.10). The growing number of urban commons shows that they are at once the product of the city and a producer of urban space. Thus, initiatives that reclaim and/or transform public space, alongside

self-organized neighbourhood centres, squats and anti-gentrification struggles triggered by everyday urgent needs, all play an important role in shaping practices of urban commons.

Rather than understanding urban commons as just a spatial resource or asset, we look at it as a social practice through a verb – *commoning* (Harvey 2012, 73). Space (as a resource) within the urban commons discourse is both a social product and a prerequisite for social interaction. What constitutes urban commons is actually a *process* of space creation that unfolds through the practices of commoning. Furthermore, such practices produce new relations between people and through the set of spatial relations they create *common space*. (Stavrides 2016)

Finally, several authors (Harvey, Stavrides, De Angelis, Susser and Tonnelat) portray urban commons as a discourse that arises from the *right to the city* concept that constitutes a social and spatial justice platform in opposition to forms of domination in today's cities: "as the right of *all* inhabitants (present and future; permanent and temporary) to use, occupy, produce, govern and enjoy just, inclusive, safe and sustainable cities, villages and settlements defined as common goods". (Global Platform for the Right to the City, 2016, internet)

As such, urban commons stand as an alternative to speculation and commodification or as a form of resistance to the enclosing forces of state and capital. Still, bearing in mind the social inequalities and spatial segregation present in cities, this is also a demand to have the right to *participate* in urban life, from the perspective of the excluded and marginalized (Dellenbaugh et al. 2015). Feminist perspectives particularly remind us to always retain an awareness of our privileges and reflect on how open and accessible the struggles for commons or practices of commoning are, especially to those directly oppressed, to those whose even most immediate needs are not fulfilled: the homeless, the hungry, the imprisoned, those persecuted on gender, religious and racial grounds (Marcuse 2009). The urban commons thus must pursue this right, as it represents a *collective* re-appropriation of urban space, where the city becomes the arena of struggle for *our* housing, public infrastructure, health care, education, parks, waterfronts and so forth.

2.2 Relation Between the Common and the Public - Against, with or instead of?

Through analysing the recent literature on urban commons (Dellenbaugh et. al 2015; Borch and Kornerberger 2015; Ferguson 2014), Huron points out an additional important aspect – the relationship between public space and the urban spatial commons. The tension lies in the question of relations between property, power and social relations or in the relationship between the urban commons and public urban planning. This body of literature conceptualizes urban public space as collective resources and a form of commons - ranging from local streets and parks to public spaces

and a variety of shared neighbourhood amenities (Foster 2013, p.58). Carol Rose distinguishes between two types of public property to distinguish between the public and the commons - public property owned and managed by a government body, and "public property collectively 'owned' by society at large with claims that are independent of and superior to government" (1994, p.110).

Yet, for Harvey (2012) it is necessary to retain the sharp distinction between public spaces as a "matter of state power and public administration" on the one hand, and public spaces as urban commons appropriated by means of political action on the other. He argues that, in order to be equal to commons, resources such as water, public spaces, and sanitation services must be re-appropriated by the people by means of political action. For Harvey, this is what makes the crucial difference between public spaces/goods and commons. Public space holds a certain political power in relation to the state, while the commons possess the means for the public's effective social control. In particular since the public spaces are constantly challenged by commodification and usurpation, typically through privatization and enclosure. Harvey (2012) acknowledges that public space can become an urban commons if a collective - and often political - movement takes ownership of them.

When reflecting upon the experience of urban commons, one has to accept that these practices can and did lead to historically contingent and ambivalent results - the "privatization of commons", commodification or co-optation of the commons (Timotijević 2018). In cases when commons are being *enclosed* by a certain community in a way that this community wants to keep the resource within its own control and limits, one can speak of "collective private" spaces (Stavrides 2016, p.4). Similarly, there are examples in which the common production of space is in fact just a phase in the building of a resource that transforms into a private ownership allowing inclusion of the resource in the real-estate market (in particular, some cooperative housing practices represent such examples). Finally, numerous examples of common spaces to which different public functions are being assigned (such as culture and the arts) could be considered one of the *constitutive inconsistencies* of capitalism - uncommodified resources that permit social reproduction in the interest of capital. In addition, some common spaces produce gentrified neighbourhoods, supporting toxic *urban renewal* strategies, accompanied by gradual limitations of access to members of the local community.

On the one hand, such examples corrupt the concept of the commons and decrease its political and transformative potential. But on the other, they do remind us of the constant urge to (self-) question and critically consider models and practices that promise radical change. It is important, thus, to keep searching for strate-

gies and practices of commoning that are sustainably egalitarian and inclusive.

3 The Context of the Former Yugoslav Region

In the ex-YU region, as a European periphery, it may be argued that enclosure has been the driving force of expanding capitalist relations, pushing struggles for the commons to the centre of political mobilization (Dolenec et al. 2013, p.2). Yet, actions based on the logic of the commons were present long before its articulation through the contemporary theoretical framework of Ostrom and others. Tomašević offers a brief and insightful overview, in the 2018 study *Commons in South East Europe*, of commons-related institutions and practices in this region prior to WWII, including the specific form of family *cooperatives*, mainly characteristic of agricultural organizations (2018, p.59–60). However, here we would like to place an emphasis on the post-war period and its unique historical, social and economic organization, which was quite relevant for the concept of commons and which represents a specific collective experience in this particular region.

3.1 'Commons' of the Socialist Yugoslavia: Self-Management and Societal Property

After WWII, more particularly after the break with the Soviet Union in 1948, Yugoslavia developed a globally distinct socio-economic system of *self-management socialism*. It represented a unique existing economic and political system that appeared in counter-distinction to both state socialism (with its primacy of public property) and state capitalism (with its primacy of the market and private property), but at the same time it did not completely transgress either of these, thus generating numerous contradictions and challenges.

An important part of this project was the development of the concept of *socially owned property*, i.e. societal ownership of all means of production. Despite already limiting private property and pushing for state property over the means of production and institutionalizing cooperatively owned property in the 1946 Constitution, it was after the split with the Soviet Union that state property changed status and became societal property, in line with the new system of self-management. The later 1963 Constitution officially declared societal property and self-management as “supreme values in all aspects of social life” (Tomašević et al. 2018, p.61). Despite being introduced in a top-down fashion by the official ideologues and functionaries of the League of Communists, self-management initiated the decentralization and dispersion of political power into smaller units (Sekulić 2012, p.19) in which workers had the formal possibility to take part in decision-making, but also to improve the deficiencies of the central planning system, which was unable to meet the needs of the people (Unkovski 2014, p.9). Besides the political representation, the enterprise’s capital was channelled into investment funds oriented toward the different needs of workers and the enterprise itself – toward a *common* interest. However, it has to be said that this model had its

ambiguities as well. On the one hand, the whole self-management system was designed so that power could be decentralized and the League could not directly influence workers' councils. Yet on the other hand, in practice its influence was much larger through its power to appoint the enterprise management or through the trade unions as well (Pateman 1972, p.92).

The housing policy of the time reflects both of these main features of the Yugoslav socialist system, in terms of its production and distribution. The overall goal was socialist and egalitarian – the provision of subsidized housing for Yugoslavia's industrial workers – even though in practice, the system was somewhat more erratic. The cornerstone of the Yugoslav housing policy was the construction of socially owned housing: apartment buildings that were built with enterprises' funds and bank credits and distributed to employees in urban areas of Yugoslavia for use at subsidized prices. For as long as the apartments remained socially owned property, the tenants would have a life-long *right of occupancy*. The new socialist model treated an apartment as a basic worker right and was not considered a commodity, as prescribed in the Regulation on the Management of Residential Buildings in 1953 (Sekulić 2012, p.20). The interest of the population, in an ideal-type case, was protected by legislation wherein the formulation of the "right to housing" accented the non-commercial, that is the use (rather than exchange) value of apartments. The right to housing thus effectively meant that society as a *collective* was responsible for providing housing for all citizens.

Unfortunately, after the economic reforms of the mid-1960s began, which more explicitly introduced the (impossible) attempt to mix a socialist state and market logic, over time the market elements prevailed and in 1989, self-management was officially denounced, failing under the pressure of efficiency and growth. While economically unevenly developed and unstable, political tensions between governments in different Yugoslav republics grew into what became a final disintegration process.

After 1990, in most of these soon-to-be-independent states, nationalist forces came to power bringing war conflicts, economic devastation and political and economic transformations. The strong nationalist agendas were accompanied by the restoration of capitalist relations. However, it is important to note that this post-socialist transition represented a "neoliberal turn" from real-socialism to a *periphery* capitalism (Balunović 2019). Namely, in the former Yugoslav region, as a European periphery, it may be argued that "accumulation by dispossession" has been the driving force of expanding capitalist logic, in a very condensed manner, to ever new domains of society. The politics of austerity and the accompanying drive for continual privatization and commodification have been jeopardizing public governance both of natural resources such as

3.2 Post-Socialist Transformation: Towards De-Collectivization and Commodification

water and land, and of publicly managed services such as education, healthcare or the media. As all social spheres are pressured into demonstrating their short-term economic value, private ownership has invariably been presented as a superior solution.

Harvey (2001) explains how capitalism in crisis needs a “spatial fix” so surplus capital can finally be invested in physical space where it can secure a satisfying profit rate in order that surplus labour (the unemployed) can be put back inside the production process. Former Yugoslav cities have thus overnight become a spatial framework both for the accumulation of new capital and its rent, and for the materialization of surplus capital in the real-estate market. The global financial crisis hit hard on this region, which was so efficiently deindustrialized after socialism and dependent on financial services and real-estate markets. These structural problems, however, cannot be resolved in the European periphery.

Furthermore, these political and economic processes were accompanied by an intensive stigmatization of the socialist period (of course outside of the academy, or rather, outside of the academic left). This was alongside the imposition of a discourse of privatization, deregulation and financialization as the pathway to becoming the “developed West that we have been lagging behind” (Todorova 2005, p.145). Socialism was presented as a case of being astray, referring to all socialisms as if they are a monolith and an authoritarian, even totalitarian one. In that way, this legacy of self-management and societal property in former Yugoslav societies in fact became a major obstacle to advocating for the entire horizon of contemporary forms of collectivity – collective ownership, production or distribution (Tomašević et al. 2018, p.64).

Stuck between the condition of being a peripheral capitalist economy amidst growing populist nationalism, the former Yugoslav region continues its turbulent existence. The increasing role of austerity policies and measures, especially after the global crisis, gradually brought about a severe reduction in the welfare state, or what was left of it after the post-socialist period, with a radical shift toward a more market-oriented and market-dependent (de)regulation, followed by the growth of unemployment, brain drain, the rise of xenophobia and other harmful effects on people’s lives and societies as a whole, further deepening existing tensions in the region.

4 Urban Commons Practices and Struggles in Serbia

However, such urgency has generated practices that appear as emancipatory, while the concept of commons re-actualized by Ostrom and others that followed, offered not just the conceptual apparatus to articulate what those practices and struggles are, but also legitimized wider public attention to the socialist legacy as well. Movements, organizations, and locally based community initiatives took the role of occupying and creating urgent spaces for providing social services in a context of scarcity, as well as experimenting with

different forms of the community-based management of resources and co-production, thus having an increasingly significant role in opening up new perspectives for social and political transformation. In addition, such efforts were achieved through regional cooperation (referencing former Yugoslav societies), which were especially valuable in times of nationalist tendencies. These practices *reintroduce* solidarity, equal access, common decision-making, cooperation in production and just distribution. But even more importantly, these practices create new political subjects. It is precisely this kind of subjectification and emancipation process that has undoubtedly, and regardless of the numerous justified ex-post criticism, already been inscribed once in our relatively recent history – during the period of socialist Yugoslavia.

4.1 Struggles Against the Commodification and Privatization of Social Reproduction

Reacting to direct manifestations of the official strategies to commodify different spatial aspects of social reproduction that were once guaranteed as accessible and free (housing, community centres, public squares, etc.), citizens are initiating movements that resist such tendencies and struggle not only for changes regarding particular space, but rather contextualising the struggle in broader political, economic and social transformation.

One of such struggles is represented in the initiative Don't Let Belgrade D(r)own. Being the Serbian capital, Belgrade has demonstrated over the previous decade the most explicit impact of neoliberal policies urban development - fast-paced land development and new constructions in order to accumulate (mostly foreign) capital, yet also acting as a quick injection to the state economy via temporary employment and tax money. While, on the other hand, such development occurs via untransparent and often corrupt procedures where the benefit is solely particular, rather than for the local community or citizens of Belgrade.

The Belgrade Waterfront project was first presented in 2012 during an election campaign, followed by a big comeback in 2014, as a vision to turn a devastated and neglected – but possessing high potential – part of central Belgrade, into a 2-million square metre commercial complex consisting of hotels, office buildings, luxury apartments, the largest shopping mall in the Balkans and a Dubai-style 200-metre tower. The project was promoted as a ticket-out-of-crisis to a country in which thousands of people's permanent-housing needs are not met, and where the number of people below the poverty line is increasing daily. In order to realize such a mega-project, both state and the city authorities have abused their power on multiple levels - modifying the Master plan in order to make the project legal, evicting hundreds of families living on the site (leaving many of them without permanent housing) and ordering illegal clearance of the existing buildings on the site in the 2016 election night.

This has mobilised a great number of activists, including the Ministry of Space collective, to initiate a struggle against the Belgrade Waterfront project. *Don't Let Belgrade D(r)own* initiative used various strategies and tactics depending on their effectiveness, as well as risks and resources. The movement organised series of street actions, as well as institutionalized forms of resistance and intervention, but moreover, it managed to raise the public attention and organize series of massive protests gathering between 10 000 and 30 000 citizens, demanding accountability for the actions that were taken towards the realization of the mega-project. Protests continued over 2017, pointing out that, more broadly, new politics and institutions have to be created. In that respect, the *Don't Let Belgrade D(r)own* transformed into a political platform running for 2018 local elections. From the reactive resistance to a single project, the initiative has profiled itself as a municipalist platform with the commons-based agenda and managed to get almost 3.5% of the votes in spite of the scarce resources and structural constraints.

Another initiative - *Joint Action Roof Over Head* - is also worth mentioning in the context of urban commons struggles. Against the background of the financialization of housing in Serbia, resulting in an increasing number of indebted citizens, already burdened with extremely volatile working conditions and uncertain jobs, the initiative started in 2017 as the reaction to massive forced evictions. These evictions have turned out to be another lucrative area that has been heavily corrupted, as the service of law enforcement has been privatised through outsourcing to bailiffs-entrepreneurs. Thus, the right to housing was explicitly denounced by the Serbian authorities through the institutional and legal framework.

Through direct action of obstruction of enforcement of eviction, members of this initiative have shown persistent solidarity with those whose only home has been taken away. However, in addition to this aspect of their struggle, movement's position is clearly oriented toward revealing the power relations and capitalist conditions that stand behind this *housing condition*. Normative criteria behind the commons have been an ideological framework of the initiative. On the one hand, they advocate for the de-privatization and decommodification of housing, as well as the promotion of publicly owned and citizens-governed resources and pursuit of the common interest. On the other, in spite of challenges that come with of broad and diverse membership, the *Joint Action Roof Over Head* initiative has been structurally organised as a common itself. Its democratic structure and decision-making process, as well as allocation of the organisational resources have demonstrated dedication to the continual building of the counter-hierarchical infrastructure.

Another group of practices that were analysed within the research study include spaces that were produced and maintained through the practice of commoning, among which one of the most paradigmatic is the social-cultural centre Magacin.

As a result of the transition and transformation of the system towards a market economy, many publicly owned spaces have been left unused or abandoned, alongside an absence of policies concerning the use of those spaces. It can be said that the first glances of resistance to such conditions and problems appeared in the field of independent culture, whose activities re-thematized culture as a conceptual field encompassing various struggles across all spheres of social life, from work and production conditions, through to social rights, defence of public goods, to articulated resistance to the commodification of public services and the character of the public sector. The idea behind creating the centre Magacin thus appeared with the ambition of initiating a change in the sphere of politics, but also in the sphere of the organizational structures of the institutions themselves, which – through its implementation – was aimed at establishing a new, potentially replicable model of organising and management (Čukić et al. 2019, p.12).

Placed in the former storage space of the Nolit publishing house, the Magacin users' community, constantly growing from 2007, is comprised of numerous organizations and individuals in the field of contemporary culture, but also in areas of wider social significance, such as urban development, environment and sustainable development, human rights, education, media and similar. All these users act and use the common space via the tool of open calendar that allows them unhindered access to and equal conditions for work and production of the programmes. Magacin is governed horizontally through managing bodies such as the Users' Assembly and the Coordinating body. The centre is committed to and respects the principles of participatory decision-making and the transparency of decision-making procedures, rules and processes.

5 Conclusions

All of the examples within the study (that far exceed in number and diversity the only few ones that have been presented in this paper) clearly demonstrate that *building* (in both a physical and political sense) a more just society for everyone must rely on increasingly direct bottom-up action. This has become manifest through a series of struggles for the de-commodification of public land and resources; claiming housing as a right against the exclusively market-led housing distribution; with practices that have created common spaces that are democratically governed or, finally, practices that establish and sustain a commons infrastructure that defies laws of interest and economic growth.

Although few of these groups are acquainted with the contemporary discourse of the commons, and they do not necessarily

explicitly frame their struggles and practices within it, they do, however, demonstrate the values of solidarity, equal and fair access and sustainability, which correspond to the normative criteria that Silke Helfrich, among others, proposed within the commons critical theory. They also initiated a radical critique of the political economy of capitalism, and affirmed principles of direct democracy, participation and solidarity that lie at the heart of commons struggles (Dolenec et al. 2017).

However, although the commons might not be the focal, self-identifying concept within these emerging practices, one common observation in all the contexts covered by this study is that the notion of commons is, in fact, increasing its presence in public discourse, gradually replacing the notion of the *public* good. We assume that this transformation is happening due to continual practices of the enclosure of public space, and generally public resources, as part of the neoliberal paradigm of urban development. By recognizing that the *public* is certainly in crisis, the *commons* is more frequently used instead, in order to emphasize the communal, democratic right to use or govern certain spatial resources.

When exploring the ways in which the specific context of the Yugoslav self-management experience in recent history influences the contemporary practices and struggles based on the logic of the commons, we were surprised at how implicit this relationship is. Aside from the very few initiatives that have been developing a strong politicization strategy and have thus positioned themselves openly on the left of the political spectrum, others have not identified with the historical self-management model. Rather, they find their own practices of democratic governance and self-management to result from an organic development of bottom-up initiatives and solidarity groups. Bearing in mind the persistent institutional efforts over the past decades to denounce the socialist period of Yugoslavia, such a position was very much predictable.

What we perceive as the most significant political potential of these struggles and practices is twofold. First, by addressing everyday experiences and citizens' needs, these urban commons have politicized the spheres of our social reproduction that have not been conventionally perceived and treated as political. By connecting cultural needs, use of public space or housing to the notion of *rights*, as well as to models of governing or ownership, these cases have opened new fronts within the fight for more radical political change. Furthermore, what has been officially strategically treated as economic inevitability towards an overall improved living conditions – such as growth of investments or massive privatization of production and services – and thus depoliticized, has been through these practices re-questioned and opened to deliberation. And secondly – and even more importantly – by mobilizing a wide range of people who are not necessarily interested in conventional poli-

tics, as well as those who are existentially forced to focus on their own survival rather than on the political affairs of the entire society, these examples have created new political subjects and have awakened wider agency in the struggle for a more just redistribution of resources and different system of production and social relations.

By *occupying* urban space in order to advocate for common interests, and by proposing – and often delivering – better solutions concerning how these spaces should be used and governed, these communities have provided a new framework for community engagement in the ex-YU region. Moreover, they have often created a ripple-effect by mobilizing and motivating other communities to modify and apply their model (or initiative) as a struggle or practice of their own. This showed that change is possible outside of the realm of traditional partisan politics, and they have brought effective political engagement into the streets of our cities and settlements.

Finally, as a reply to the very legitimate question that David Harvey often poses, of the limited potential and scope of commons-based local practices, we believe that these cases with their diverse resources and strategies and in spite forced compromises and uncertain perspectives, still persistently demonstrate that potential. In the globalized world where forces of commodification and capital expansion mercilessly invade our societies, bottom-up resistance, however local, does *intrude* and can also multiply, and internationally join forces with other struggles so as to become a commoning infrastructure that could counterforce capitalism.

References

- Baldauf, A., Gruber, S., Hille, M., Krauss, A., Miller, V. Verlič, M., Wang, H.-I. & Wieger, J. (Eds.) (2016). *Spaces of Commoning: Artistic Research and Utopia of the Everyday*. Cambridge: MIT Press.
- Balunović, F. (2016). O fenomenima procesa privatizacije u Srbiji [On phenomena of the privatization process in Serbia]. In Vesić, D., Baković-Jadžić, M., Vukša, T. & Simović, V. (Eds.), *Bilans stanja – doprinos analizi restauracije kapitalizma u Srbiji* [Contribution to the analysis of restoration of capitalism in Serbia] (pp.83–143). Beograd: Centar za politike emancipacije.
- Borch, C. & Kornberger, M. (Eds.) (2015). *Urban Commons: Rethinking the City*. New York: Routledge.
- Brenner, N., Marcuse, P. & Mayer, M. (Eds.) (2012). *Cities for People Not for Profit. Urban Critical Theory and the Right to the City*. London and New York: Routledge.
- Cukic, I. & Pekic, M. (2019). Magacin as a Common Good. In Cukic, I., Dimitrijevic, A., Gunjic, L., Knezevic-Strika, L., Mijic, J., Pekic, M., Popovic, A. & Radulovic, S. (Eds.), *Magacin: A model for a self-organized center* (pp.10-16). Belgrade: Association Independent Cultural Scene of Serbia.
- Dellenbaugh, M., Kip, M., Bieniok, M., Müller, A. K., & Schwegmann, M. (Eds.) (2015). *Urban Commons: Moving Beyond State and Market*. Berlin: Birkhauser Press.
- Dolenc, D. (2013). Socialism and the Commons. *Open Democracy*. Retrieved December 4, 2020, from www.opendemocracy.net/danijela-dolenc/socialism-and-commons
- Dolenc, D., Doolan, K. & Tomašević, T. (2017). Contesting Neoliberal Urbanism on the European Semi-periphery: The Right to the City Movement in Croatia. *Europe-Asia Studies*, 69(9), 1401–1429.
- Federici, S. & Caffentzis, G. (2014). Commons Against and Beyond Capitalism. *Community Development Journal*, 49, 92–105.
- Felstead, A., Thwaites, K. & Simpson, J. (2019). A Conceptual Framework for Urban Commoning in Shared Residential Landscapes in the UK. *Sustainability*, 11, 6119.
- Ferguson, F. (Ed.) (2014). *Make Shift City: Renegotiating the Urban Commons*. Berlin: Jovis Verlag.
- Foster, S. R. (2013). Collective Action and the Urban Commons, 87 *Notre Dame L. Rev.* 57. Retrieved December 5, 2020, from scholarship.law.nd.edu/ndlr/vol87/iss1/2
- Global platform for the Right to the City. (2016). *Right to the City*. Retrieved November 19, 2020, from www.uclg-cisd.org/en/activities/right-to-the-city/Global-Platform-for-the-Right-to-the-City
- Hamann, U. & Türkmen, C. (2020). Communities of struggle: the making of a protest movement around housing, migration and racism beyond identity politics in Berlin. *Territory, Politics, Governance* 2020, 1–17.
- Hancox, D. (2015). How to Stop Gentrification in London: What We Can Learn from Spain's New Rebel Mayors. In Krytyka Polityczna & European Cultural Foundation (Eds.), *Build the City: Perspectives on Commons and Culture* (pp.80–85). Amsterdam and Warsaw: European Cultural Foundation and Krytyka Polityczna.
- Harvey, D. (2001). Globalization and the 'Spatial Fix'. *Geographische Revue*, 3(2), 23–30.
- Harvey, D. (2012). *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso.
- Hoyer Bruun, M. (2015). Communities and the commons: Open access and community ownership of the urban commons. In Borch, C. & Kornberger, M. (Eds.), *Urban Commons: Rethinking the City* (pp.153–170). New York: Routledge.
- Huron, A. (2017). Theorising the urban commons: New thoughts, tensions and paths forward. *Urban Studies*, 54, 1062–1069.
- Marcuse, P. (2009). From critical urban theory to the right to the city. *City*, 13 (2–3), 185–197.
- Mattei, U. & Quarta, A. (2015). Right to the City or Urban Commoning? Thoughts on the Generative Transformation of Property Law. *The Italian Law Journal*, 303, 2–15.
- Ostrom, E. (1990). *Governing the Commons: The evolution of institutions for collective action*. Cambridge: University Press.
- Pateman, C. (1972). *Participation and Democratic Theory*. Cambridge, UK: Cambridge University Press.
- Rose, C. (1994). *Property and Persuasion: Essays on the History, Theory, and Rhetoric of Ownership*. Boulder: Westview.
- Sekulić, D. (2012). *Glutz Nicht So Romantisch – On Extra-legal Space in Belgrade*. Maastricht: Jan Van Eyck Academie.
- Susser, I. & Tonnelat, S. (2013). Transformative cities: The three urban commons. *Focaal: Journal of Global and Historical Anthropology*, 66, 105–132.
- Stavrides, S. (2016). *Common Space. The city as Commons*. London: Zed Books.
- Timotijević, J. (2018). Common(ing) Space: Fragments of Reflection on Urban Spatial Commons. *Communiqué*. Retrieved December 2, 2020, from readcommuniqué.co/one/commoning-space
- Todorova, M. (2005). The Trap of Backwardness: Modernity, Temporality and the Study of Eastern European Nationalism. *Slavic Review*, 64, 140–164.
- Tomašević, T., Horvat, V., Midžić, A., Dragšić, I. & Dakić, M. (Eds.) (2018). *Commons in South East Europe: Case of Croatia, Bosnia & Herzegovina and Macedonia*. Zagreb: Institute for Political Ecology.
- Unkovski Korica, V. (2014). Neke lekcije jugoslovenskog radničkog samoupravljanja za antikapitaliste danas [Some lessons from the Yugoslav workers' self-management for anticapitalists today]. In Kostanić, M. (Ed.), *Dva desetljeća poslije kraja socijalizma* [Two decades after the end of socialism] (pp.8–25). Zagreb: Centar za radničke studije.

Acknowledgements

We would like to thank other researchers that have contributed to the study - Njomza Dragusha and Orbis Rexha from Kosovo, Sonja Dragović and Tatjana Rajić from Montenegro and Božena Stojić from Serbia, but equally the members of the initiatives that have been presented through the research. The research was conducted and published with the support from the Heinrich Boll Foundation.

Telling Stories on Commoning with Design of Models and Simulations

Keywords: Commoning, Computational modelling, Urban Neighbourhood, Experimental Design, Storytelling.

Selena Savić^{a*},
Yann Patrick Martins^a

^a*Institute for Experimental Design
and Media Cultures, HGK FHNW Basel*
*selena.savic@fhnw.ch

This paper will present learnings from a 4-year SNSF-funded research project (2018-2021), exploring commoning initiatives through regular exchange with three housing cooperatives from Switzerland. In close cooperation with them, we developed four agent-based models as visions for dividing up work needed to care for common spaces and resources in a sustainable way. We affirm computational modelling as a design praxis that can address commoning as a world-making activity, and explore mechanisms that would challenge or restore the stability of community life simulated in this way. Our models are not to be understood as prediction-oriented systems, but rather as a process of designing thinking tools, or toys by which we are creating ways of being. What kinds of controls can prevent extraction of resources from the community? What personal strategies bring more harmony to the group and how much does individual behaviour affect it? We address these questions and propose some preliminary conclusions about the entanglements of labour with value extraction in commoning activities that are best addressed through stories.

Contemporary questions on destruction of habitat and future governance can be viewed as a crisis of distribution of resources. Commoning initiatives propose to radically rethink this. Commoning is an emotional and laborious activity pursued as a form of resistance to rampant privatization on one hand, and the perceived hegemonic governance of the state on the other. Indeed, commons-based economy and commoning are proposed by many as an alternative to neoliberal consolidation of economies, a resilient form of governance (Bollier & Helfrich, 2015; Gibson-Graham et al., 2013). The work we discuss in this text is an exercise in depicting simple aspects of governance in an imagined community. We expose the power of computational modelling, and by it also the power of design to contemplate outcomes of social dynamics and community-based rules. In *Designs for the Pluriverse*, Arturo Escobar (2018) speaks of the necessary reorientation of design in order to address what he identifies as two most urgent problems: destruction of our habitat and the crisis of modernity (civilizational model).

Commoning is the starting point in exploring design of agent-based models (ABM)^[1] in our 4-year SNSF-funded research project (2018-2021). We understand model-making as an 'ontological' process of designing tools for a pluriverse, which in Escobar's terms (and in terms of his sources, HCI researchers Terry Winograd and Fernando Flores), is always also about creating ways of being. The capacity to develop and visualize long-term visions is a recurrent process in which communities design their world, which designs them in return, as pointed out in theorizations of ontological designing (Willis, 2006).

The modelling process described here is informed by our regular exchange with three Swiss housing cooperatives in the form of workshops: Warmbächli from Bern, LeNa from Basel and NeNA1 from Zurich. The three initiatives are part of a wider movement, Neustart Schweiz, which promotes reorganisation of living and habitation around the principles of sustainability, economic independence and degrowth. The foundation and philosophy of these initiatives is informed by the utopian novel *bolo' bolo*, a proposal for radical rethinking of ways to live together that focus on the self-organisation of neighbourhoods. Searching for an ecologically and socially sustainable way to overcome the aforementioned

[1] Agent based models (ABM) are software-based simulations that are composed of two abstract categories, agents and environment. By coding the interaction between agents and environment into an algorithm it is possible to model various natural or social phenomena. From the modelling of the crystallisation of salts to the flocking of birds, ABMs are used to explore the complexity of systems, and also to observe emergent behaviours. Rather than starting from a deterministic theory of the system as a whole, agent-based modelling works from bottom up and enables expected and unexpected patterns of behaviour to emerge. In terms of studying communities, such simulations are good at showing how individual actions contribute to and depend on the community as a whole.

contemporary crisis, Swiss author Hans Widmer, under the pseudonym P.M.[2], tells stories about a distributed network of 'bolos' (neighbourhoods), inventing new words for new concepts of sharing and cooperating in a future society. P.M. 's vision abandons our current 'planetary work machine', in favour of degrowth and lifestyle that is negotiated with others. The cooperatives we work with do not yet live together, but they have negotiated some of the rules for future living together based on these stories. It can be hard to imagine how their unconventional, anti-capitalistic, community-driven ideas about self-organised, sustainable living will unfold.

The starting point in our modelling process is the question of shared work - ways to keep track of voluntary work contributions and a story about an important figure in one well-known housing cooperative from Zürich. The story goes that there was a certain Iris, who became central to day-to-day issues in the community. Everyone believed in her judgement and her conflict management capacities. The others did not need to know how she arrived at her conclusions; she was simply always fair. We heard this story at one of our workshops, and decided to model an entity that would know how to best distribute tasks, keep track of what was done and maintain the community harmony. This distribution of work became the main ambition in development of our models, under the common name of *Ämtli Management System* (AMS).

We created four agent-based models that simulate a community of 50-200 people who use and maintain a common. In the models we represent people as agents who are able to either work or rest. Our models articulate concerns about ways to divide up work by keeping track of how much time individuals dedicate to common tasks, as well as different (centralizer or decentralized) ways to communicate across the community. We simulate two paradigms of control: driven by individual agency (agents acquire and accumulate the right to rest once they complete a task) and collective agreement (a common pool of working hours that agents divide evenly, which we refer to as time-banking). We also explored two ways of assigning tasks: through a centralized communication system (like an AI-powered *Whatsapp* group/COVID-19 tracking app) and through agents' own simulated movement across space, taking up tasks in their proximity. The resulting four models are: Time Accumulation (TA), Time Banking (TB), Spatial Time Banking (STB) and Spatial Time Accumulation (STA), as illustrated in Fig. 1 below. The first two models (TA&TB) are problematizing the distribution of tasks in time, while the second two models include space in a twofold manner: as a parameter of proximity to the resource that needs to be managed, and as resource itself, which gets used up through the agents' movement.

[2] P.M. are supposedly the most common Swiss initials, suggesting a dose of anonymity and generality for the author's proposal.

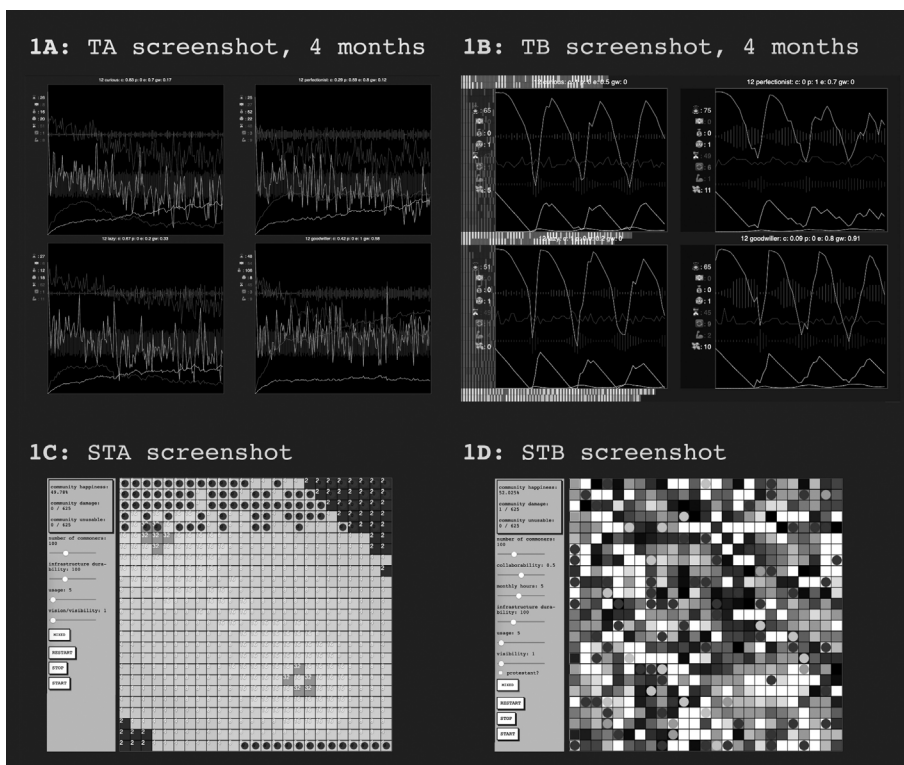


Fig. 1: The four models: Time-accumulation (TA, top left), Time-banking (TB, top right), Spatial Time-accumulation (STA, bottom left) and Spatial Time-banking (STB, bottom right).

What kinds of controls can we have in order to prevent extraction of resources from the community? How is communication articulated in the model: centralized or decentralized? What personal strategies bring more harmony to the group and how much can individual behaviour affect it? How does putting value on work subvert regulation (or the other way around)? We will address these questions by offering two perspectives on the models: the first one, *from tragedy to comedy*, is about the community balance and control mechanisms that disrupt it or restore it. The second perspective is questioning *individual strategies* and their capacity to significantly affect the model.

2 Commons: From Tragedy to Comedy

Let us try to imagine a housing cooperative living in a building they designed for themselves. Their main concern in this story is the distribution of care and maintenance tasks, in a similar way to how chores have to be distributed within a household. How could community members fairly distribute such tasks in a community of over 200-300 people? What if part of such negotiation resulted in a control mechanism by which commoners are allowed to refuse a task if they have earned enough resting time by working, de facto creating a time market with working hours as input and resting time as output? We will refer to this resting time as time-coins with the ambition to emphasize the interchangeability of one's labour contribution.

In the first agent-based model, the Time Accumulation-based (TA) *Ämtli Manager*, we started from an idea of a system that could allocate tasks to agents in a fair and efficient manner. The external global indicator of community *harmony* and *happiness*[3] is the level of stress, represented cumulatively for the entire community (see Fig 1A, yellow line). For each task they would do, agents would ‘earn’ some time-coins (see Fig 1A, red line) that they could use the next time they are called to do a task. Agents could therefore refuse to work in order to rest, or they could decide to swap the assigned task for another one they prefer doing.

The TA simulated community was working without major disturbances. Indeed, it was hard to perceive anything interesting in its operation until we started thinking about disruption. Then, by putting a limit on the number of time-coins, we started to observe some emergent behaviour. By adding such a limit, we could emphasize the possibility for agents to be ‘greedy’: accumulating most of the time-coins and never taking any rest. When initiating a simulation with a quarter of the community composed by such ‘greedy’ agents, the irreversible tipping point would emerge after a certain amount of time: community stress would increase toward its maximum value.

Such tipping point could be described as what Garrett Hardin would call the *Tragedy of the Commons* (1968). This drama has been developed by the author following the writings of Darwin, Adam Smith's *Wealth of Nation* and a pamphlet written by a young mathematician named William Foster Lloyd, in which the author, more than criticizing the common in itself, wants to warn against overpopulation and its disruptive effect on the commons. The conclusion of the article is a call for “abandoning the freedom to breed” (Hardin, 1968, p.1248). How Hardin envisions such tragedy is similar to what happened in our model by programming agents that want to maximise their gain and limiting the resource of time-coins. The herdsmen described by Hardin ruin shared common land by adding too many animals to their herd: “[f]reedom in a common brings ruin to all” (p.1244). In a similar way, because the number of time-coins is finite, not using them becomes a form of privatisation of the common. Therefore, the freedom of the agent to accumulate as much time-coin as possible results in the tragedy for the others, as the time-coins accumulator agents remain untouched by such drama.

A different way to keep track of time would be to measure labour contribution as time, and form a common time-bank: a practice already in use by some of the communities we worked with. In

[3] We use “happiness” here not as a reference to emotion, nor as a normative concept, but rather to describe a more or less harmonious situation, which in our models is expressed by an abstract value we named “happiness”.

time-banking, each person has a certain amount of time to contribute to the common tasks each month^[4]. When we articulated individual contribution in terms of a fixed, and equally distributed time contribution, such as we did in the TB model (see Fig 1B), without much surprise the simulated community was operating smoothly. We then tried to problematize such a system by introducing 'schedule stiffness': instead of distributing the hours over the month, the agents would be 'selfish' and decide to use their working hours at the beginning or end of the month. Nevertheless, even such a configuration, in which agents would be sometimes forced to execute tasks outside of their planned schedule would not lead to any disruptive tipping point.

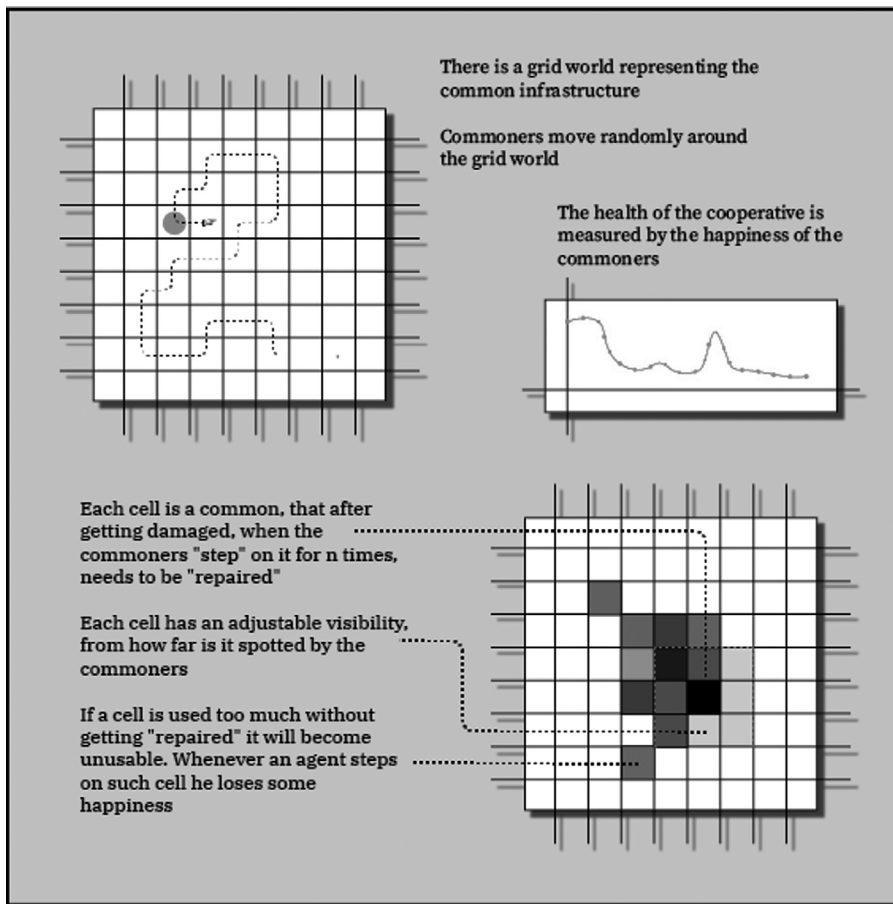
With the first two models we learned that, even though we tried to destabilize our simulated community's sense of fairness and satisfaction using similar mechanisms - competition over the way the agents use time - it was significantly more difficult to get the TB model out of balance and reach a recognizable tipping point by which the state of the model would change. By comparing those two modes of keeping track of and commoning time we could observe that the simulation of time banking system is more resilient to the pressure of a possible tragedy caused by behavioural traits of individual agents.

2.1 The Disruptive Power of Value

The second version of models explored the use of space where the agents live, providing a new perspective on community dynamics. Contributing previous interest in common tasks distribution and work being done, we included space across which the agents move as an abstract resource that localizes work. Each cell represents a part of the common land that is used by the agent stepping onto it, and needing some care work whenever it gets used up. Instead of being called by a centralized system to execute a task, agents could decide which task to pick by randomly walking on a grid world (fig.2).

[4] Such a system for example is in use for composting in a site in the Sankt Johann area in Basel. This composting site requires that each member contributes each month with a couple of hours of work in order to churn the organic waste inside the composting bins. This system therefore balances individual contributions in terms of hours that needs to be contributed on a monthly basis. Instead of a monetary reward from their labour the commoner here is granted the exemption of waste taxes, as they do not use the public waste management service.

Fig. 2: Diagram of actions in the STB and STA models.



The main difference between the two new models is that in the Spatial Time-accumulation (STA, see Figure 1C) model the value of the task is distributed in an exponential way creating a sort of value landscape, while in the Spatial Time-banking (STB, see Fig 1D) model repair work is counted evenly across all cells. The development of strategies according to different behavioural traits has been left out in these two models. Therefore, the re-enactment of the *Tragedy of the Commons* through the time-coin system was not possible. Nevertheless, other forms of disruption have emerged in these systems. An interesting emergent behaviour could be observed by the comparison of the two simple models: how the attribution of value to repair work would influence the movement patterns of the agents. Opposite to the STB where the agents move randomly across the grid-world, in the STA the agents tend to congregate toward the cells with higher value, despite being programmed with a similar random walk algorithm. Instead of reproducing the *Tragedy of the Commons*, a community striving for highly retributed tasks was operating without disruption, because there was no limitation on the accumulation of such value. The most interesting behaviour that emerged in such a model was the fact that the agents would be nudged toward certain parts of the common grid space, while leaving part of it untouched. To conclude, as soon as we introduce resource repair value, it becomes a way to control the movement

of the agents. This is not an effect we would like to affirm, but we recognize the potential of that mechanism to regulate the system in which agents would otherwise move freely, and we would need to signal that some resources require more attention or work.

The STA model can thus be a powerful tool to envision going through moments of disruption in the community. In a real community, where everything is working really well, we could imagine such disruption when COVID-19 hits, or acid rain and shortage of food happen, things over which we do not have any control. If then the community would continue to practice the same self-organized way of doing things, it might experience bigger problems, or even disappear. By adding value to things that are of critical importance in such moments - whichever is the best way to decide on this - we get actually a powerful way to regain control in a crisis. The question is, of course, when does one exert this power of controlling, and what they do with it, as it was well shown in the otherwise average Hollywood production, *Our Brand is Crisis*^[5].

3 What Can an Agent do? Individual Strategy and Impact

The two families of models discussed so far (TA&TB and STA&STB) have shown us how community dynamics plays out in terms of global conditions, such as the use of their time (accumulation or banking), general strategies ('greedy' or 'stiff'), measured as the level of stress across the community. We will now look at the models from the perspective of individual contribution and the possibility for any personal strategy to have a significant impact on the community.

3.1 Overworking Agents

We described the conditions in which the TA model produced stable simulations: without limits on time-coins and particular balance in individual agent strategies. We will now zoom into the ways in which individual strategies and behaviours change the balance and impact the simulated community. In the first prototype of this ABM we implemented the possibility to adjust the behaviour of the agents according to four parameters: curiosity, perfectionism, endurance and goodwill. Here is where the above-mentioned traits influence the decision making of the agents:

- *Curiosity* describes how heterogeneous the working history of an agent is: an agent with more curiosity will be more likely to accept a task different from the one previously done.
- *Perfectionism* is the opposite of curiosity: it is the tendency to do the same task over and over until the agent is very skilled in such a task.

[5] *Our Brand is Crisis* features Sandra Bullock in the role of a political consultant who helps the controversial and corrupt president of Bolivia get re-elected with the campaign about crisis matched only by his powerful charisma (and fist), only to start campaigning against him after the victory <https://www.imdb.com/title/tt1018765/>

- *Endurance* describes the resistance to stress; these agents tend to rest less.
- *Goodwill* describes agents that tend to take task with higher value[6].

According to how such traits were balanced within the community, agents' micro-decisions were able to create a tipping point in the simulation. We already described how 'greediness' of so-called *goodwill* agents affects the whole community, through privatization of time to rest. One could of course build in some sort of regulation into this system, prescribing the necessity to take a break (like we have with the obligation to take vacation days in current year prescribed by the employer). A more interesting way to counter the perceived *tragedy of commons* would be for other agents to adopt the least *enduring* behaviour, and thus to rest whenever they can, which reduces overall stress even if it does not lead to 'earning' more time. We could also observe that *perfectionist* agents tend to overstress, because they would take preferred tasks from one another. Maximising the counterbalance parameter - curiosity was not found to have a significant effect on the level of stress in the community.

The TA model setup was initially conceived as a sort of a provocation: to articulate commoning through an economy of exchange. The provocation was addressed to the notion of commoning perceived as the stabilizing agent in the otherwise wild neoliberal economy, driven by individual greediness. By negotiating the exchange among agents, we imagined that they could possibly reach a sustainable form of stability. It is possible that we proved this wrong by coding the behaviour of the greedy agent. The ambition was to say that the exchange can be something that can be made explicit, as opposed to being considered a form of privatization. Accordingly, the exchange of time for rest is not necessarily best expressed as accumulation. It was initially supposed to be the way to compensate for having the choice to work or not work. We then observed that we could run simulations in ways in which accumulation was not possible, and agents were still getting overworked. The exchange can thus be expressed as balancing out or as an accumulation mechanism, which can both be articulated with the expectation for the system to be fair, as long as markets are free. Markets have of course never been free in actual reality.

3.2 Vision and Collaborability

The inclusion of space as a resource, and more importantly as a factor that determines how agents learn about and take up tasks, provides another way to look at the same system. This step in our modelling process (STA&STB) brought out different ways in which

[6] In our ABM, the tasks with higher value were the tasks that nobody wanted to do, therefore the term *goodwill* describes an agent who "sacrifices" themselves into doing less preferred tasks.

the simulated community tends to get out of balance. The emerging tipping points were around what we called 'vision' and 'collaborability': how much of the surrounding space can an agent perceive, and how likely they are to share a task. If, on one hand, an agent has a large field of 'vision' - if one sees too many things that need to be repaired, this raises the level of stress, of feeling overwhelmed. While in the first models (TA&TB) we had sort of a centralized system that tells agents what to do, in this second version, (STA&STB), the assignment to a task is deregulated by an agent's individual decision. We do this by taking into account the agents' closeness to places where there is a task to be done. If the agent actively 'finds' tasks, then we are in a decentralized system in which the initiative and also the personal strategy of agents matter. This imaginary agent can be a super sensitive person who sees a lot around themselves, or have a very narrow vision, and not see so much. The agent who perceives too much work to be done is more easily overwhelmed by attempts to repair and collaborate with others. With 'collaborability', we did the opposite of problematizing things: we tried healing. We proposed that whenever an agent shares a task with somebody, they become more *happy*: a person's vision becomes also the way in which they collaborate more or less easily with others.

When 'collaborability' and 'vision' are not tuned properly, the simulation shows a rapid decrease in the general happiness of the community. In its technical appearance such emergent phenomena are linked to the fact that higher vision means that the agent is more aware of its surroundings, and therefore sees more tasks to be done, leading to more stress, and also more conflictual situations in which the agent has to negotiate collaborations with more or less success. With a larger field of 'vision' and 'collaborability', the agents do many tasks, and they are generally happier. Of course, there are a lot of other problems in this simulated community, but there is some sort of incentive in doing things together. The unhappiness resulting from poor tuning of collaboration and vision can be interpreted outside of its technical reality. We could question the role of vision as awareness of the surrounding as a possible stress inducing factor. In counterbalance, collaboration counts towards increasing 'happiness', a healing mechanism that promotes working with others.

4 Telling Stories on Commoning with Design

Our work on models as thinking toys creates a channel for communication between imaginary reality and *real* reality - what a community envisages to do, and then makes a plan, an agreement (artificial) and how we perceive that plays out (reality), Despite the ambition to report on this and write proper ODD protocol (Grimm et al., 2010) and other ABM-specific techniques (concept model, data structure and flow diagrams), there have always been a lot of unspoken assumptions and rules that surface more strongly when we think about narratives and stories. Conversely, the observations

we made of our models are the result of artificial interactions, purely constructed, showcasing emergent phenomena that are completely made up. How are they feeding back into 'reality'?

In her ethnographic work on the concept of number, Helen Verran praised storytelling as 'reliable ways of managing complexity'. She explored how numbers are conceptualized by different people involved in science education, and the need for keeping stories - rather than stable and fixed theories - in play. The powerful storytelling method of Anna Tsing, discloses the entanglements of microworlds such as the life of a mushroom, woods in a forest and migrant workers from Vietnam. These accounts keep the threads entangled, able to unfold in any direction. By constructing entanglements between people and resources, between rules and control, between individual agency and community-based outcomes, stories on commoning promote a different kind of complexity and even encode the relationships across ideas, collaborations, complications, and matters. Storytelling, when done masterfully, engenders convergence of actors around shared interests and such as the demand for ecosystem maintenance, typical for Neustart Schweiz commoning initiatives, and inspired by Hands Widmer's writing in *bolo'bolo* (P. M., 1983) and *Neustart Schweiz – So geht es weiter* (P. M., 2008).

We have seen how our modelling process reduces complexity of everyday life into observable patterns and what we can learn from it. We couple this with observations of narratives that create or flow out of this work, such as the *tragedy of commons*, or the *prisoner's dilemma* and try to tell simple stories. Without wanting to go into the discussion on complexity and realism of our models, which is well described by Batty and Torrens (2001), we aspire to create bridges between real-world narratives on commoning, such as the story on Iris, and future imaginaries. What stories can we tell with ABMs?

The two generations of models demonstrate how individual behaviour can be constrained (or not) by a regulatory mechanism, bringing the simulated communities into a harmonious or disrupted state. Individual behaviour in the TA model affects the stability more significantly than in STA and STB models - agents who tend to overwork cause an overall increase in stress, with no control mechanism to counter that. In TB, no specific individual or group behaviour strategy seems to be able to importantly disrupt the system. TB is therefore less dependent on individuals. Conversely, the best way to manage the common in STB appears to be through rules on the level of the common (common hours per month) and not on the side of individuals (individual work or collaboration strategy). By changing where regulation is placed in our models, we displace the perception of its imaginary problems.

One of our intentions is therefore to challenge the idea that value or incentive in modelling is inherently bad or that it only leads to exploitation or injustice. There is clearly a need to channel this control or value assignment towards some positive outcome for the community. Significantly, in a community where the numbers of people who have a say is much lower than in more general society, it is easier to decide when control is needed: to implement regulation from time to time.

The four models discussed in this text operate as *catalysts for thinking through* two distinct *systems of governance*: accumulation and banking. We consider keeping track of time-accumulation (TA) as a system of community governance that is attuned to making individual contribution - both in terms of freedom and responsibility - more pronounced. Time-banking, on the other hand, is a system of keeping track of time that pertains to community governance through commoning time, and other resources, which appears to be harder to influence by individual strategies, and harder to destabilize in general. This other way of articulating community governance opens the discussion towards more global disruptive measures, such as the introduction of value in STA.

The other important distinction we addressed with this modelling process is communication across the community - how is information shared and how we model this. The initial idea was to decentralize decision making, which is a typical use case for the type of computational modelling we work with. Nevertheless, although we did not programme a central intelligence explicitly, there had to be a central intelligence of some kind in the models that were focused on time only (TA&TB): information centrally available to all agents about which tasks are calling and how much they are worth, made for an immanent centrality of an imaginary Iris. In the second iteration of the models (STB&STA) the space articulates decentralization. Not everybody can be in the same place at the same time, and not everybody knows about what is going on in each cell of the model. Without the space as a factor, there is no constraint to everybody knowing that a task is urgent or that it has this value.

Stories we tell with our models are not neutral. This problem is recognized already in the ABM research. Hamill and Gilbert (2015) show this well with their modelling work on cow grazing in alpine pastures. They challenge the practice of modelling the *tragedy of commons* based on the *prisoner's dilemma*^[7], a narrative of a real-life situation that brings into the play more than just the self-interest of rationally behaving agents. When abstracted to represent an economic behaviour (the best way to optimise one's profit), half

[7] Prisoner's dilemma is a classical Game Theory example for rational behaviour of two people trying to maximise their own profit, which most likely results in both of their loss. See more here <https://www.investopedia.com/terms/p/prisoners-dilemma.asp>

of the work is already done by the ethical qualities of such a setup, in which both prisoners are actually guilty and not particularly equipped to cooperate. The importance of stories is often overlooked in modelling endeavours, where mechanics of modelled interactions and their cross-compatibility have primacy over the meaning of such tales. The overall morale or context of the story is rarely questioned. Can we say in all seriousness that it is 'neutral' to model common based on the prisoner's dilemma? Cooperation, which is impossible for prisoners, is indeed allowed and even explicitly appreciated in commoning, even if it is not clear how exactly cooperation emerges. We concentrate on these moments of cooperation not as prediction or prescription, but as valuable examples of how things could unfold. Our preferred scope of contribution therefore remains in the domain of fiction, hoping to inspire and engender deeper understanding of these engagements rather than write definitive guides as to how people should live together or solve immediate problems. The communities we work with did not gather around efficient rule-making systems but around shared reading of *bolo'bolo* and *Neustart Schweiz*. Our models can hopefully help write new stories, new episodes of commoning.

References

- Batty, M., & Torrens, P. M. (2001). Modelling complexity : The limits to prediction. *Cybergeo : European Journal of Geography*. <https://doi.org/10.4000/cybergeo.1035>
- Bollier, D., & Helfrich, S. (Eds.). (2015). *Patterns of commoning*. Common Strategies Group.
- Escobar, A. (2018). *Designs for the pluriverse: radical interdependence, autonomy, and the making of worlds*. Duke University Press.
- Gibson-Graham, J. K., Cameron, J., & Healy, S. (2013). *Take back the economy: an ethical guide for transforming our communities*. University of Minnesota Press.
- Grimm, V., Berger, U., DeAngelis, D. L., Polhill, J. G., Giske, J., & Railsback, S. F. (2010). The ODD protocol: A review and first update. *Ecological Modelling*, 221(23), 2760–2768. <https://doi.org/10.1016/j.ecolmodel.2010.08.019>
- Hamill, L., & Gilbert, N. (2015). Tragedy of the commons. In *Agent-Based Modelling in Economics* (pp.214–233). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118945520.ch10>
- Hardin, G. (1968). The Tragedy of the Commons. *Science*, 162(3859), 1243–1248. <https://doi.org/10.1126/science.162.3859.1243>
- P. M. (1983). *Bola'bolo*. Verlag Paranoia City.
- P. M. (2008). Neustart Schweiz: so geht es weiter.
- Willis, A.-M. (2006). Ontological Designing. *Design Philosophy Papers*, 4(2), 69–92. <https://doi.org/10.2752/144871306X13966268131514>

Acknowledgements

This publication was supported with funding from Swiss National Science Foundation for the project *Denkspielzeug für Commoning* with the number 175913.

Digital Tools for Collaborative Design Processes

Keywords: Digital Tools, Online Collaboration, Design Processes, Collaboration Design, Interface Critique.

Moritz Greiner-Petter^{a*},
Merle Ibach^b

^a*FHNW Academy of Art and Design,
Institute of Experimental Design
and Media Cultures*

^b*FHNW Academy of Art and Design,
Institute Integrative Design*

*moritz.greinerpetter@fhnw.ch

Diverse practices of collaboration in design, research, teaching, or academia increasingly rely on digital online tools to facilitate processes of working and creating together. But a lot of the available digital platforms are not necessarily designed with the particular needs of these respective practices in mind. Rather, they might focus on commercial contexts, be built on limiting assumptions about work practices and collaboration, or simply lack capabilities for a substantial support of specific knowledge and creative practices within more diverse collaborative settings. In this paper, we take an exemplary look at three widely-used digital collaboration tools and their capacities and limitations to support collaborative design processes in particular. We aim to highlight a few of their embedded dispositions and built-in understandings of collaboration, creativity or productivity and suggest some aspirations for alternative designs.

1 Introduction

Over the past year, many of us working in the various fields of design practice, education, research or academia were confronted with and, more than ever, relied on a plethora of online communication and collaboration tools. The maintenance of our professional and personal lives to an unprecedented degree where subject to an infrastructure of digitally-mediated services and applications. And for many, it might at once have made more apparent the social, spatial and technical conditions on which collaborative processes may depend.

This landscape of digital communication and collaboration tools to be encountered, for a large part, already existed before the emergency of a global pandemic deemed them essential. At least since the 1980s, the ideas, concepts and aspirations behind “groupware”, as this category of software was favourably labeled at the time, were clearly articulated (see for instance Bullen & Johansen, 1988). Many of these early groupware concepts we see realized as full-scale, affordable and readily available solutions in everyday online tools today. Like a lot of end-user developments in computing, the initial ideas around *collaborative software* stemmed for a large part from a world of business and office work practices as the primal scene for popularising personal computers. These contexts informed conceptual genealogies of and socio-technical imaginaries within computing that then become encoded in the design paradigms and metaphors behind specific implementations. As Nolwenn Maudet notes on the example of the desktop metaphor, still prevalent in many personal computers, “[i]t was not any kind of office that inspired this design, it was a executive secretary office, occupied with copy-editing, file organization and focusing on production and efficiency.” (Maudet, 2017, under “Tools’ Myths”) And she adds, “[a] type of work very different from what is generally considered design work.” (ibid.) Similarly, the collaborative digital media environments we find ourselves in today are not neutral facilitators for universal collaborative processes. They come with their own built-in dispositions, mentalities and understandings of work, communication and collaboration practices. As such, they inevitably structure and shape ways of working and organisation, modes of expression, creative processes, group dynamics and so on. Thus, the design of digital tools for collaboration has implications as an operationalised and infrastructural form of the *design of collaboration* itself.

During 2020, we conducted an exploratory teaching and development project called “Co-Lab” at the FHNW Academy of Art and Design (led by Dr. Christine Schranz at the Institute Integrative Design). Together with design students of diverse disciplinary backgrounds, we explored the role and potentials of digital tools for the support of collaborative design processes in particular. Based on shared experiences and discussions, the aim of the project was to

develop novel approaches for tools in that space. The initial motivation for the project came from our own frustrations as designers with the available software landscape as a lot of existing tools don't support the particular needs arising within our own design and research practices. Especially in the context of design teaching that *Co-Lab* was starting from, we missed tools that foster a deliberate experimentation with non-prescriptive forms of collaboration. As the majority of available mainstream tools in our view heavily focuses on commercial design business practices and workflows in professional teams, we see a lack of consideration for the wealth of practised design processes that don't necessarily perform within these logics.

Against this background and as an approach for a productive critique, we want to take a closer look at existing digital tools for design collaboration to examine their capabilities and limitations in supporting those processes. By pointing out some of their embedded conceptual and design paradigms, we aim to highlight their built-in dispositions of designing together. So what understandings of collaboration and creative practice are configured, imagined, and promoted through common digital collaboration tools? How are these notions prescribed, deliberately or unwittingly, in the features and (in)capabilities, design principles, modes of organisation, aesthetics, and rhetorics of these platforms? And how then, do these paradigms relate to the possible needs of a specific and diverse field like that of collaborative design?

In the following, we look closer at three widely-used commercial tools for the support of collaborative work practices, namely *Google Docs*, *Miro*, and *Figma*. These tools differ quite a bit in their specificity of use, features, target users, and their relation and positioning towards 'design'. In our perception though, they are commonly used or at least referred to by design practitioners and teams to various degrees and at various stages of design processes. *Google Docs* and the wider *Google Workspace* is an online office productivity and document management suite, that in our own experience has become a common default platform for organising collaborative work of all kinds, design projects included. *Miro* is an online visual whiteboard environment that heavily borrows from concepts and aesthetics popularly associated with design methods. Its visual working style might be a reason it appears as generally appealing to design practitioners. *Figma* is an online interface design tool, resembling software tools known to graphic designers and is most explicitly targeted to design professionals in this list.

Google Docs and the related office applications of *Google Workspace* (formerly known as *G Suite*) are a set of closely integrated office productivity and document editing tools targeted at general purpose collaboration needs. Google's ecosystem of web-based office tools might be among the most widely-used online collabora-

2 An Analysis of Existing Collaboration Tools

2.1 Google Docs: Whose Defaults?

tion platforms, with at least the cloud storage service they are running on reportedly having one billion active users in 2018 (Lardinois, 2018). The suite of tools for word processing, spreadsheets, or slide presentations are for a large part straightforward functional replications of commonplace office tools most users are generally familiar with. This familiarity also might have helped Google's platform in becoming so well established (other factors might be a large amount of users already being in Google's ecosystem and an extensive functionality offered by the unpaid version of the service). These known single-user tools are then augmented by collaborative features that allow users to freely share documents, work on them simultaneously, or add comments, all within the browser on any device. This integration of elementary collaboration capabilities (user management, sharing, comments, version history) for elevating conventional single-user applications into collaborative domains appears as a general pattern often encountered. It also represents a somewhat technically-guided design paradigm, meaning that it is primarily a linear extrapolation from single-user behaviour to multi-user contexts. But this general approach might not necessarily embody a particularly elaborate vision of what it means to work together and how this qualitatively different context of collaborative use could be facilitated by digital tools more meaningfully.

The popularity of the platform and the supposed familiarity of the supported document types and functionalities has made *Google Docs* into a low-threshold standard choice for a wide range of collaboration endeavours. In our own experience within our personal working cultures, the beginning of most collaborative projects nowadays is often marked by a new *Google Doc*. But its office work heritage operating within a document metaphor also tends to preformat processes in various ways. For one, you start with a blank document prepared to hold a range of separate pages that digitally mimic white office paper formats. To some degree, you start with a clearly framed idea of the form of the result you are going to produce in such an environment. More crucial though, most document types in the Google platform are text-focussed. As such, they privilege textual modes of expression and contribution, not only for the actual content within the document but also for ways to react to and negotiate collaborative work, through comments for instance. This general tendency may subsequently also shift the attention to aspects of a project work that also can be best captured by writing. Which similarly privileges certain competencies, characters and working styles in a group. Within design processes, more diverse knowledge and media practices that might be additionally favoured by design practitioners are at risk to be neglected, as they are not as straightforward and easily supported within conventional document formats. For instance, working with large amounts of visual media material in similarly discursive ways as you would with text is disproportionately harder in *word processing* environments.

Furthermore, as is the case with most document-based platforms of this kind, the shared files themselves are often the most tangible and perhaps only facility for where collaboration is carried out. Creating a shared document in many cases serves the primary purpose of creating a space and a referenceable representation for a collective task that otherwise would not exist. The in-built features and formatting capabilities of the document editing tools (comments, in-text annotations, color and formatting schemes etc.) then have to become the main site for organising, communicating, negotiating, or discussing within a project. Additionally, as collaborative digital practices are commonly distributed over several separate platforms (one for main communication, one for concept documents, one for file and research collection etc.), it is difficult to 'locate' the project in a way that would create a shared and more supporting representation of the project structure, process, and dynamics, beyond scattered folders and files.

Thus, the 'defaultness' of tools like *Google Docs* might be deceiving and obfuscate the need for more varied and flexible digital formats of expression. A collection of documents might also be limited in creating a more graspable understanding and representation of a collective process. It would be worthwhile to explore further, what a default document format for collective design work would look like. And whether the document is the most adequate and insightful metaphor after all.

2.2 Miro: Confined Creativity

Miro is a web-based whiteboard environment, where several users can work simultaneously on a seemingly boundless two-dimensional "canvas" that aims to replicate the functionality of physical whiteboards. The work space can be navigated and zoomed like on a digital map. Users can create drawings, graphical shapes, text, diagram and media elements anywhere on the canvas and arrange or scale them freely, while in co-presence with other users that see changes happening live. As such, the interface at first appears relatively open and unbiased towards any specific working style.

In contrast to the openness and creative freedom suggested by the whiteboard interface, *Miro* is assertively intended as a business productivity platform, positioned as a complete collaboration hub for effective and efficient team work of not closer defined character. *Miro* is "Where ... teams get things done" and "Everything you need to do better work", supporting an "ideal and agile workflow", according to statements from the product's website (www.miro.com). Despite its name, which undoubtedly tries to evoke artistic aspirations, art production or experimental design practices are not among the featured use cases of *Miro's* promotional material. Rather, *Miro* represents the cultural shift of a general diffusion and normalisation of creative practices, methods, aesthetics, and mentalities within all types of professional work contexts and within the

productivity tools accordingly. The platform appears to be heavily committed to techniques and aesthetics associated with design thinking and related process methods or diagramming techniques. As a noticeable indication, *Miro* features a dedicated tool for creating sticky notes among the top three functions in its toolbar, which at least underlines a preference for certain styles and aesthetics of work, when considering all possible alternative choices for prioritising its core functionalities. Configuring and staging collaborative work and business practices as creative exercises per se we could read as a manifestation of a culturally imperative “creativity dispositif” (see Reckwitz, 2012). If participation in collaboration is constantly invoked as a ‘creative’ expression through the facilitating software environments, the sense of being and performing ‘creative’ becomes a perceived prerequisite demanded for partaking in collaboration.

As a core mechanism to contain its inherent potential for unregulated creative expression and to ensure its promised efficiency and productivity, *Miro* further employs templates. The use of templates is repeatedly suggested and recommended during the onboarding process, through in-tool reminders, or product update announcements. *Miro* templates are blank but prestructured visual configurations composed from the available text, graphic and diagram elements of the tool. The growing number of dozens of official templates are primarily based on various methods, diagramming techniques, or process models popular in business, ideation, product development, marketing, and similar contexts. The templates mostly contain a comprehensible and limited project task and often appear as complete and set structures, inviting to be filled out more than to be extended or reconfigured. One would expect the collaborative whiteboard capabilities of *Miro* to exhibit a tendency for messy and potentially unreadable arrangements, as users are able to place elements freely in space and scale without pre-given guidelines for organisation. To counter that, templates appear as a solution to fence in and regulate working styles and process formats, at the same time suggesting unorderly project processes as highly unpreferred. From the productivity perspective of *Miro*, templates reduce the possible friction and burden of having to negotiate and coordinate a shared understanding of the conventions of collaboration within the team in regards to procedures, formats of expression, the forms of contribution and so on. Instead, the templates ensure a general readability of the produced process documents compared to the idiosyncratic messiness the whiteboard logics would otherwise invite. They further aim to institute an instant compatibility between diverse team members by proposing established and popular process methods. Thus, *Miro*'s templates promise readily available and proven methodologies that are guaranteed to reproduce successful project processes in systematic and predictable fashion by any kind of professional team.

Thus, *Miro* at first offers a sophisticated whiteboard environment that is potentially appealing to design practitioners as it allows visually-oriented working styles that go beyond linear document types. Though the offered functionalities might not support design-erly media and knowledge practices particularly well, as for instance the arrangement and reorganisation of large amounts of visual material can become cumbersome. Moreover, the tool is clearly designed and communicated as a creativity-imbued productivity suite for business processes, while putting a lot of effort in containing its inherent creative potentials. The tool may thus feel both attractive and uninviting for many creative practitioners.

2.3 Figma: Flat Design

Figma is the collaboration tool most explicitly targeted towards design professionals in this list. It is probably one of the most prominent web-based design tools by now, as it features a quite sophisticated graphic design editor with functionalities that a lot of visual designers are familiar with from conventional mainstream design tools (like Illustrator or Sketch). The editor comes with a set of features specifically catered for interface design workflows. These design capabilities are augmented with the by now standard set of collaboration features (like sharing open design files live with other team members and invite them to comment or edit the designs for instance) as well as more context-specific collaboration features like sharing design assets across files and team members.

Figma is “Where teams design together”, according to the tagline on the product’s website (www.figma.com). Although ‘design’ in the case of *Figma* explicitly refers to interface design. The web-based design tool offers various screen design and interface prototyping capabilities that are emphatically targeted towards design teams working on websites, apps and other first and foremost digital, screen-based products. As such, it is a specialised tool particularly fitted to interface design processes. With digital products already being *Figma*’s targeted design output the tool captures a field of design that maybe more than others lends itself to being moved to a digital collaboration space in the first place. Other design disciplines, practices, or aspects of design processes might need much more effort and attention to be translated into online tools as effectively. Especially disciplines dealing with spatial, object-based, material, tactile and other sensory design qualities may encounter limitations in developing and representing their design process adequately in an environment like *Figma*.

It is further worth noting that the type of design output *Figma* is intended for operates in a somewhat rigid and regulated design space itself. The design of interfaces for websites and software applications is highly conditioned by conventions and user expectations, established design patterns and interface design guidelines enforced by operating system manufacturers. As such, *Figma* readily supports certain standard solutions and design patterns (like

default button behaviours or screen transitions). Compared to that, it takes noticeably more effort and creative investment to diverge from these suggested conventions to realize completely different understandings of how an app could behave otherwise. *Figma* as a specialized design tool is thus quite limited in its ability to support different design processes and disciplines that are not aiming at interface solutions, because those expanded practices may be inhibited by the overarching metaphors and workflows the platform privileges.

The suggested workflows in *Figma* also implicitly expect a separation of expertise domains within a collaborative team. On the value of its collaboration features the website states: “Invite folks into your design process – Enable others to add copy, grab specs, and give you feedback, so you ship better work.” (www.figma.com/collaboration). For one, the statement noticeably addresses a single user, in that case an interface designer, and the value they could gain from basically opening up their design files to colleagues. It further details how each “trade” in the team interacts with the design files from the perspective of their respective “jobs” in a project (the copywriter adds copy, the coder grabs specifications, everyone gives feedback from their side). Although this might be perfectly suited for how projects are organised in professional design and development teams, it might pertain less to other design project constellations, co-design processes, or participatory projects for instance. Here, the roles, distribution of expertise and responsibilities of collaborators and participants might happen to be much more overlapping, less defined, or changing shape over the course of a project. Furthermore, *Figma* promises to remove “all the bad parts of collaboration” and to get “everyone on the same page—literally.” (ibid.). Seamless cooperation is often presented as a question of just choosing the right tool. The visibility and transparency of shared working documents and design files is figured as the technically-delegated facilitator for creating commonality and consensus. But this notion might underestimate the dynamics, efforts and obstacles involved in developing a shared understanding within a collaborative design project. And it might similarly neglect the genuine creative and social potentials of such collaborative frictions. Therefore, it seems at least worth to ask and explore further what more radical understandings of “inviting folks into your design process” and “getting everyone on the same page” could be.

Thus, *Figma* at first offers a sophisticated and familiar set of online tools catered to design professionals. But its environment is palpably streamlined towards a narrow field of design workflows and outcomes. Namely interface design practices that are also already versed in working through digital formats and design materials. *Figma* further exemplifies a somewhat transactional and frictionless collaborative paradigm that might be common in many existing collaboration tools.

3 Summary

All of the tools discussed above of course lend themselves to various creative appropriations and opportunistic uses beyond and despite their suggested target use cases, aesthetics, or marketing rhetorics. As such, they undoubtedly could be incorporated productively at different stages of collaborative design processes of any kind. The simple collaboration features of *Google Docs* already elevate something like basic document editing to a potent and unforeseen collaborative infrastructure. A specialized tool like *Figma* may find its way into practices and design processes completely unrelated to interface design, as it offers partial features that designers in general may find attractive and can, to a limited degree, make productive in their contexts. Similarly, the visual working style of *Miro* might be conceptually appealing to design practitioners. But the overly general whiteboard functionalities may fail at supporting more specific and advanced designerly media practices, while the templates may offer only limiting characterisations of processes that design practitioners might find inappropriate for their practice. But the fact that designers make those tools more or less work in their collaborative practices, in our view, rather signifies the lack of and the demand for tools with more versatile and context-specific configurations of these appealing capabilities. But in ways that would be able to facilitate quite different aspects and ideas of collaborative design processes, that are better suited to the knowledge and media practices involved, and that support open-ended, non-prescriptive ways of how collaboration and design processes are supposed to work and look like. From our own experiences, designers then are often left to retreat to prevailing, more “general purpose” platforms (like *Google Docs* or *Miro*) and try to make them work for and within their practices. But, as we tried to show, these tools don't implement universally appropriate and applicable notions of collaboration, creative work or design processes, but come with predisposed tendencies for certain aesthetics, working styles, modes of expression or forms of organisation. These shape the practices and dynamics of collaborative processes they are scaffolding in possibly unpreferable and often maybe unconscious ways. As users and designers of such tools, we thus should be attentive to the question whether they support the kinds of practices and modes of collaboration we desire.

From our survey of exemplary platforms as well as informed by our wider discussions within the project *Co-Lab*, we derive a preliminary list of conceptual requirements for the design of prospective tools that foster different notions of collaboration and better support particular needs within collective design processes:

- Tools that are built upon the diversity of practised design processes apart from professionally normative or specialised workflows and domains of designing. Tools that embrace less commercially dominant working styles and project constella-

- tions, in also possibly less lucrative contexts like design education.
- Tools that offer more inventive and appropriate sets of formats not based on metaphors of office documents and business workflows or the primacy of writing. Tools that are better tailored to the diverse forms of knowledge, modes of representation, and media techniques through which design processes operate. And that find new ways in conveying qualities of design processes that are not as easily translated into digital environments.
 - Tools that give a sensible shape and a shared, manageable representation to a project beyond the fragmentation of distributed documents and activities across various platforms. Collaborative design processes can be fragile, messy, and open-ended and collaboration tools should be better able to scaffold that.
 - Tools that don't figure collaboration as a technical 'feature' or something to be 'solved' through technical means alone. Tools that allow to open up and share design processes and design process knowledge in more radical ways to enable participation and involvement beyond supposed roles and expertise.
 - Tools that create spaces and structures for negotiation, contestation, dissensus and friction within collaborative processes. Tools that don't understand their role merely as passive productivity instruments, but that also offer the means for procedures of collective group care and to encourage reflection on the collaborative process itself.

4 Conclusion

In this paper, we focussed on the context of collaborative design processes, assumed as both a specific and diverse field of practice. By way of reviewing three exemplary digital collaboration tools we tried to highlight some of their embedded metaphors, principles, and dispositions that in our view limit their suitability in supporting those practices fruitfully. The presented design patterns can be recognised more generally as paradigms to be found in other platforms as well. Thus, the broader argument is a plea for more inventive and reflective approaches towards the design of digital tools, that are able to scaffold collaborative design processes in their specific needs, procedures, and material-aesthetic practices. Novel tools that can productively facilitate a range of actually practiced modes of collaboration or even provoke advanced, experimental, or challenging notions of collaborative organisation and collective creativity. This also points towards the need for more empirical studies of the context-specific dynamics and requirements to be found in practised design processes. A closer praxeological reconstruction of collaborative creative and knowledge practices could accordingly inform more adequate tool designs. Lastly, the trajectories of critique drawn here through the lens of design processes could be applied to other specialised fields of practice as well, that might appear similarly marginalised by the

common use cases that most collaboration tools stem from and are targeted at. As digital collaboration tools are increasingly relied on across various professional and everyday practices, it seems essential to scrutinise their conceptual heritages and implemented mindsets in order to develop both more critical and viable alternatives going forward.

References

- Bullen, C. V. & Johansen, R. R. (1988). *Groupware: A Key to Managing Business Teams?* Center for Information Systems Research. Cambridge, MA: MIT.
- Figma. Product Website. Accessed December 18, 2020. <https://www.figma.com>.
- Lardinois, F. (2018). Google Drive will hit a billion users this week. Accessed December 12, 2020. <https://techcrunch.com/2018/07/25/google-drive-will-hit-a-billion-users-this-week/>.
- Maudet, N. (2017). *Designing Design Tools*. PhD Thesis in Human-Computer Interaction at University Paris-Saclay. Accessed November 30, 2020. <https://designing-design-tools.nolwenmaudet.com>.
- Miro. Product Website. Accessed December 18, 2020. <http://www.miro.com>.
- Reckwitz, A. (2012). *Die Erfindung der Kreativität – Zum Prozess gesellschaftlicher Ästhetisierung*. Berlin: Suhrkamp.

Acknowledgements

The project “Co-Lab” was funded by the “FHNW Lehrfonds” funding scheme for the support of projects in the context of digital teaching at the University of Applied Sciences and Arts Northwestern Switzerland.

Re-Imagining Commoning Infrastructures and Economies

Keywords: Material commons, Economic design fiction, Infrastructure, Calculation problem, Playful imaginaries.

Viktor Bedö^{a*},
Shintaro Miyazaki^a

^a*FHNW University of Applied Sciences and Arts Northwestern Switzerland, Academy of Art and Design, Institute of Experimental Design and Media Cultures (IXDM)*
^{*}viktor.bedoe@fhnw.ch

Today's sensing and computing capacity creates new potentials for material commons, commons that are not merely digital and which need to be transported between sites of productions and sites of use. The management of material commons, for example distributed cooperative power production or food rescue operations, has logistic and on larger scale economic implications. Today we lack obvious recipes for translating new technological affordances into design principles that allow for the injection of the values of commoning into the infrastructures organizing the commons. This paper investigates the kind of imaginaries in combination with situated design exploration that are relatable to everyday life but at the same time trigger relevant discussions about underlying infrastructural and economic layers. The paper outlines an example for a participatory design research format that builds on an infrastructural and economic design fiction and playfully engages with everyday urban life.

1 Introduction

Commoning, the practice of negotiating, managing and maintaining accessible resources for the common good, is enjoying a recent revival in debates and practices pursuing self-determined alternatives to the inequalities, contradictions, and threats of contemporary neo-liberal and capitalistic societies (Savic, 2020). While Elinor Ostrom's work mainly addressed natural commons (such as land use) which successfully can be governed in small-scale cooperation (Commons 1.0); commons 2.0 has developed over the past decades to cover the immaterial commons of knowledge and code, like Wikipedia or GNU licenses, where reputational mechanisms generate cooperation in the production and maintenance of public goods at a larger scale (Cila et al., 2020, p.2). Technology not only enabled the emergence of digital commons but today's distributed and networked sensing in combination with computing capacity also creates new potentials for material commons. Material commons here refer to commons that are not merely digital and which's management involves logistics, such as power production or rescued food. New technological potentials pertain to the managing and distributing of material commons and implicate questions about open, negotiable platforms, infrastructures and alternative economies.

Infrastructural services of The Big Five tech companies set today's technological standards which determine economic models, options for user interaction and even societal institutions (van Dijck et al., 2018, p.48). Although co-operatives and open-source projects constitute enclaves of anti-capitalism within capitalism (Davies, 2018, p.23) and the internal organization of large companies such as Walmart or Amazon provide proof for successful planning based operations (Phillips and Rozworski, 2019), from a concrete design perspective it largely seems to be an overwhelming project to challenge these economic and infrastructural conditions with the creation of open, negotiable, commoning-minded ones. Creating alternative imaginaries can provide designers, technologists, founders with the confidence that there is a choice to what systems they contribute to (Webb, 2020). In the last decades, the tools of fictional narratives or design fiction have emerged in combination with participatory approaches to create such imaginaries in design. In recent years more specific frameworks, such as economic design fiction (Davis 2018), have emerged along with calls for business model fictions, engineering feasibility study fictions, interop protocol specification fictions, investment return fictions (Webb, 2020).

This paper focuses on design fiction as a participatory tool for playful design explorations of infrastructures of material commons. More specifically, it explores techno-social preconditions of planning based/algorithm-driven economies as a backdrop for commoning. It outlines the role of fiction in creating such imaginaries and introduces a playful workshop format as an entry point for the

creation of such imaginaries. Doing so it builds on former work of the Thinking Toys for Commoning project about toys and play in the speculative investigation of commoning based urban futures (Savic et al., 2020) and borrows from economic design fiction templates (Kerspern, 2018).

2 Economic Design Fiction to Situated Play

“There was no way out. She had to keep eating this stuff. Four days and they were still delivering.” (Richardson, 2019, p.72) This is the beginning of a fiction about a city in the near future in which Deliveroo subsumed not only gastronomy under the extremely synchronised and optimized logistics business of fulfilling food orders, but gradually passed on the time pressure to customers through ‘synchronization’. If customers failed to synchronize their daily routines with the delivery service, i.e. be at home when the delivery arrived, the company forcibly compensated for its loss with penalty deliveries, for example several servings of bean tacos for days. Customers would pay back by picking up the cost for waste disposal. This is one of several fictions from the book “How to Run a City Like Amazon, and Other Fables” (Graham et al., 2019), which aims to prompt critical thought about neoliberal urbanism and digital networked technologies by pushing the logic of business models and technologies to an extreme. Also, the stories illustrate the inherent interwovenness of data driven technologies with respective business models and underlying modes of valorization and economic transactions.

Following through current trends of platform economies into future societies (i.e. extrapolating) overwhelmingly results in a dystopian outlook. From the perspective of designing responsible technologies based on privacy, agency, mutualism and equality, Webb emphasises the role of fictions that lay out a vision worth to choose:

“Dystopia is the extrapolation of the same old, same old. But utopia is a non-extrapolation, it requires a discontinuity. It requires all these different tribes [of marketers, retailers, supply chain experts, risk assessors, the MBAs, policy-makers and so on,] to choose to do something different, at great risk to their careers and livelihoods. If they’re going to do that, they all need to be shown that something different first, and shown how it’ll work.” (Webb, 2020).

Besides design fiction, Webb calls for business model fictions, engineering feasibility study fictions, interop protocol specification fictions, investment return fictions (Webb, 2020). An example for a fiction that critically investigates the affordance of distributed ledger technologies for commoning based economies is presented by Cila et al (2020). To explore the design principles that translate the affordances into concrete guidelines for the creation of blockchain-based systems to manage an artificial material commons, the authors employ the fictional narrative of a distributed power

grid in which production, use and transactions are managed by distributed ledger technology (Cila et al., 2020). Through evoking the use cases in the narrative the authors are able to identify design dilemmas in three areas - tracking, managing, negotiating - from which the third contains what we call human vs. algorithmic governance dilemma: how many decisions are communities happy to delegate to automatized systems vs. how many ongoing negotiations they would like to keep.

Commoning imaginaries are often entangled with post-growth economic scenarios, which also imply a new scarcity of several resources compared with today, which makes economic design fiction a helpful approach. It is another form of design fiction exploring alternative economic systems by mainly deriving from new abundance or scarcity scenarios (Kerspern, 2018, p.246). It furthermore investigates systemic shifts by fostering the discussion about questions such as How can we go there? How can we head to this preferable direction? Is it really a preferable situation? To whom? (Kerspern, 2018, p.245).

Economic systems dynamics unfold on larger levels that are not necessarily tangible on the level of people's everyday life. To introduce the human scale into new economic perspectives, Kerspern proposes three design fiction principles, namely everydayness, ambiguity and discussion (Kerspern, 2018, pp.244–45). Everydayness, the first, refers to the strategy to make speculation relatable by creating artifacts that easily embed into everyday experiences of stakeholders. As such, it establishes the scale of intervention with the artifact, even when the design fiction addresses larger and perplexing notions. Ambiguity, the second, refers to envisaging alternative perspectives, tackling controversial themes, and to develop provoking narratives for production and consumption; uncanny products or services invite embracing strange future setups (the new normal). Injecting material manifestations of future fictions into discussions, the third, with groups beyond expert communities, economic design fiction helps uncover fears, hopes and concerns about systemic shifts.

“By building economic design fictions, one has to make choices by adopting different perspectives from the views experienced on a daily basis. It is not about rehearsing what could possibly happen, but, in some way, it is still close to role-playing – meaning acting by impersonating someone else for a moment and in a particular possible future. [...] This is also what it means to find the human scale.” (Kerspern, 2018, p.260).

One of the most discussed alternatives to market economies are planning or planned economies. The theoretical debates here are quite old and are centered around the so-called calculation problem. In the 20th century the calculation problem evolved

around sufficient computing power and the availability of sufficient information about demand (if demand is not signaled and calculated by pricing). Currently available sensing and computing power in theory has the affordance to organise commoning of material commons on scale:

“Our contemporary ‘big data’ era, in which billions of us provide digital feedback constantly via our smartphones, shopping, online searches, swipe cards, social media use, and so on, would appear in principle to offer the most promising technical basis yet for a non-market solution to the problem of calculation.” (Davies, 2018, p.19).

Michal Rozworski and Leight Philipps in their monograph “People's Republic of Walmart” (2019) point out how Amazon provides the best examples of planning-based organizations. Amazon’s success in a huge part is backed by logistics, and its core function is the computation and calculation of the prices of products others produced.

The challenge our contribution focuses on is: Where are sensing and negotiation needed most? Where is the use value the highest to for consumption or as a resource to produce or create something? As sensing and computing do not seem to be the real bottleneck here, the challenge of identifying the appropriate planning and organization mechanisms that translate into commoning-minded design principles shifts into focus. In the next section we propose an economic design fiction based playful exploration to address the above challenges.

3 Case: Playing Food Rescue

Food Rescue is a hybrid - video call and street based - game addressing the challenge of local situative use value: the sensing and automation in connection to determining and assessing use value. The game’s fiction describes a near future world in which due to changes in regulations, food rescuing and commoning become more widespread. Slightly following the blueprint for economic design the game builds on a fiction of a new scarcity combined with a context hostile to scalability. The fiction puts the players in the midst of the development process of an algorithmic logistic distribution system for rescued food and the teaching of its respective machine learning algorithm.

3.1 The Fiction

In 2025 regulators cut the production and import of food with a high impact on climate and biodiversity by 50%. Food safety regulations still obliges shops to dispose of food after the ‘sell by date’. Due to the heightened demand for certain food products, the city has seen a surge of cooled rescue bins cropping up at supermarket backdoors, releasing a vast amount of food ready for rescuing. However, the brief time window until expiration, legal risk due to stringent regulatory requirements and bad scalability due to diverse

local circumstances deter commercial enterprises from entering the space. As a result, many community food rescue initiatives are emerging. One of them is the *AI-Drop Food Coop*. They are piloting an AI driven planning technology that orchestrates the pick-up and drop-off of rescued food, finds people, households or businesses for whom rescued food is most valuable and teaches the AI where to drop rescued food.

3.2 Playful Exploration

Rescuer, AI, and Commoners start in a video call. Depending on the number of participants players are divided into groups: a minimum of two *Commoners*, and a minimum of 2 *Rescuers*, and 2-4 *AI* players for each *Rescuer*. For example for 16 participants: 4 *Commoners*, 3 *Rescuers* and 3 *AI* players for each *Rescuer*. *Rescuers* will join the video call on their phones so they can roam the streets during the exercise/play, *AI* and *Commoners* stay at their desktops indoors. After becoming acquainted with the rules, each *Rescuer* and their respective *AI* players are assigned to breakout rooms (3 according to the above example; *Commoners* can join any room, as at this point they are only observing the events). When the exercise/play starts, *Rescuers* go out into the streets while *AI* players follow their moves in the respective 'breakout room' according to the rules explained further below. In the street *Rescuers* do fictional pick-ups and drop-offs of rescued food by sending 'video flashes' to their *AI* players. By default the *Rescuers* cameras are off while they are on the street; a video flash is a three second video about a place, object or person, that *Rescuers* send to the *AI*. For a video flash of a pick-up, *Rescuers* have to point their camera to a shop (or anything shop like). However, *Rescuers* are free to decide where rescued food can best be used and point their camera at buildings, corners, people accordingly. For about ten minutes *Rescuers* do pick-ups and drop-offs which *AI* players observe on the screen in the break out room of the video call. *AI* players try to figure out the *Rescuer's* thinking or rationale behind the drop-offs (pattern recognition/ learning). After ten minutes the *Rescuers* send their thinking or rationale behind the drop-offs to the *Commoners* in a private message. The *AI* players also send their guess on the *Rescuer's* rationale to the *Commoners*. The *Commoner's* task is now to decide, which *AI* group's guess was closer to their *Rescuer's* rationale. Optionally this round can be repeated one or two times to improve the 'pattern recognition/ learning'.

3.3 Game Rules

- The Rescuer: When you encounter a shop in the street, you do a pick-up of rescued food by sending a video flash (of 3 second) of the shop. Think about where (businesses, persons, households, corners etc.) and why you will drop rescued food. Find a place to drop the rescued food by sending a video flash of the corner, door, facade, person, etc. You must drop the food within 50 steps from pick-up or it will be wasted. After you have dropped the rescue food, you can do your next pick-up on encountering the next shop. On your way back: send

one sentence about where or why + your group number to the *Commoners*.

- AI players: Track your rescuer's pick-ups and drop-offs. Formulate a theory with your AI group about where and why the rescuer drops rescued food. Send one sentence about the theory of where and why the rescuer dropped food + your group number to the *Commoners*.
- The *Commoners*: Select one delegate who will receive private messages. After receiving the messages from the *Rescuers* and the respective AI players, discuss with all *Commoners* which AI got the closest match to the rationale of their *Rescuers*.

4 Preliminary Reflections

Earlier versions of this playful exploration were played in settings other than the explicit exploration and discussion of sensing and negotiating mechanisms of commoning infrastructures. In one of the sessions the rescuers have chosen a synagogue as a drop-off with the rationale that religious institutions might run soup kitchens. A corner with a cardboard-box and other signs that homeless persons might spend the night there was chosen. The AI players were rather good in guessing the Rescuers' rationale. Further learnings are expected from upcoming sessions with relevant groups of players, which allow time for more explicitly discussing the questions of commoning. At this point we propose that the playful exploration affords everydayness, as it is embedded in specific urban contexts that Rescuers have to engage and which delivers visual data snippets to the AI players. The playful exploration creates a situation of ambiguity on several levels, as it proposes the use of a predictive algorithm - mostly known from predictive policing and anticipatory shipping of online retailers - for a commoning minded distribution of rescued food. This has the potential to open up a critical discussion about which mechanisms of the infrastructural and economic setup are permissible and which are to be dismissed in the context of commoning and point at further aspects that need to be scrutinized for the development of adequate design principles. The exercise/play also generates a discussion about the perception and recognition of the value of certain resources in specific situations. And consequently, what kind of existing or still to develop sensing capabilities could provide sufficient data for the calculations and computation of their distribution.

Some of the triggered discussions might address how commoners interface with the algorithm. For example, the conditions under which aspiring commoners are willing to provide data for better calculations. Other discussion points already penetrate the infrastructural layers, such as: Who teaches the machine? What are the protocols for the triggers and frequency of adjustments? Infrastructure shapes people's direct relationships both with each other and with their environment: it defines who and what is connected, which people and goods should circulate easily but also who should stay put and be left out (Rodgers and O'Neil, 2012 and Larkin, 2013,

pp.329-330). As technologies make accessible new resources, and their management is a constantly topical issue, technologies shape the conditions of the commons (Muilu, 2020).

In their analysis of the platform society van Dijck et al propose: "While it is certainly possible to organize these relations differently, this is by no means a simple task. As we will argue, it takes much more than bottom-up commons-based initiatives, however innovative and technologically sophisticated they might be. To bring substantive change to the workings of platform society, the infrastructural core of the ecosystem - the way it operates and is being operated - should become open to negotiation and allow other societal actors to influence its underpinning mechanisms." (van Dijck et al., 2018, p.48). By designing such explorations like the Food Rescue, the full blown alternative citywide infrastructure or a global economy obviously is to a large part conveyed by narrative. However, the stakes of finding ways to let people engage in tangible ways with these layers lie in reaching further to the core of platforms, infrastructures, economic systems.

References

- Cila, N., Ferri, G., de Waal, M., Gloerich, I., Karpinski, T. (2020). The Blockchain and the Commons: Dilemmas in the Design of Local Platforms. In *Proceedings of CHI 2020* (Paper 531).
- Davies, W. (2018). Introduction to Economic Science Fictions. In D. William (Ed.), *Economic Science Fictions* (pp.14–36). London: Goldsmiths Press.
- Dijck, J. van, Poell, T., de Waal, M., (2018). *The Platform Society: Public Values in a Connective World*. Oxford University Press.
- Graham, M., Kitchin, R., Mattern, S., Shaw, J. (2019). *How to Run a City Like Amazon, and Other Fables*. Metaspace Press.
- Kerspern, B. (2018). Economic Design Fictions: Finding the Human Scale. In D. William (Ed.), *Economic Science Fictions* (pp.241-260). London: Goldsmiths Press.
- Muilu, M. (2020). No-One's Earth: An Arendtian Interpretation of the Tragedy of the Commons at the Beginning of 2020. In *Journal of Peer Production*, no. 14 (May).
- Phillips, L., Rozworski M., (2019). *The People's Republic of Walmart: How the World's Biggest Corporations Are Laying the Foundation for Socialism*. London, New York: Verso.
- Richardson, L. (2019). Too Much Fulfilment: Deliveroo. In M. Graham, R. Kitchin, S. Mattern, J. Shaw (Eds.), *How to Run a City Like Amazon, and Other Fables* (pp.72–78). Metaspace Press.
- Savic, S., Bedö, V., Miyazaki S., Büsse, M. (2020). Toys for Conviviality. Situating Commoning, Computation and Modelling. In *Open Cultural Studies* (4/1): 143–153.
- Webb, M. (2020). The Hard Work of Imagining. Conference paper. Retrieved December 28, 2020, from <http://interconnected.org/home/2020/12/11/thingscon>.

Acknowledgements

This contribution has been written in the context of SNSF research project "Thinking Toys for Commoning" (project no. 175912, 2018-2021). We would like to extend our sincere thanks to Ida Toft, who codesigned the first version of the playful exploration *Food Rescue* with Viktor Bedö in the context their ISEA2020 workshop *Street Plugin*.

Activating Processes in the Cultural and Civic Space

Ongoing Matters: Government Document Design in the Public's Interest

Andre Mūrnieks, Anne H. Berry,
Sarah Edmands Martin

Participatory Design in Design Museums as Platforms for Common Good

Luisa Hilmer, Lisa Rotzinger, Iria Suárez

Curating for the Common Good. An Activist Curatorial Framework to Foster Innovation in Design

Viviane Stappmanns

Ongoing Matters: Government Document Design in the Public's Interest

Keywords: Design, Democracy, The Mueller Report, Civic Engagement, Historical Government Documents.

Andre Mūrnieks^a,
Anne H. Berry^{b*},
Sarah Edmands Martin^c

^aMassey University,
Wellington School of Design

^bCleveland State University,
College of Liberal Arts & Social Sciences

^cIndiana University,
Eskenazi School of Art,
Architecture +Design

*a.h.berry@csuohio.edu

In the face of numerous global crises, including the rise of authoritarianism and targeted misinformation media campaigns, promoting information literacy, cultivating civic participation, and providing access to information is essential to the common good of communities all over the world. The repercussions of complacency and distrust of scientific expertise are being felt in real-time, even as the United States struggles to respond to the COVID-19 crisis. This paper, consequently, aims to capture design's role as a communication conduit for the public good. Based on a current project titled Ongoing Matter: Democracy, Design, and the Mueller Report, this paper identifies strategies for increasing public engagement with and access to factually dense documents, such as government reports and records. Though focused specifically on the Mueller Report, Ongoing Matter is a case study for similar scenarios wherein information dissemination is crucial to the public interest.

1 What is the Mueller Report - What's its Purpose?

The Report On The Investigation Into Russian Interference In The 2016 Presidential Election, colloquially known as the Mueller Report, is a 448-page document detailing an investigation that began in May 2017 with the appointment of Special Counsel Robert S. Mueller, III (Special Counsel's Office US Department et al., 2019). As the title itself states, the report documents a two-year probe into the Russian government's efforts to influence the 2016 presidential election in favor of Trump, "including any links or coordination between the Russian government and individuals associated with the Trump Campaign" (U.S. Department of Justice, 2019).

Despite the significance of the report in providing a level of transparency regarding the events leading up to the 2016 election, sections that were heavily redacted before being released to the public are a visual reminder of the information still being withheld (Chang, 2019). The House Judiciary Committee is currently suing the Department of Justice for the release of a fully unredacted version of the Mueller Report in a case that is currently before the Supreme Court, though oral arguments are delayed until after the new Congress begins in January. In short, members of Congress may yet be able to access the unredacted Mueller Report. Whether or not the general public will ever have complete access, however, is another question (de Vogue 2020; Liptak 2020). Though the report is meant to provide greater clarity about Russian interference in the 2016 presidential election, just as its title states, the dense, Times New Roman text - which includes over 1'000 footnotes and entire pages of redactions - does not invite close inspection.

The question remains, what is the purpose of the report? Is it only meant to document events leading up to the 2016 presidential election and inform the public about them? Or, is it also meant to serve as evidence that, even when democratic norms are being threatened, government institutions can withstand the strain/pressure? Is it meant to lay the groundwork for future investigations? Perhaps it is a combination of the three. Though time will provide greater perspective, the contributors to Ongoing Matter have approached Mueller's work as a document that should not only be more accessible to a wider audience but reaffirm the truth of the events that took place, thereby pushing back against lies and misinformation regarding the origins of the investigation as a "hoax".

1.1 Government Transparency and Accountability

Healthy democracies are dependent upon the participation of an active citizenry. Yet, every citizen cannot be an authority on every topic. Experts, therefore - no matter the field in question - hold enormous power when communicating and sharing knowledge with the public. In the case of the Mueller report, former U.S. Attorney General Bill Barr effectively skewed the public's understanding of the report's contents and conclusions when he presented his own summary letter and then subsequently staged a press conference prior to the release of the full report (Graham, 2019).

Through these actions, Barr was able to present a narrative that was favourable to Trump, misleading the public in the process. Barr was roundly criticized and Mueller himself took the extraordinary step of publicly voicing his frustrations with Barr's misrepresentation stating:

There is now public confusion about critical aspects of the results of our investigation. This threatens to undermine a central purpose for which the Department appointed the Special Counsel: to assure full public confidence in the outcome of the investigations (Barrett and Zapotosky, 2019). In a subsequent Freedom of Information request lawsuit, the Republican-appointed federal judge in the case also criticized Barr:

"The speed by which Attorney General Barr released to the public the summary of Special Counsel Mueller's principal conclusions, coupled with the fact that Attorney General Barr failed to provide a thorough representation of the findings set forth in the Mueller report, causes the court to question whether Attorney General Barr's intent was to create a one-sided narrative about the Mueller report - a narrative that is clearly in some respects substantively at odds with the redacted version of the Mueller report," Judge Walton wrote (Savage, 2020).

Mueller's investigation brought to light numerous challenges and attacks on the system that the United States was ill-prepared for - namely, social media misinformation campaigns and hacking operations by Russian operatives. The report then became, by extension, a test as to whether or not government institutions would hold up in the face of pushback and interference from the executive branch. And in the midst of these challenges, Trump was laying the groundwork for questioning the results of the 2020 election, using unfounded accusations of "rigged elections" (Smith, 2020) and voter fraud misinformation via social media (Frenkel, 2020; Pace, 2020) to cast doubt on any outcome that ended with Joe Biden as president-elect.

Taken together, these issues - the increase in lack of confidence in free and fair elections and the politicization of the department of justice - signal challenges ahead for the U.S. and its ability to both restore confidence in government institutions. The Mueller investigation symbolized hope/faith in government transparency and accountability. However, ultimately, the release of the report - to say nothing of the extent of the redactions - became yet another bureaucratic process full of obfuscation and confusion.

2 Disinformation and Misinformation by Design

2.1 The Rise of Fake

Of all the outcomes of the 2016 and 2020 elections, perhaps the most significant - and potentially enduring - are the threats posed by misinformation and disinformation. The speed with which false information can spread, particularly through social media, has already been widely documented (Fox, 2018; Menczer & Hills, 2020) and makes the need for an information literate public all the more paramount:

Additionally, social media applications such as *Facebook*, *YouTube*, *Instagram*, and *Twitter* have served as new and powerful platforms for creating and sharing content, including news. The increasing popularity of these social media platforms, however, which 'collect and present news stories from a wide variety of outlets, regardless of the quality, reliability, or political leanings of the original source' has led to increases in the spread of misinformation and disinformation (Berry, Rutherford, 2019).

Nor is the problematic nature of misinformation limited to the United States. Just as the concept of "fake news" - news that is not factually true yet widely disseminated "for the purpose of generating revenue, or promoting or discrediting a public figure, political movement, company, etc." (Dictionary.com, 2019) - has made an impression on the American electorate, other countries have also felt the impact of misinformation/disinformation. Social media platforms have all contributed, however, *Facebook* has played a particularly significant role. The PBS documentary *The Facebook Dilemma* identifies a variety of ways in which the tech company has eschewed responsibility for the abuses taking place on its platform or the ways in which it has fuelled ethnic tensions and violence (2018).

Disinformation and misinformation constitute a growing international/global threat. The Mueller Report simply emphasizes the extent to which misinformation can have an impact on society, culture, and politics. Though the content of the Mueller report is important, it provides a window into a much wider, systemic problem. Namely, that democracies around the world are vulnerable to attack, not via traditional warfare, i.e., combat, but via cyberattacks and information warfare; Russian "active measures" executed via social media campaigns. The Russians exposed these vulnerabilities, using social media to exploit weaknesses/using social media to drive wedges, create conflict, and, most importantly, undermine faith/confidence in free and fair elections (U.S. Department of Justice, 2019).

2.2 Anti-design to Confound Transparency

As a published visual communication design output, the Mueller report isn't user-friendly. But is that by design? It's not a spy novel, but would presenting it as such be a better approach? The Ongoing Matter project is predicated on the report's inability to clearly articulate the complex web of time-based information and individual actor's actions. The larger issue/question at play, however, is how the lack of clarity subsequently undermines the health of public trust in American democracy and democratic institutions. A 2018 PEW Research Report (PEW Research Center, 2018) reveals, among other findings, that "Americans generally agree on democratic ideals and values that are important for the United States." At the same time, Americans feel that the country is not living up to these ideals, citing lack of transparency as one among a number of other issues negatively impacting confidence in the government. "No more than about a third in either party, Republican or Democratic, say elected officials who engage in misconduct face serious consequences or that government "conducts its work openly and transparently" (PEW Research Center, 2018).

3 History, Role, and Relevance of Graphic Design in this Context

Has the graphic design of similar documents ever, historically, served the needs of its people? Or is opacity inherent to the form of the government report? This paper now turns to the history, role, and relevance of graphic design in the context of government documents.

Walter Benjamin, in the epilogue of his essay *The Work of Art in the Age of Mechanical Reproduction*, argues that Fascism packages politics up as aesthetic spectacle while simultaneously denying the rights of its citizens. Ideologically opposed to this, Benjamin calls for "the politicization of aesthetics," in which art is functional and answers to politics—that is, aesthetics should be responsible for and responsive to the true needs of the people. In his seminal work, Benjamin says:

"'Fiat ars - pereat mundus,' says Fascism," (which translates to "Let art be created, though the world perish,") which Benjamin says is "the situation of politics which Fascism is rendering aesthetic. Communism responds by politicizing art." (Benjamin, 1968).

The "politicization of aesthetics" encourages mass and aesthetic consciousness (Manderson, 2018). This egalitarian use of art sounds like the revolutionary praxis of social design. It was, after all, Victor Papanek - one of the 20th century's most influential pioneers of socially conscious design and author of *Design for the Real World* - who infamously said: "The only important thing about design is how it relates to people". Poorly designed government reports, like the Mueller Report, are dehumanizing documents because they, ultimately, impede the average citizen's engagement with civic knowledge. Is the Mueller Report the exception or the trend? Do examples of similar government documents exist that

succeed in fulfilling their promise to their public(s)? This section will look at the design of local, national, and global government documents as well as compare related publications such as annual reports, treaties, government websites, and decrees.

3.1 The Good, the Bad, and the Ugly of Public Documents

The history of U.S. government documents, to the shock of no one, contains only rare instances of compelling design. The minuscule strokes and mile-long line lengths of the 1776 U.S. Declaration of Independence is headache-inducing - necessitating a same-day printed version, the Dunlap Broadside, which was publicly distributed after the creation of the original. Even the 1965 Voting Rights Act, which outlawed discriminatory voting practices such as (ironically) literacy tests, is a dense and difficult block of Old Style letterforms. It does leverage some compelling hierarchy in its masthead, but the majority of the document is dense and difficult. One might think to factor a low national literacy rate into who these documents were designed for, but according to the Foundation for Economic Education, only a quarter of Americans were illiterate by 1776 (Lattier, 2016). Yet, the design of these documents implies that the average citizen wasn't meant to be enthralled by primary texts and government decrees. Still, the question remains of why, in the 21st century, are government documents still so poorly designed? Are there any exceptions that do not conform to this expanse of dull or ugly design?

One example of incredible, early document design is Florence Nightingale's late 1850s report on preventable British Soldier death due to poor sanitation and administration during the Crimean War. Under the authorization of the British Secretary at War, Nightingale gathered data and designed infographics that were elegant, simple, and clear. Even by today's standards, her designs are stunning. When distributed to the masses, the impact of her data visualization affected major changes in the medical treatment of British soldiers abroad. "While most statisticians provided data in tables of numbers, Nightingale was one of a small group of mathematicians who seized on the power of graphics to describe statistical findings to a non-specialist readership" (Florence Nightingale, 2018). Nightingale's politicization of aesthetics, in these government documents, gave the public access to important statistics that they could actually understand, ultimately leading to much-needed hospital reform.

Another effectively designed historical government document is the 1935 antisemitic "Law for the Protection of German Blood and Honour" (also known as the "Nuremberg Race Laws") charts. A vile and racist public document authored in Hitler's Nazi Germany, it did however effectively combine both text, information design, and the grid. These aesthetic standards were inherited from the "cultural Bolshevism" of Modernist, Bauhaus graphic design - and thus made the document simple to interpret and understand (Hollis, 2001). Explaining the Third Reich's map of Jewish ancestry, the

document wouldn't have even required someone to speak German in order to understand the concepts behind the propaganda. While a horrific document, the design was more successful at engaging and communicating with the public than the Mueller Report.

3.2 Governments with a Plan

Today, the graphic design of Sweden and Denmark's government reports are among some of the most considered. With modern and clean typefaces, breathable leading, and uncrowded use of the grid, their government documents seek to communicate clearly with the most citizens (Rudén, 2019). While the U.S. does have an unfunded government working group called PlainLanguage.gov, the group focuses only on making the writing of government documents more accessible. According to their mission:

Our goal is to promote the use of plain language for all government communications. We believe that using plain language will save federal agencies time and money and provide better service to the American public. (plainlanguage.gov, 2020).

PlainLanguage.gov acknowledges that dense and difficult language is a barrier to citizen's understanding and participation in their democratic or civic duty. The initiative seeks to "design for reading." But the language, diction, syntax, and sentence phrasing are all only one component to "designing for reading." Another country's funded initiative, Britain's 2011 Government Digital Service cabinet office actually seeks to reconcile the beauty of graphic design with digital publishing of government documents, as well as embrace technology to help activate its citizenry. The verdict is still out on the impact of this agency, but the U.S. has nothing to lose by following in their footsteps.

3.3 Reports in the Digital Age

Reports are not the only way that governments communicate (or try to communicate) with their publics. Another crucial and ever more important vehicle is the government website. Most U.S. federal (and some local) websites are commonly recognized as design and user experience nightmares. The most notorious example in the United States might be healthcare.gov which made the news in 2013 after Obama signed the Affordable Care Act establishing the aforementioned web platform. The website was meant to increase healthcare access for all Americans. According to healthcare.gov, the site was the U.S.'s "official health care exchange that would allow residents to compare prices of health care plans, identify if they qualify for federal subsidies, and enroll in a chosen plan" (Levinson, 2016). And yet, in less than a couple of hours after it was officially launched, the site went down ("The System is down at the moment. We're working to resolve the issue. Please try again later.") and continued to suffer bottleneck, non-functioning navigation, missing webforms and incomplete data compiling for months thereafter (Johnson & Reed, 2013). The very real need for Americans to access healthcare options was frustrated and flat-out denied due to poor

design. Is this not the utmost failure, then, if the core principles of our democratic republic are participation and interaction of regular citizens with its system of government?

This sub-genre of web-based government design does have its notable exceptions to the bad-design rule, such as federal sites like nationalparks.org, noaa.gov, airforce.com, and uso.org. It seems like these sites have been successful in bypassing the entrenched, bloated, and bureaucratic subcontracting that has been the death knell for most government websites. One reason for this could be that the function of these sites differs significantly from most government websites in that they focus on recruitment or tourism - both financially profitable incentives. The requisite of commercial success parallels good design. Many sites that represent functions not directly tied to money (ironically, federalreserve.gov is hideous and at least 15 years out of date). Good design is inappropriately linked to consumerism, particularly in the hands of the government.

3.4 Design Should Not be an Elitist Luxury

There are cues that U.S. government reports could take from other data-heavy, yet well-designed, documents such as the Annual Report. Annual reports often focus on storytelling, give personality and humanism to a brand, and showcase the people behind the product. They are visually appealing and easy to understand. Annual Reports now utilize combinations of photography, illustration, typography, moving image, and data visualization in order to keep a viewer's eyes interested, increasing the time and engagement spent with the content. A stunning example of this is the 2013 Warby Parker Annual Report which was publicly published online and met with universal acclaim (Warby Parker, 2013).

Although a staple design piece today, early Annual Reports once looked very similar to the Mueller Report. Between the early 1960s and the late 1980s, the Annual Report shifted from an ostensibly un-designed document (created for stock-holders and employees) to a polished art object designed for wider, public access (Lee, 1994). The Annual Report went from merely sharing a business's dull corporate financial data to stylistically communicating values, personality, and the organizational dignity of a brand with which 21st-century consumers were eager to engage. Why, too, can't the U.S. federal government raise the design effort of their reports to actively engage the average citizen? As the French socialist writer George Sands asserts, artists have a "duty to find an adequate expression to convey it to as many souls as possible" (Ledos de Beaufort, 1886).

3.5 A Reflection of Values, Identity and Public Commitment

The local government website for Kansas City, Missouri is another example of considered design. The website is clean, organized, and prioritizes top-utilized user functions such as paying for city utilities and information about recycling and trash pick-up. Georgia.gov, as well, created by the world-renowned design firm IDEO, is a wonderful platform designed beautifully with its exact constituents in mind (IDEO, 2018). It is worth noting that this success story has a connection to the Georgia mayor, Bill Grant, who was also the National President of AIGA, Professional Association for Design, from 2005-07. Perhaps having a high position in government for graphic and communications design can pay off.

In 2019, the U.S. government took one step towards effective design when it created and published Public Sans, a slick and peppy sans serif modelled after other public typefaces like Google's Roboto or Open Sans. It took two years for the 2.0 version to be finished, the entire time under intensive feedback from professional designers (Williams & Benari, 2019). Despite this success, the application and use of the typeface is only as good as how it is applied. On the still-ugly U.S. Customs and Border Patrol (cbp.gov) and Department of Homeland Security (dhs.gov) websites, for example, the typeface alone cannot save clunky, outdated, and confusing user experiences. One can't help but recognize the irony of the government spending years developing a typeface only to use it in ugly publications - still an under prioritization the needs of its primary users.

3.6 Trickle-down Design

Clay Johnson, a former Presidential Innovation Fellow and lead programmer for Howard Dean's 2004 campaign, and Harper Reed, the former chief technology officer of Obama for America, wrote in the New York Times:

The president should use the power of the White House to end all large information technology purchases, and instead give his administration's accomplished technologists the ability to work with agencies to make the right decisions, increase adoption of modern, incremental software development practices, like a popular one called Agile, already used in the private sector, and work with the Small Business Administration and the General Services Administration to make it easy for small businesses to contract with the government (Johnson & Reed, 2013).

A contemporary government must not just respond to the technological advances and expectations of the times, but also flexibly leverage smart graphic and UX/UI design to allow the most access between the people and its government.

4 Anti-Human Design Practices

It seems the heart of the matter is that most of the U.S. government's reports and public documents are more invested in "presenting factual information." There is no value, from their perspective, placed on the vehicle with which that information is presented. In fact, one wonders whether they think Times New Roman, 12 point font, is "neutral." As any good designer will tell you, of course, no typeface, organizational grid, format, or method of dissemination is neutral. All of these elements come with histories, colloquial use, and inference. If government documents could be shifted to be thought of like annual reports, or recruiting websites, for example, where an emphasis was on access and storytelling, this section argues that the dehumanizing qualities of government publications, like the Mueller Report, wouldn't be as profound.

4.1 Design is not Neutral

Government documents are not particularly sexy or inviting to the general public. Typically set in Times New Roman or a comparable typeface, 12 points in size, and dense with content, they epitomize the concept of standardization and institutional bureaucracy. And, not unlike the fine print that accompanies many of the contracts/agreements and applications we integrate into our daily lives and workflows, they are easy to ignore. People lead busy lives and may not be able to spare the time to do the required reading necessary to make sense of the information presented.

4.2 Weaponizing Visual Communication Design

Additionally, news organizations - the free press - play an important role in elucidating policies and other details, wading through documents that may be beyond the understanding expertise of average people. This was certainly the case with respect to the Mueller Report. Though the general public was interested in the report (Agiesta, 2019; Samuelsohn, 2019), the necessary alarms about the content of the report never quite seemed to go off. The report and Mueller's subsequent testimony also received a great deal of media coverage (Agiesta, 2019). However, the danger the Trump administration put the country in did not seem to make an impact compared to the scale of the response compared to other crises such as the child separation policy or the failed COVID-19 response.

Before COVID-19 hit the United States, the country was already dealing with the aftermath of the 2016 presidential election. The Trump administration ushered in an unprecedented period of corruption: kleptocracy (Beauchamp, 2017); kakistocracy (Beauchamp, 2017; Ornstein, 2017), nepotism (Adams, 2020; Willis, 2019); and authoritarianism (Gounari, 2018). Even on his way to being voted out of office, Trump wreaked havoc, undermining faith in free and fair elections using inflammatory rhetoric (Gounari, 2018); promoting misinformation (Frenkel, 2020); interfering with the United States Postal Service to prevent delivery and collection of mail-in ballots (Kilgore, 2020; Milliser, 2020); and launching frivolous lawsuits intended to subvert the will of the majority of voters

(Williams & Via y Rada, 2020; Blake, 2020). December 2020 also marked the one-year anniversary of Trump's impeachment for soliciting foreign interference in his re-election bid and obstructing the investigation itself (Congress of the United States of America, 2019; Fandos & Shear, 2019). All of these events unfolded after the release of the *Report On The Investigation Into Russian Interference In The 2016 Presidential Election*, also known as the Mueller Report, in April 2019. The five-volume Senate Intelligence report on Russian interference in the 2016 election, which supported/affirmed the Mueller Report findings, was also published, the most recent volume released in August 2020. It was during this national undertaking to make sense of Trump's rise to power that Ongoing Matter (OM) came into existence.

5 Designed to Fail

What happens, then, when public trust in news organizations deteriorates? What happens when the government's ability to disseminate information crucial to public health (or public trust) is hampered by misinformation and disinformation? What happens when national and global crises necessitate the public's ability to trust government agencies, scientists, and elected officials? These may be rhetorical questions, but they are more relevant than ever. Without trust in institutions or the government and its processes - partly due to government officials and elected leaders actively participating in the undermining of public trust (Rhode, 2020; Rose, 2020) - the health of both American democracy and the health of the public psyche are at risk.

5.1 Reaction to the Report— Origin Story of the Report

How and why, then, did this document become the focus of an entire project and body of design work? The Mueller Report is not the first widely anticipated government investigation to catch the public's interest and will not be the last. So, what continues to make it worthy of attention?

In the summer of 2019, Berry started reading through a pdf of the Mueller Report downloaded directly from the Department of Justice website. Like many other Americans, she was anxious to find out what the investigation had uncovered about the lead-up to the 2016 presidential elections. She highlighted sections and added notes as she read through it, breaking the text down into digestible pieces of information. But the comments made in that marked-up version revealed what she immediately felt in those moments: "SICK. JFC"; "I CAN'T EVEN"; "Jesus save us"; "Holy hell"; and "Creepy." Though perhaps melodramatic in tone, they summarize the shock she felt. From stolen documents and Russian hacking to the Russian Internet Research Agency's "active measures" social media campaign, it was (and still is) difficult to fully comprehend that the events documented happened. Berry then reached out to other designers:

Greetings, Design Peeps: I have a wacky idea that I want to share with you. No, this is not a multi-level marketing / pyramid scheme! In fact, Liz Resnick just told me this idea is “brilliant” - I have the receipts on that - so I’m reaching out across the spectrum of my graphic design connections to solicit your help and/or feedback. In a nutshell: I recently started reading the Mueller report for research that I’m doing for an article and am finding parts of it incredibly shocking. I consider myself a news junkie so have been surprised at my own visceral reaction; there’s something about seeing the cold, hard facts laid bare in a report that is different (and scarier) than hearing things reported on the news or via news articles. So, my thought is this: borrowing from some of the exhibitions Liz has done (Graphic Advocacy, Graphic Imperative, Graphic Intervention, Women’s Rights are Human Rights, and Posters Without Borders), I would love to see designers come together and produce a type-based series highlighting excerpts from the Muller report, aka “Report On The Investigation Into Russian Interference In The 2016 Presidential Election.”

Based on the enthusiastic responses, Berry was clearly not the only one shocked about the report. And, though perspectives and motivations among the group of design collaborators differed, the group was ultimately united by an awareness of how our lives are connected to politics; and for us, the Mueller Report is yet another design problem that we are investigating. How do we make the report itself more accessible or easily understood by a wider audience? The poster exhibition is just one part of a larger project to try to figure out ways of overcoming communication barriers, particularly when the health of American democracy is at stake.

5.2 State of the Ongoing Matter Project

As a group of designers, illustrators, artists, and academics, the Ongoing Matter project working group has worked diligently to untangle the complexity of the Mueller Report giving viewers access (a portal) to key points of the text. Each portal is in the bespoke form of a tried-and-true poster - a fitting form to visually summarize something much larger in scope. Together, even as a comprehensive series of posters, they are still simply referents, not substitutes, for the report. Just, as a film marque poster is no substitute for the actual film, the group’s goal is to inspire the viewer to actually read the report. What began as a critique of poor design in significant public government documents became an indictment on the role of the designer in the political conversation. While the group is diverse within the design discipline in both research and practice, the general sentiment of the group is that of overwhelming information overload. If decoding and visualizing complex information is integral to our discipline, how is the report received by the intended audience - the general population?

For the past fifteen months, the Ongoing Matter working group has been coordinating primarily on-line to produce, so far, four gallery poster shows and a comprehensive website. Due to the geographic constraints and then the global pandemic in 2020, the group has never met as a whole to debrief and reflect. But that changed when the closing reception of the Cleveland Gallery exhibition was moved to a virtual platform on 12 December 2020. We convened in one space at the same time. Each designer had a turn to speak briefly about their design process. While everyone reacted to the formal design aspects of the report (or lack thereof), most responded to what it did not reveal whether it was redacted, unresolved, cryptic, suggestive, or non-accusatory. While each member is a willing participant in this experiment, the individual secondary motivations are potential indicators of what might encourage design for the common good. The following are excerpts from the conversation and are condensed and lightly edited to focus on the design issue rather than the produced outcome. See all the designer reactions in Appendix A.

“Being fascinated by many aspects of the Mueller report, I was suddenly really obsessed with the language that was being used and not so much even just a language. But the form of the document itself, in the form of the writing and with so much redacted content - so much being censored. I saw the whole thing as a mystery or a puzzle, or like a code...The words had power - that they could say...that they could say something, and so the phrases and the writing...are much more, I think, direct and basically saying yes there was involvement. Yes, you know, there's no mystery behind this.” - Jessica.

“I'm like a bad little kid and I wanna' know what I'm not supposed to know that's blacked out...those redacted parts. And so we were reading a lot of news articles that were trying to get around the edges of what might be underneath those redactions. In one of the articles that we had read, it kind of quantified that approximately less than 10% of the whole report was redacted. I think it's somewhere around 7%, but the sections that are specific to Russia hacking and election interference. Those are about 1/4 redacted and so a significant part of the report.” - Jenn.

“It's not just a call to action to read and engage in the report, but also to have an awareness of information literacy, I think one can argue that design has always been weaponized, but I think that we really saw the weaponization of design and the active measures campaigns in the 2016 election and that there are so many of us that just don't really know where the information that we're consuming is coming from even today...We all need to be more diligent and where we are consuming these messages from an understanding of where they originate from what their intent is.” - Ken.

Taken together, the observations and experiences designers describe regarding their efforts to navigate the Mueller Report highlight key challenges that will undoubtedly be challenges for future designers - namely, confronting misinformation and disinformation and the rapid dissemination of information via social media outlets. But the Ongoing Matter project has also served as a reminder of the significance of government documentation and accountability, and the extent to which efforts to achieve some level of transparency are still shrouded in censorship.

6 Civic Discourse and the World

Can visual communication design reimagine the delivery of the public document rather than just “fix it up” post-publication? To explore various ways in which dense, civic information could be conveyed to the general public, Berry, Martin, and Murnieks convened an international workshop entitled Demystifying, Deciphering and Decoding Fact in the Mueller Report at the Design Research Society conference (DRS2020) in July. The intention was to get a design perspective from other communities in the world, and how they consume and relate to government information. The American-centric Mueller Report was used as a case study for group analysis, but the idea was to evaluate it as a vehicle for government transparency. Because of the global pandemic, DRS2020 took place on screen rather than in Brisbane, Australia. While the interactivity possible with a virtual workshop was greatly reduced, we chose to execute using the workshop with the brainstorming, white-boarding web app, Mural. This allowed for a communal workspace for some activities, while also a personal space for others.

6.1 Insights from International Workshop

Workshop participant was lower than the signup suggested, but the result was a more collaborative and personal process. The session included five parts squeezed into a one-hour time frame:

- Introduction to the Ongoing Matter project.
- Where are you from? (demographics).
- Free association exercise on misinformation and disinformation.
- Lateral thinking exercise on an alternative government document.
- Rapid digital sketching on document excerpts.

Where in the world

Write your name on a pin and add it on the world map where you're located.



Fig. 1: The workshop group was small, but only the conveners were from the United States.

While the workshop attendee group was small, their geospatial representation was ideal to gauge a world perspective that is non-American. The group included a Mexican living in the United Kingdom, a Brazilian living in Australia, one from Hong Kong and another in New Zealand (Figure 1). The group's views on disinformation and misinformation were strong, but conservative (Figure 2). The more colorful responses came from the workshop conveners participating in the exercise. Participants then imagined what a government document might look like if it were something entirely different - like a video game - in the lateral thinking exercise (Figure 3). Generally, the group sought to make the report more interactive and speak in a layperson's voice. Finally, they attempted to sketch their own mini-poster based on some passages from the report provided by the conveners (Figure 4). Overall, the participants chose pithy quotes and ominous imagery but seemed frustrated with the attempt to encapsulate and convey the content with limited time in a limited format. We few this frustration as a success.

Disinformation / Misinformation / Information Literacy

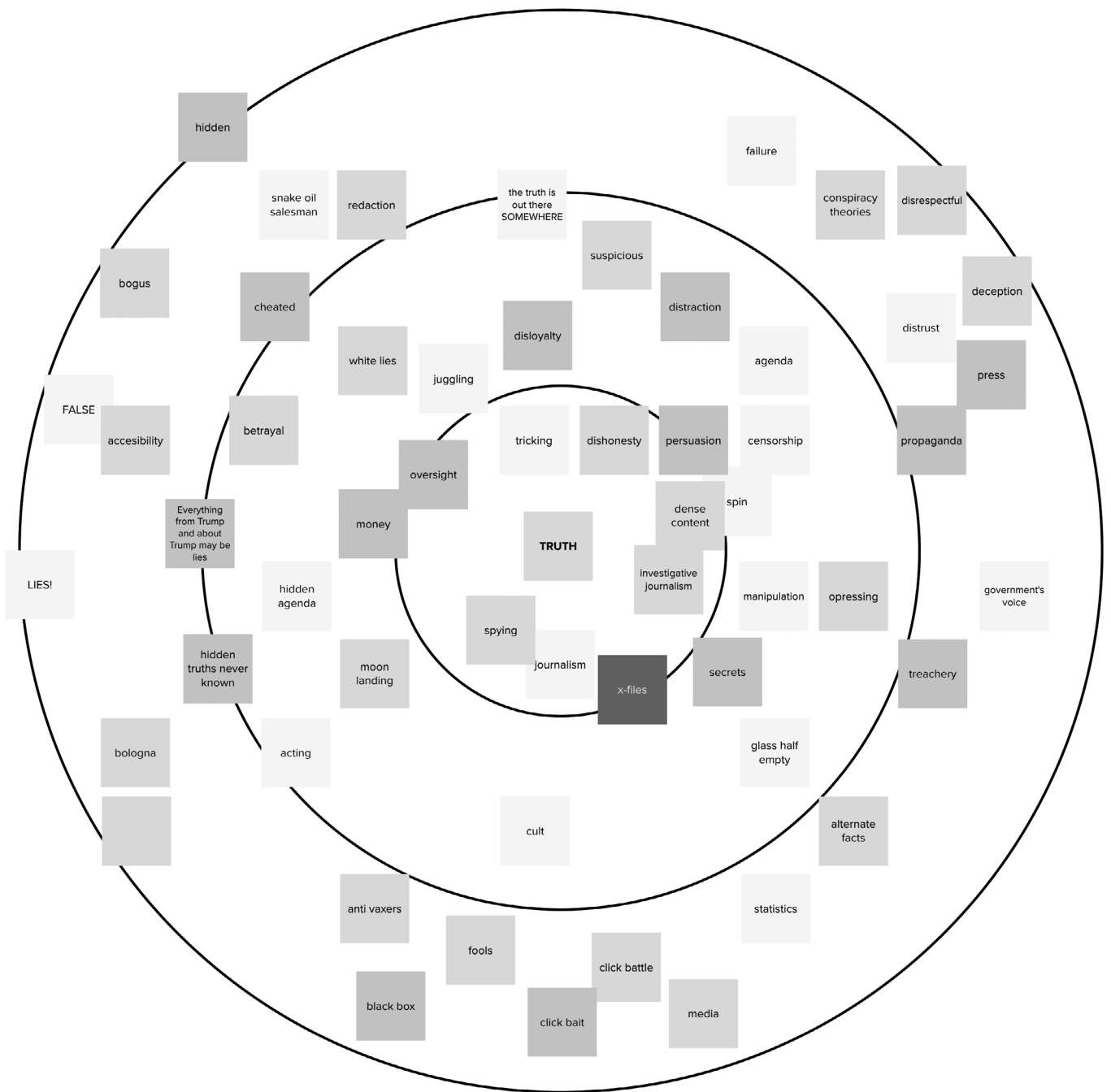


Fig. 2: Free Association. What additional words come to mind when you hear the terms "disinformation" and "misinformation"? "Information literacy"? What do the terms mean to you as you understand them?

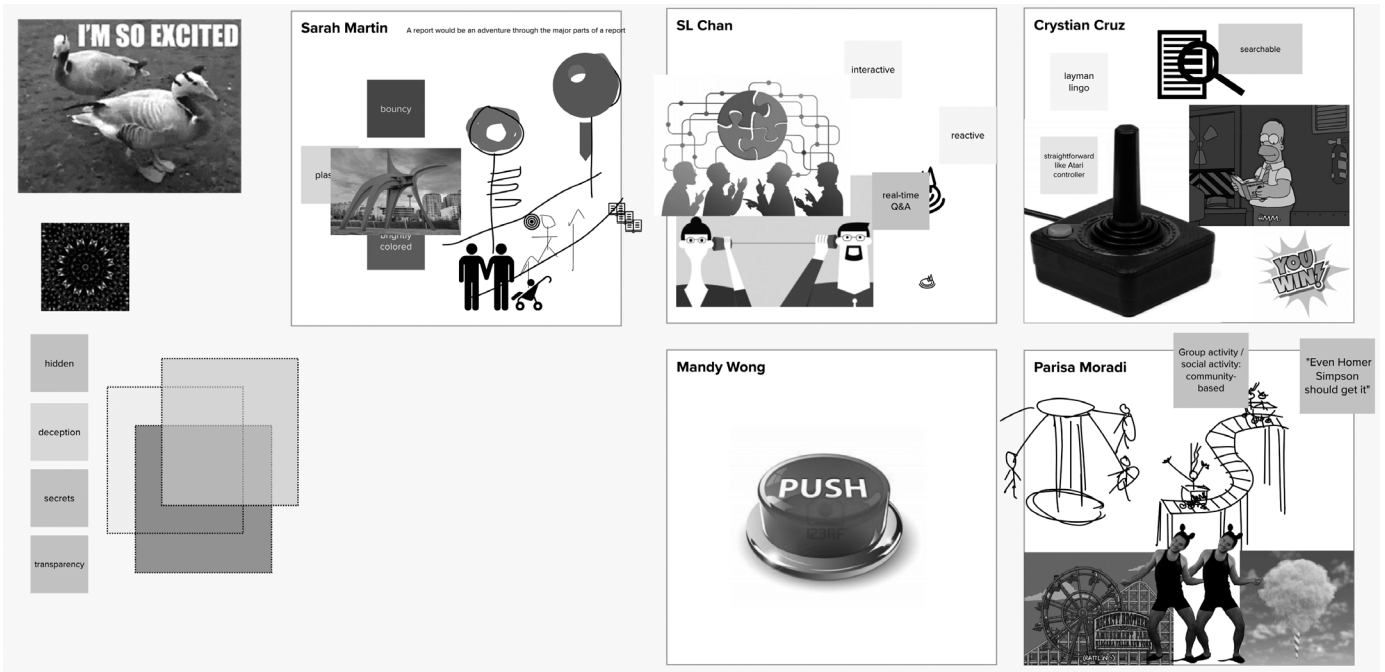


Fig. 3: Lateral Thinking Exercise. To generate ideas, we'll use a process from Maltese philosopher Edward DeBono's book *Lateral Thinking*, who suggests a process for generating innovative ideas for one particular "object" by considering a completely separate object as "point of departure."

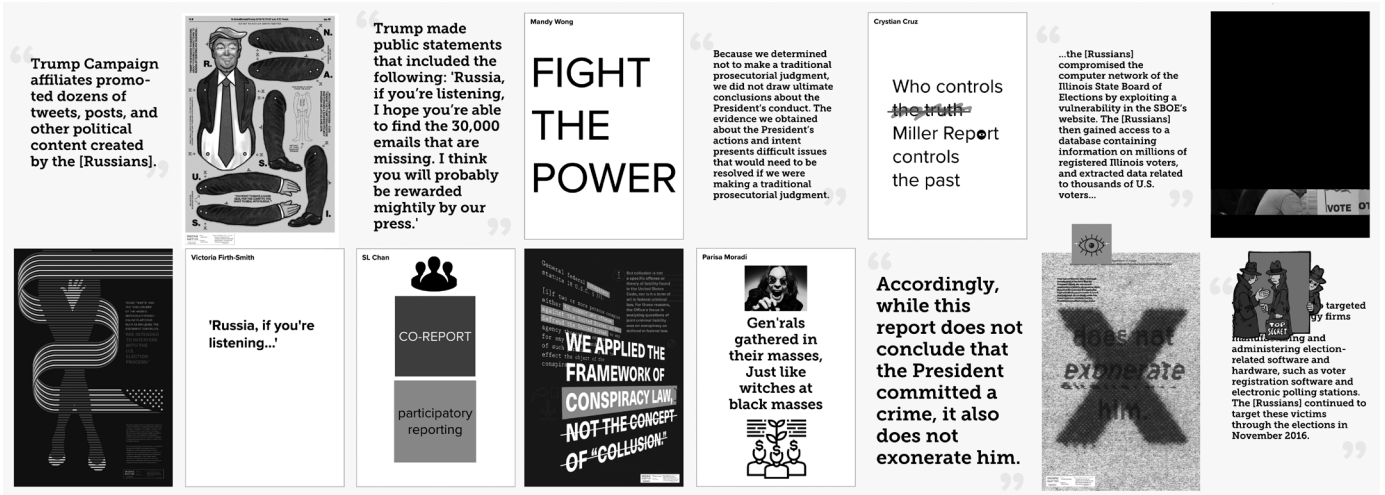


Fig. 4: Engage with the Text. Take the remainder of the time to create an informal sketch of a poster or other imaginative media, materials, objects or spaces. You can use insights gained from the lateral thinking exercise and any new thoughts or ideas.

7 Reactive Rather than Proactive

The Ongoing Matter project is a reactive protest by a group of concerned visual creatives who want to call attention to injustice. We were not wronged by a poor typeface choice or inadequate line spacing. However, there has been a subversion of our collective discipline, and we felt we had to respond. We are storming galleries, making spiffy websites, and writing pithy academic papers but how did we get here? And, more importantly, how can we get ahead of the issues we've identified with respect to the Mueller Report and government documents at large? Why is design, in particular graphic design, often reactive? Clarifying information, responding to information, repackaging information? Why does a Florida ballot design have to fail miserably before its design is (re)considered (Sandhaus, 2010)? The usual complaint is that designers are left out of the beginnings of the process - aesthetics saved for the last steps. But the ballots didn't fail because they looked bad; they failed because they were unintelligible, unusable.

7.1 Getting Ahead of Disinformation in the Twitter-First Century

Although the field of graphic design as a profession seems very old, it was not until 1950 that the first university graphic design program was offered, and it wasn't until later that graduate programs would introduce "critical thinking, formalized research methodologies, and critical writing" (Littlejohn, 2013). In fact, Littlejohn argues that since an ample body of disciplinary criticism does not yet exist, the term 'discipline' may not apply. In other words, professional expertise does not translate to academic rigor. Graphic designers are faced with an uphill battle if their bona fides are not respected. Perhaps the discipline of design is becoming increasingly more respected, but the perception remains that determining how something works is not a task for graphic designers. While some of this blame falls on the shoulders of clients who do not value design early in the process, designers need to clarify where their expertise lies - what can they contribute to the designed experience. This is an understandably changing dynamic for visual communication design whose disciplinary boundaries keep expanding to accommodate the information age, interactive, and social media technologies.

References

- Adams, C. (2020, August 27). Nepotism is bad for government. Trump's convention reminds us why. *The Washington Post*. Retrieved November 28, 2020, from <https://www.washingtonpost.com/outlook/2020/08/27/nepotism-is-bad-government-trumps-convention-reminds-us-why/>
- Agiesta, J. (2019, May 1). CNN Poll: With Mueller investigation over, Trump approval at 43%. Retrieved January 31, 2020, from <https://www.cnn.com/2019/05/01/politics/cnn-poll-mueller-report-trump-approval/index.html>.
- Barrett, D. & Zapotosky, M. (2019, April 30). Mueller complained that Barr's letter did not capture 'context' of Trump probe. *The Washington Post*. Retrieved December 10, 2020, from https://www.washingtonpost.com/world/national-security/mueller-complained-that-barrs-letter-did-not-capture-context-of-trump-probe/2019/04/30/d3c8fdb6-6b7b-11e9-a66d-a82d3f3d96d5_story.html.
- Beauchamp, Z. (2017, July 31). Donald Trump's kleptocracy is undermining American democracy: "This is the kind of thing you see in broken states." Retrieved November 28, 2020, from <https://www.vox.com/world/2017/7/31/15959970/donald-trump-authoritarian-children-corruption>.
- Benjamin, W. (1968). *Illuminations*. [1st ed.] New York: Harcourt, Brace & World.
- Blake, A. (2020, December 7). A trio of brutal rulings for Trump's voter fraud push. *The Washington Post*. Retrieved December 14, 2020, from <https://www.washingtonpost.com/politics/2020/12/07/another-weekend-another-batch-brutal-legal-filings-trump-backed-voter-fraud-effort/>.
- Chang, A. & Zarracina, J. (2019, April 19). We can't see behind the bars. But we can see where they are — and why they're there. *Vox*. Retrieved December 8, 2020, from <https://www.vox.com/2019/4/19/18485535/mueller-report-redactions-data-chart>.
- Congress of the United States of America (2019, December 18). *Articles of Impeachment Against Donald John Trump*. Retrieved December 28, 2020, from <https://www.congress.gov/116/bills/hres/755/BILLS-116hres755enr.pdf>.
- De Bono, E. (1971). *Lateral thinking for management; a handbook of creativity*. American Management Association.
- de Vogue, A. (2020, November 20). Supreme Court agrees to delay arguments in Democratic lawsuit over Mueller documents. *CNN*. Retrieved December 10, 2020, from <https://www.cnn.com/2020/11/20/politics/mueller-docs-supreme-court-democrats/index.html>.
- Dictionary.com (2019) Fake news. Available at: <https://www.dictionary.com/browse/fake-news> (Accessed: 23 July 2019).
- Fandos, N. & Shear, M.D. (2019, December 18). Trump impeached for Abuse of Power and Obstruction of Congress. *The New York Times*. Retrieved December 28, 2020, from <https://www.nytimes.com/2019/12/18/us/politics/trump-impeached.html>.
- Florence Nightingale: The pioneer statistician | Science Museum. (2018). Retrieved 20 December 2020, from <https://www.sciencemuseum.org.uk/objects-and-stories/florence-nightingale-pioneer-statistician#nightingales-polar-area-diagram>
- Fox, M. (2018, March 8). Fake News: Lies spread faster on social media than truth does. Retrieved November 28, 2020, from <https://www.nbcnews.com/health/health-news/fake-news-lies-spread-faster-social-media-truth-does-n854896>.
- Frenkel, S. (2020, November 23). Meet the top election misinformation 'superspreaders.' *The New York Times*. Retrieved December 10, 2020, from <https://www.nytimes.com/2020/11/23/technology/election-misinformation.html>.
- Gounari, P. (2018). *Authoritarianism, Discourse and Social Media: Trump as the 'American Agitator'*. In J. Morelock (Ed.), *Critical Theory and Authoritarian Populism* (pp.207–227). London: University of Westminster Press. DOI: <https://doi.org/10.16997/book30.j>.
- Graham, D. A. (2019, May 1). Barr Misled the Public—And It Worked: Special Counsel Robert Mueller objected that the attorney general was mischaracterizing his investigation, but by then it was too late. *The Atlantic*. Retrieved November 7, 2020, from <https://www.theatlantic.com/ideas/archive/2019/05/barr-misled-the-public-and-it-worked/588463/>.
- Hollis, Richard (2001). *Graphic Design: A Concise History* (World of Art). Thames & Hudson; Second edition.
- IDEO (2018). "Designing a Modern Digital Platform for the Constituents of Georgia." Retrieved 30 December 2020, from <https://www.ideo.com/case-study/designing-a-modern-digital-platform-for-the-constituents-of-georgia>
- Johnson, C. & Reed, H., 2013. Why the Government Never Gets Tech Right. *The New York Times*. Available at: <http://www.nytimes.com/2013/10/25/opinion/getting-to-the-bottom-of-healthcaregovs-flop.html> [Accessed November 18, 2016].
- Kilgore, E. (2020, August 13). Trump Admits He's Starving the Postal Service to Sabotage Voting by Mail. *Intelligencer, New York Magazine*. Retrieved December 14, 2020, from <https://nymag.com/intelligencer/2020/08/trump-admits-starving-usps-sabotage-voting-by-mail.html>.
- Lattier, Daniel. "Did Public Schools Really Improve American Literacy?" *Foundation for Economic Education* (2016). Retrieved 30 December 2020, from <https://fee.org/articles/did-public-schools-really-improve-american-literacy/>
- Ledos de Beaufort, R., Sand, G. (1886). *Letters of George Sand*. United Kingdom: Ward and Downey.
- Lee, Tom (1994). "The Changing Form of the Corporate Annual Report," *The Accounting Historians Journal*, June 1994, Vol. 21, No. 1 (June 1994), pp.215-232.
- Levinson, Daniel R. (2016). *Office of Inspector General. Health-Care.gov: CMS management of the federal marketplace: a case study*, Available at: <https://oig.hhs.gov/oei/reports/oei-06-14-00350.pdf> [Accessed December 11, 2020].
- Liptak, A. (2020, July 2). Supreme Court to Hear Case on Release of Full Mueller Report. *New York Times*. Retrieved November 12, 2020, from <https://www.nytimes.com/2020/07/02/us/supreme-court-mueller-report.html>.
- Littlejohn, Deborah. (2013). *Becoming a Discipline: Problems in the Emergence of Design Criticism as a Field of Inquiry*. *Design and Culture*. 5. 29-32. 10.2752/175470813X13491105785460.
- Manderson, D 2018, 'Here and Now: From "Aestheticizing Politics" to "Politicizing Art"', in Mark Antaki, Stefan Huygenbaert, Angela Condello, Sarah Marusek (ed.), *Sensing the Nation's Law: Historical Inquiries into the Aesthetics of Democratic Legitimacy*, Springer International Publishing, New York USA, pp. 175-190.
- Menczer, F. & Hills, T. (2020, December 1). Information Overload Helps Fake News Spread, and Social Media Knows It. *Scientific American*. Retrieved December 12, 2020, from <https://www.scientificamerican.com/article/information-overload-helps-fake-news-spread-and-social-media-knows-it/>.
- Millhiser, I. (2020, August 13). Trump admits he's stalling pandemic relief to make it harder to vote. Retrieved December 14, 2020, from <https://www.vox.com/2020/8/13/21366319/trump-post-office-vote-by-mail-fox-sabotage-pandemic-covid-19-coronavirus>.
- Ornstein, N. (2017, October 9). *American Kakistocracy: There's a case to be made that the United States is governed by the least scrupulous of its citizens*. *The Atlantic*. Retrieved November 28, 2020, from <https://www.theatlantic.com/politics/archive/2017/10/american-kakistocracy/542391/>.
- Pace, J. (2020, November 19). *Analysis: Trump's bid to spread misinformation and sow doubt*. Retrieved December 1, 2020, from <https://apnews.com/article/analysis-trump-post-election-chaos-doubt-cae4b93cb0a730d4a3b077d25f63d2f9>.

PEW Research Center (2018). The Public, the Political System and American Democracy. Retrieved December 12, 2020, from <https://www.pewresearch.org/politics/2018/04/26/the-public-the-political-system-and-american-democracy/>.

plainlanguage.gov (2020). "What is plain language?" Retrieved 31 December 2020, from <https://www.plainlanguage.gov/about/definitions/>

Rhode, D. (2020, October 29). The Future of Democracy: How America Escapes Its Conspiracy-Theory Crisis. The New Yorker. Retrieved December 14, 2020, from <https://www.newyorker.com/news/the-future-of-democracy/how-america-escapes-its-conspiracy-theory-crisis>.

Rose, J. (2020, December 30). *Even If It's 'Bonkers,' Poll Finds Many Believe QAnon And Other Conspiracy Theories* [Radio broadcast]. NPR, Morning Edition. Retrieved December 30, 2020, from <https://www.npr.org/2020/12/30/951095644/even-if-its-bonkers-poll-finds-many-believe-qanon-and-other-conspiracy-theories>.

Rudén, Christina (2019). "Future chemical risk management: Accounting for combination effects and assessing chemicals in groups." The report of the Committee of Combination of effects and assessing chemicals in groups Stockholm. Swedish Government Official Reports. Future chemical risk management. (2020). Retrieved 31 December 2020, from <https://www.government.se/legal-documents/2019/11/sou-201945/>

Samuelsohn, D. (2019, August 15). We found out how many times the Mueller report has been downloaded. Retrieved January 31, 2020, from <https://www.politico.com/story/2019/08/15/mueller-report-downloaded-1464189>.

Sandhaus, L. (2010). Design for Democracy: Ballot Election Design by Marcia Lausen. In Design and Culture (Vol. 2, Issue 1, pp. 103–104). <https://doi.org/10.2752/175470710x12593419555603>.

Savage, C. (2020, March 5). Judge Calls Barr's Handling of Mueller Report 'Distorted' and 'Misleading.' The New York Times. Retrieved November 7, 2020, from <https://www.nytimes.com/2020/03/05/us/politics/mueller-report-barr-judge-walton.html>.

Smith, T. (2020, November 11). Trump has longstanding history of calling elections 'rigged' if he doesn't like the results: The president has refused to acknowledge his loss to Joe Biden. Retrieved December 1, 2020, from <https://abcnews.go.com/Politics/trump-longstanding-history-calling-elections-rigged-doesnt-results/story?id=74126926>.

"The Facebook Dilemma" (2018) Frontline, Season 37, episode 4, PBS, 29–30 October. Retrieved March 12, 2019, from <https://www.pbs.org/wgbh/frontline/film/facebook-dilemma/#video-1>.

Warby Parker. 2013. "The 2013 Warby Parker Annual Report." Retrieved 20 December 2020, from <https://www.warbyparker.com/annual-report-2013>

Williams, Dan O. & Benari, Maya (2019). Introducing USWDS 2.0 | U.S. Web Design System (USWDS). Retrieved 20 December 2020, from <https://designsystem.digital.gov/whats-new/updates/2019/04/08/introducing-uswds-2-0/>

Williams, P. & Via y Rada, N. (2020, November 23). Trump's election fight includes over 50 lawsuits. It's not going well. Retrieved December 28, 2020, from <https://www.nbcnews.com/politics/2020-election/trump-s-election-fight-includes-over-30-lawsuits-it-s-n1248289>.

Willis, J. (2019, October 14). How Don Jr., Ivanka, and Eric Trump Have Profited Off Their Dad's Presidency: No one knows a "clear conflict of interest" when they see it better than the president's children. GQ. Retrieved November 28, 2020, from <https://www.gq.com/story/trump-kids-profit-presidency>.

U.S. Department of Justice (2019) Report on the investigation into Russian interference in the 2016 presidential election. Volume I. Retrieved July 23, 2019, from https://www.justice.gov/storage/report_volume1.pdf.

Acknowledgements

Contributors to the Ongoing Matter project: Rafael Barahona, Jessica Barnes, Marie Bourgeois, Mikey Burton, Brian Edlefson, Jordan Kauffman, Sarah Rutherford, Jenn + Ken Visocky O'Grady, Kelly Walters.

Appendix

Additional comments from the Ongoing Matter project poster designers:

"There are a few kinds of historical references being made in this design, as well as the ongoing issues with misinformation and disinformation on social media platforms. If anybody has watched the congressional hearings that have happened this past year where you know as a country, we need to be paying attention to how our information is coming to us that has all been kind of circulating in my mind as I made this." —Sarah M.

"I think even as time's gone, I've been really fascinated for sure, but maybe discouraged. I mean how relative truth has become. And particularly the damaging role that I think social media is played in this unravelling. I think that the nature of news and the news media are like just increasingly sources where people go to confirm their bias. And there's very little honest discussion of issues. So, in my poster, I kind of wanted to show the meshing and misrepresentation of information and its different sources." —Rafael

"Being fascinated by many aspects of the Mueller report, I was suddenly really obsessed with the language that was being used and not so much even just a language. But the form of the document itself, in the form of the writing and with so much redacted content—so much being censored. I saw the whole thing as a mystery or a puzzle, or like a code... The words had power—that they could say...that they could say something, and so the phrases and the writing...are much more, I think, direct and basically saying yes there was involvement. Yes, you know, there's no mystery behind this." —Jessica

"I think that's one of the strengths that design can bring to politics in the political arena is to make it engaging and interesting that otherwise would have been such a huge scandal that a political candidate had said these things, especially the implications it has with women's bodies and especially at that time we were having more of a conversation about assaults...Um, it sort of shattered, at least for me at that time, it shattered this myth that I had in my head of any kind of like decorum that was expected about, you know, from our presidents...I was like wanting to look through the mythology that we have around this kind of this system of government and its interaction with like female bodies." —Marie

"It's just a really visually striking thing. I mean, if you go through the report some of the pages are just a giant black box, some of them some pages. That reaction almost becomes like this visual like asymmetrical pattern. That's kind of beautiful...It's like a graphic element that really resonated with me and I think it just really guided me...I had all these different eagle [references] made out of all this redacted material...or like a US flag that was built out of the same kind of architecture. And for me it was just really, you know, everybody's talking about the content and saying how interesting it is. And that's kind of what I went back to is just like keeping it simple." —Mikey

"I found this contradictory nature between a communication document that's supposed to sort of disseminate clear facts and the fact that you know so much of it was redacted and impossible to read and obscured. Really interesting from a formal standpoint, so that's that was sort of my way in is looking at all of the layering...[Within] the few elements that we could see and in those details, I was really fascinated by little things like in the first one you'll see: sort of little text boxes and it sort of was interesting to imagine so much critical government documentation happening through such a casual communication tool like text, and then the fact that this was happening amongst a range of into." —Brian

"It was really just about diving into the context of the report, but then also, what is the visuals that you're seeing and so the words and the other elements that you see in this poster are really glitched, so both virtually glitched, which is bit mapping or screen printing where you have circles. And so combining both of these things where the IRA and Russian agents were doing both analog things and digital things to disrupt and sow discord throughout our election and also to create more or less chaos in the United States, and so that was what I was trying to visually convey." —Jordan

"So I just had to put something out there. And so I took that really shitty [notebook] scan from the report and tried to decode it. But this one page, it says Putin, it says Russia, it says Israel. Well, it says Egypt it; it just goes all over the place. This one page, maybe it doesn't really say anything incriminating, but there's a lot of stuff there that's awfully suspicious. So I tried to make it look like you're decoding something; you're trying to understand what's going on...it feels like it's being evaluated, understood, decoded, and then explained." —Andre

"My poster is based on the quote from Trump and here's the direct quote from the Mueller report the day after Trump requested Michael Flynn's resignation, he told an outside adviser now that we fired Flynn, the Russia thing is over...Don't worry about it, don't retaliate. Let's put a great relationship together moving forward 2016 onward and so he lied about this to the FBI and that was, you know what Trump was referencing in that moment saying, like, hey, we fired him. This should go away now. And we were in the midst of an election cycle, and when I saw that quote, this idea that the Russia thing is over was galling to me." —Sarah

"I'm like a bad little kid and I wanna know what I'm not supposed to know that's blacked out...those redacted parts. And so we were reading a lot of news articles that were trying to get around the edges of what might be underneath those redactions. In one of the articles that we had read, it kind of quantified that approximately less than 10% of the whole report was redacted. I think it's somewhere around 7%, but the sections that are specific to Russia hacking and election interference. Those are about 1/4 redacted and so a significant part of the report." —Jenn

"It's not just a call to action to read and engage in the report, but also to have an awareness of information literacy, I think one can argue that design has always been weaponized, but I think that we really saw the weaponization of design and the active measures campaigns in the 2016 election and that there are so many of us that just don't really know where the information that we're consuming is coming from even today...We all need to be more diligent and where we are consuming these messages from an understanding of where they originate from what their intent is." —Ken

"So part of what I was really interested in was feeling like it was a ball. It was a ball of mess...like a tangled ball...you're trying to piece through all of these different sorts of aspects...That was just an image of what I was looking at. That reminded me if just like trying to untangle, you know not, and I think metaphorically, I wanted to sort of borrow that. I was really kind of pulling on this idea of a network of a cyber network and so there are interconnected lines with nodes that are connected. I was really interested in playing with the censorship component in the redaction." —Kelly

"Part of the inspiration was this idea that Black lives really are very personal and to know that African Americans specifically were targeted by the IRA to sow division and discord, I think it's something that I certainly am still sort of grappling with, but it's also a reflection of the fact that in many ways it's a miracle that my dad is still alive. When I think about all of the lives that have been lost unnecessarily...so just to give a shout out to you Dad, I know you're out there." —Anne

Participatory Design in Design Museums as Platforms for Common Good

Keywords: Participation, Design Museums, Designers, Community, Common Good.

Luisa Hilmer^{a*},
Lisa Rotzinger^{a**},
Iria Suárez^{a***}

^a*Independent Researcher*

*luisa.hilmer@network.rca.ac.uk

**lisa.rotzinger@network.rca.ac.uk

***iria.suarezmartinez@network.rca.ac.uk

In this paper, we advocate for design museums as civic spaces that allow for participation in discussions around relevant and urgent matters. Firstly, we join the discourse about the museum as an active agent enabling the shaping of the common good through participatory processes. Building on the work of academics and other professionals researching museum practices, we contribute to discussions about the use of participatory design methods to keep the museum as a vital and fertile place. Secondly, we devise an overview of participatory design and its increasing application within the cultural realm to further understand the importance that participatory design has in shaping the common good. Finally, we highlight the notion of reciprocity, a mutual exchange of benefits, that is needed to ensure the long-term success of participatory design in the cultural realm. By proposing designers as stakeholders, we advocate for a dynamic of reciprocity between the design community and design museums which will fuel the *co-creation* of the common good.

1 Introduction

Western Museums were facing several crises during the last decades: on the one hand, a crisis of legitimacy, when the public was questioning their nature and inception, their collections and programmes, and their elitist structures; on the other hand, a crisis of progress facing the rapidly evolving technologies that are shaping the interactions with the public as well as the methodologies used within their structures. These crises have been exacerbated by the global pandemic, which made the systems and mechanisms of such institutions obsolete during a period when the digital realm was the only platform to have a presence. However, this particular moment in history is a unique opportunity for museums to transform themselves, to mutate from a temple of elitist cult into a forum of participation and reciprocity for the common good.

Based on the *Stanford Encyclopedia of Philosophy*, the common good refers to

“those facilities - whether material, cultural or institutional - that the members of a community provide to all members in order to fulfill a relational obligation they all have to care for certain interests that they have in common” (Hussain, 2018).

Museums and cultural institutions are canonical examples of the common good with their link and obligation to communities. However, the reality is that, in general, these institutions are failing to provide this relational interaction with the community. As suggested by designer and researcher Nina Simon, “increasingly people have turned to other sources for entertainment, learning, and dialogue” (Simon, 2010, p.i).

Despite this sobering assessment, there are positive developments happening particularly in relation to design museums, which sit at the intersection of the cultural realm and the design community. In this paper, we advocate for the design museum as a civic space that allows for participation in discussions around relevant and urgent matters. Firstly, we join the discourse about the museum as an active agent enabling the shaping of the common good through participation. Building on the work of academics and other professionals researching museum practices, we contribute to the discussion of the use of participatory design (PD) methods to keep the museum as a vital and fertile place. Secondly, we devise an overview of participatory design and its increasing application within the cultural realm to further understand the importance that participatory design has in shaping the common good. Finally, we highlight the notion of reciprocity, a mutual exchange of benefits, that is needed to ensure the long-term success of participatory design in the cultural realm. By proposing designers as stakeholders, we advocate for a dynamic of reciprocity

between the design community and design museums which will fuel the *co-creation* of the common good.

2 Design Museums Shaping the Common Good

Design Museums have the power and privilege to foster conversations around contemporary issues. They have the potential to become an institution that shapes the way that we interact with other individuals as well as with the natural environment. But in order to become real ambassadors of the common good, first they need to transform themselves. They need to evolve from being an institution concerned with entertainment and consumption, like a mall, into becoming a place where individuals and communities interconnect. The necessity for museums to become active agents of cultural change is discussed in *Museum Activism*, edited by Robert R. Janes and Richard Sandell. They argue that museums have the urge and responsibility to address relevant issues affecting the world, such as climate change and social justice. They suggest the adoption of a new approach “one which prioritizes people, relationships and social sustainability over iconic design and marketplace economics” (Janes and Sandell, 2019, p.10). Particularly in the design world, this activist attitude is crucial, as almost everything that surrounds us is designed, shaping environmental and societal issues. The design museum has the potential and duty to become an ambassador for positive impact on earth and society by encouraging and giving a platform for designers and the public to engage in relevant matters. Some attempts to tackle design and the common good have been made in recent years by relevant museums in the format of temporary exhibitions. For example, the Museum of Modern Art (Moma), New York, USA, presented the exhibition *This Is for Everyone: Design Experiments for the Common Good* in 2015 (The Museum of Modern Art, 2020). Also, the Museum of Applied Arts & Sciences, New South Wales, Australia, hosted *Common Good* in 2018 (The Museum of Applied Arts and Sciences, 2020). Both exhibitions were displaying the work of contemporary designers devising design responses to social and environmental challenges. These temporary shows could be seen as exhibiting the notion of museum activism.

However, we demand that museums go beyond that and become civic spaces that not only display and celebrate design for the common good but also facilitate the path to make it happen. Triggered by the work *Design and the Question of History*, by Tony Fry, Clive Dilnot and Susan C. Stewart, we advocate for the power of the design museum as a driving force for contemporary design practices to address the issues that will have a critical impact on the common good. In this publication, the authors proclaim the historical agency of design, arguing that

“to gain such a historical understanding is to acquire a crucial source of knowledge directive of how designing the future is

thought and undertaken, and by whom. What is implied here is far more than just ‘learning from history’ (Fry, et al, 2015, p.9).

But the design museum must be reinvented in order to have a meaningful impact on the common good, it needs to adopt new methodologies and systems.

We propose a methodology that moves from being an institution delivering totalized and single narratives into a space that facilitates participatory approaches. As authors, we have a personal and professional investment in this approach. Based on our experience, both as design historians and design practitioners, we believe that there is a gap between design museums and design practice. This gap has been addressed by Helen Charman, previous Director of Learning and Research at the Design Museum and now is the Director of Learning and National Programmes at the Victoria and Albert Museum (V&A), both in London, who advocates for a design museum that

“act[s] as a catalyst or hub for discursive, critical engagement with design both with the general public and the design community” (Charman, 2016, p.143).

This approach can intertwine the design community with the general public, facilitating conversations about relevant environmental and societal issues that will lead to new approaches to design. A similar idea was explored by the V&A’s Learning Department with its *Design Culture Salons* (Aalto University, 2020). Founded by Guy Julier in 2012, three seasons of events were hosted as an opportunity for the general public to participate in conversations with academics and design practitioners about environmental, social and political challenges. The Design Culture Salons envisioned

“design as a problem-processing rather than problem-solving activity. The language of design is now increasingly attuned to social science, anthropology and other research fields. Rather than talking about objects and materials, participants were keen to talk about the provision of relationships, structures and values.” (Armstrong, et al, 2016, p.164).

The engagement with the design community is the main subject of the discussion for us. We argue that the necessity of the adoption of participatory design methods in the design museum is becoming a pivotal condition for the common good. The design museum needs to act as an active agent within the design community and the general public, inspiring thought and triggering conversations on contemporary issues.

3 Participatory Design in the Cultural Realm

To further understand the importance of participatory design in shaping the common good, we need to relate the two concepts intrinsically. Design scientist Silvia Gasparotto highlights that design for the common good comes particularly from collaborative processes (Gasparotto, 2019, p.25). Seeing designers as process enablers rather than solution enablers, this study suggests that designers develop more innovative concepts and ideas when they collaborate with others in a co-design environment. In regard to designers' everyday practice, practitioners bring in methods and thus shape the design, rather than providing the ultimate solution. Another important aspect of design practice is the degree of reflection by practitioners. Terry Irwin, director of the Transition Design Institute at Carnegie Mellon University, suggests that designers must constantly reflect on their role while contributing to changing society in a sustainable way (Irwin, 2015, p.232). She emphasizes that interdisciplinary approaches will bridge the gap between designers' interaction, the designed world and the natural environment. Underlining these interdisciplinary approaches, we argue that in order to shape the common good, design as a practice needs to be reflective and collaborative.

With collaboration at the center, co-design methods serve as a base for enabling people to take part in design projects. Certain co-design methods like PD have a long history. They were first formalised in the 1970s and include the public not only as listeners but as active and equal partners. Researchers like Jesper Simonson and Toni Robertson see PD as "the direct involvement of people in co-design of tools, products, environments, businesses, and social institutions" (Simonson, et al, 2012, p.3). Ideally, the co-development of design projects generates situations where voices from all participants can be heard and incorporated. Participants include the public, as well as experts and decision-makers from politics, business and society in the planning or design process. Each participant gets the chance to contribute opinions and specify demands towards a common design outcome.

Such participation is already permeating the cultural realm. One of the key figures advocating for participatory methods in the museum is designer and researcher Nina Simon, whose work serves as the foundation for this paper. In her pivotal book *The Participatory Museum*, she proposes that the institution should serve as a "platform" connecting the different users who enable the museum to be a space for the common good. Simon is convinced that participatory projects which are presented transparently and show contributions of the audience could lead to fair-minded processes and educational value for museum visitors:

“For institutions with educational missions, participatory techniques have the particular ability to help visitors develop specific skills related to creativity, collaboration, and innovation.” (Simon, 2010, p.193).

Similar to Simon, design researcher Peter Dalsgaard advocates for applying PD to large-scale public projects. He outlines cultural institutions becoming “bearer[s] of culture and [...] arena[s] for participation and democracy” (Dalsgaard, 2012, p.46). He demonstrates three important aspects of cultural PD projects: participation needs to be a core value, PD needs to be employed, and challenges need to be considered consistently throughout the process. We argue that museums have to be treated in a similar manner to find ways of enabling PD to guide this process of rehabilitating the museum as a place for the common good. Moreover, in contrast to Simon, Dalsgaard considers designers as stakeholders for participatory processes in the cultural realm. More importantly, he highlights the importance of value exchange between stakeholders enabled by participatory practices, for example between designers and users:

“Designers need insights into practice, users need insights into technological potentials, and the best way of developing this reciprocal knowledge is collaboratively through joint, practice-based experiments” (Dalsgaard, 2012, p.44).

The same attention to designers as stakeholders in participatory projects is paid by David Hamers, editor of the book *Trading Places - Practices of Public Participation in Art and Design Research*:

“By testing their different approaches in practice [artists and designers] critically question what it means for an audience or a public to participate, and what is asked of a professional to create (design) conditions for participation” (Hamers, et al, 2017, p.13).

Methods applied in PD are often generated by practitioners to invite the public, making the public an essential collaborator. By clustering different approaches, Hamers’ case studies help to understand the role of designers in such participatory projects. With reference to these participatory projects, we like to stress the significant responsibility of designers as crucial stakeholders of PD in the cultural realm.

In summary, PD in the cultural realm must be understood as an interplay between museums, communities, *and* designers co-creating a platform for the common good. The interplay between these three groups will be discussed in the following paragraphs.

4 Reciprocity Between Designers, Museums and Communities

The idea of reciprocity - an exchange for mutual benefit - is crucial for ensuring the sustained application and wider adoption of participatory design in the cultural realm. Only if value is created for both the collective, the common good, as well as for the three groups mentioned above - the museum, the community, and designers -, will participatory design become a truly ubiquitous practice in the museum world.

Interestingly, discussions about participatory practices in the cultural realm often focus on the benefits for museums and the community and ignore the benefits for designers, who resume the position of mere service providers. Only a few authors, such as Dalsgaard, have started to position designers as stakeholders who can benefit from participatory projects - beyond monetary gain. However, as Armstrong and Julier highlight, designers play an important role. They shape structures, including societal and cultural ones, with the design community increasingly attuned to the language of fields, like anthropology or social sciences (Armstrong, et al, 2016, p.164). Design historian Victor Margolin confirms this view, addressing the social impact designers could have:

“Designers are certainly among those whose positive contributions are essential to the building of a more humane world. [T]hey are responsible for the artifacts, systems, and environments that make up the social world.” (Margolin, 2007, p.4)

With the influence that designers can have, it is paramount that their interest and engagement in participatory projects in the realm of museums be ensured. What benefits do such projects yield for the design community? We propose several concepts that indicate why participatory projects with museums are valuable for designers.

4.1 Museums as Hubs for Design Practice Development

First, we want to highlight the potential of museums to aid design practice development, particularly when embracing participatory design. As Dalsgaard recognised, participatory experiments in the cultural realm allow designers to gain insights into design practice (Dalsgaard, 2012, p.44). These insights are unique, since they originate in the context of institutions connected to four realms necessary to shape the common good. Museums are linked to:

- society - as the museum’s audience. Moreover, individuals can be involved with the museums in many different ways, such as patronage for specific projects. Lastly, museums often fulfil a deeper social commitment through philanthropic efforts.
- government - which, for example, provides funding to museums. In most Western countries, the government influences the agenda of museums, incorporating topics and issues that the government deems important.

- academia - through partnerships with universities, or internal education departments. A good example is the V&A's Research Department which is linked to the Royal College of Art (V&A: *Research*, 2020).
- industry - which sponsors or - particularly in the case of design museums - provides the subject for exhibitions. For example, the V&A's exhibition "Engineering the World: Ove Arup and the Philosophy of Total Design" (V&A: *Engineering the World*, 2020) featured the founder of Arup, a renowned engineering, architecture and design firm, and was sponsored by Volkswagen.

By facilitating the convergence of these four players - society, government, academia and industry -, museums represent a good example of what Carayannis, et. al describe as a "nexus or hub of the emerging 21st century Innovation Ecosystem" (Carayannis, et al, 2009, p.202). Hence, by engaging with museums, designers can gain unique insights, which should be shared with the design community more broadly to spur the development of new practices.

4.2 Museums as 'Arenas' for Design Discourse

In addition to the development of design practice, we also need to consider the importance of design culture. In *Design Culture and Dialogic Design*, Manzini examines the need to strengthen the culture of contemporary design:

"The absence of a debate on emerging design's cultural dimension is a serious limitation that prevents it from becoming the agent of (cultural and therefore also social and environmental) change that it could and indeed should be" (Manzini, 2016, p.52).

He advocates for resolving the lack of understanding of design's culture through discussions in different "design arenas" (Manzini, 2016, p.54). Manzini lists a number of physical and virtual places that represent such spheres of interest and activity around design, including conferences, gatherings, journals and social media groups. We propose to add museums to this list due to their contribution to discourses about matters of cultural, social and environmental importance - and in the case of design museums, specifically matters of design and its context.

One example of a design museum that fosters conversations on contemporary design issues, while demonstrating strong ties to the current design community, is the Design Museum Ghent, Belgium. The museum's investment in connecting to the design community becomes apparent in their exhibitions, such as *vol+maakt*, a "socio-economic co-creation project" (Design Museum Ghent: *Vol+maakt*, 2020) initiated by the City of Ghent and the Ministry of Makers. The Museum displayed the work of local designers and employment enterprises who contributed objects that paid a tribute to "crafts, sustainability, local production and a social context" (Design Museum Ghent: *Vol+maakt*, 2020). Besides its exhibitions,

the museum also articulated its interest in contemporary design during the most recent development of a new wing. The wing will be designed using a participatory design approach. For this purpose, the museum has engaged with different design practitioners, including the authors of this paper. Moreover, participation will be at the heart of the finished wing. As Katrien Laporte, Director of Design Museum Ghent, states:

“Designers, producers, courses, galleries and creative industries will find a lively, participatory and interactive space in the heart of the city.” (Design Museum Ghent: *TRANS*, 2020).

With this, the museum represents an excellent arena that facilitates design discourses and contributes to a culture of contemporary design.

Lastly, we want to highlight the unique interfaces to communities which museums could provide for designers. These interfaces are increasingly being rethought by institutions in the search for new engagement models with the public. Again, the Design Museum Ghent is a good example. With the development of its new highly technological, participatory space, the museum articulates its “ambition of becoming a ‘community sensemaking museum’, a museum that is future-proof and, above all, useful for the entire community” (Design Museum Ghent: *TRANS*, 2020).

This statement publically shared by the museum was confirmed during our engagement. In interviews conducted by the authors, staff members described the new wing as an “open house”, “a gathering place”, a “landmark of content” where knowledge is made accessible to a wide range of audiences (Hilmer, et al, 2018). As institutions, such as the Design Museum Ghent, rethink their engagement models, they establish novel interfaces to communities. Designers have the opportunity to co-create these interfaces - and leverage them beyond their immediate engagement with museums.

To conclude, participation can help museums to overcome their crises and strengthen their role as platforms for the common good. In order to ensure the success and wider adoption of participatory design in the cultural realm, we consider reciprocity, a truly mutual exchange of benefits, as paramount. All groups - the museum, the community and designers - should perceive the co-creation process as valuable and fulfilling.

Since discussions about participatory practices in the cultural realm often focus on the benefits for museums and the community while ignoring the benefits for designers, this paper aimed to fill this gap. We proposed several concepts that indicate why participatory projects with museums are valuable for designers:

4.3 Museum as Interfaces Between Designers and Communities

5 Conclusion

- Museums as hubs for design practice development, enabling insights into the innovation ecosystem.
- Museums as arenas for design discourse, fostering the development of design culture.
- Museum as interfaces between designers and communities, originating in the search for new engagement models with the public.

Considering the value that engagement with museums could bring to the design community, we advocate for designers and design researchers to actively seek such projects. This will strengthen the synergy between museums and designers. We believe that it is ultimately this synergy that will enable the rethinking of community participation and will allow museums to be stronger platforms for the common good.

References

- Aalto University: *Design Culture Salon*. Accessed December 13, 2020. <https://designculturesalon.org/about/>.
- Armstrong, L., & Julier, G. (2016). Interactions in the museum: Design culture salons at the Victoria and Albert Museum. In Farrelly, L., & Weddell, J. (Eds.), *Design Objects and the Museum* (pp.159-167). London: Bloomsbury.
- Carayannis, E., & Campbell, D. (2009). 'Mode 3' and 'Quadruple Helix': Toward a 21st Century Fractal Innovation Ecosystem, *International Journal of Technology Management*, Vol 46 (3/4).
- Charman, H. (2016). Just what is it that makes curating design so different, so appealing?. In Farrelly, L., & Weddell, J. (Eds.), *Design Objects and the Museum* (pp.137-147). London: Bloomsbury.
- Dalsgaard, P. (2012, Summer). Participatory Design in Large-Scale Public Projects: Challenges and Opportunities, *Design Issues*, Vol 28 (3).
- Dalsgaard, P. (2012, Summer). Participatory Design in Large-Scale Public Projects: Challenges and Opportunities, *Design Issues*, Vol 28 (3).
- Design Museum Ghent: *TRANS, Carmody Groark and RE-ST to design the new wing of the Design Museum Gent*. Accessed Dec 13. <https://www.designmuseumgent.be/en/news/2019/trans-carmody-groarke-and-re--st-to-design-new-wing>.
- Design Museum Ghent: *Vol+maakt*. Accessed Dec 13, 2020. <https://www.designmuseumgent.be/en/events/volmaakt>.
- Fry, T., Dilnot, C., & Stewart C. (2015). *Design and the Question of History*. London: Bloomsbury.
- Gasparotto, S. (2019, Spring). Open Source, Collaboration, and Access: A Critical Analysis of "Openness" in the Design Field, *Design Issues*, Vol 35 (2).
- Hamers, D., Bueno, M., Vaneycken, A., & Schoffelen, J. (2017). *Trading places: Practices of public participation in art and design research*. Barcelona: DPR: 13.
- Hilmer, L., Rotzinger, L., Suárez, I. (2018). *Being Part. Reflections on the Participatory Museum*. London: Unpublished.
- Hussain, W. (2018, Spring Edition). The Common Good. In Zalta, E. (Eds.), *The Stanford Encyclopedia of Philosophy*. Retrieved December 13, 2020, from <https://plato.stanford.edu/archives/spr2018/entries/common-good/>.
- Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research, *Design and Culture*, Vol 7 (2): 229-246.
- Janes, R., & Sandell, R. (2019). Prosperity Has Arrived: The necessary emergence of museum activism. In Janes, R., & Sandell, R. (Eds.), *Museum Activism* (pp.1-21). Oxon: Routledge.
- Manzini, E. (2016, Winter). Design Culture and Dialogic Design, *Design Issues*, Vol 32 (1).
- Margolin, V. (2007, Summer). Design, the Future and the Human Spirit, *Design Issues*, Vol 23 (3).
- Robertson, T., & Simonsen, J. (2012, Summer). Challenges and Opportunities in Contemporary Participatory Design, *Design Issues*, Vol 28 (3).
- Simon, N. (2010). *The Participatory Museum*. Santa Cruz: Museum 2.0.
- The Museums of Applied Arts and Sciences: *Common Good*. Accessed December 14, 2020. <https://maas.museum/event/common-good/>.
- The Museum of Modern Art: *This is for Everyone: Design Experiments for the Common Good*. Accessed December 14, 2020. <https://www.moma.org/calendar/exhibitions/1501>.
- Victoria and Albert Museum: *Engineering the World: Ove Arup and the Philosophy of Total Design*. Accessed December 13, 2020. <https://www.vam.ac.uk/exhibitions/engineering-the-world>.
- Victoria and Albert Museum: *Research*. Accessed Dec 13, 2020. <https://www.vam.ac.uk/info/research>.

Curating for the Common Good. An Activist Curatorial Framework to Foster Innovation in Design

Keywords: Curating,
Design Exhibitions, Design Museums,
Common Good, Innovation.

Viviane Stappmanns^{a*}

^aCurator, Vitra Design Museum
Guest Professor,
Karlsruhe University of Arts and Design
^{*}vivistappmanns@gmail.com

To curate is to care. Literally. Traditionally, curators are minders, tasked with cultivating, growing, preserving and exhibiting collections of precious objects, from artworks to stamps. Yet in recent decades, a new type of curator – and with them a different kind of exhibition – has emerged in the field of design. No longer bound to focus only on objects, curators increasingly care for issues. They reinvent the gallery space to become a zone for critical inquiry and for negotiating, debating and discussing how design can have a positive impact on society. But since both design practice as well as the role of museums and cultural institutions is radically changing, do we need to reevaluate the curator's role further and adapt our operational model? What are current challenges and opportunities in the practice of curating design?

In this paper, I trace the history of design curating, explore changes in museum dynamics and evaluate my own experience as a curator working with design practitioners. From this, I extrapolate learnings for a current and future curatorial practice in design. In place of a conclusion, I propose a framework for a more collaborative, “activist” model of curating to supplement existing curatorial practice. Responding to the challenges at hand both within design and museums, this framework brings together transdisciplinary teams of designers, researchers, industry and cultural producers. It positions the cultural institution as a facilitator of innovation in design and the curator as a catalyst in enabling design experimentation and innovations to ultimately benefit the common good.

1 Introduction

Paola Antonelli is the world's most renowned curator of design. Since 1994, the Italian-born architect has been producing exhibitions at New York's Museum Modern Art (MoMA). To be included in one of her shows is a seal of approval for designers, her patronage has been the foundation stone for many successful career trajectories. But it is not only the designer's careers she has had a profound impact on. With shows like *Mutant Materials* (1995), *Safe: Design Takes on Risk* (2005-2006) or the online exhibition project and curatorial *Experiment Design and Violence* (from 2010), she has expanded both the design community's as well as the general public's understanding of the possibilities and reach of design, and fortified its intrinsic nature as connective tissue between the arts, humanities and sciences. Yet in an 2015 interview, she conceded that "I have been preaching for years that designers take a Hippocratic Oath that designers always work for the betterment of society and the world," only to realise that "that is not true" (Ryan, 2015). And it isn't. A designer's work is usually shaped around, or in response to, a client's intention – an intention likely to be borne from commercial interests, not what's better for nature or the common good. In the objects we use, see before us, and – as curators – exhibit, many possibilities of design remain obscured, many alternatives never realized. Yet although Victor Papanek's prescient tenet that there are few professions "as harmful as that of the industrial designer" (Papanek, 2012, (1971)), is now more than 40 years old, it took another generation of unbridled confidence in human technology, of Juicy Salifs and countless Italian design exhibitions until the design profession – and with it, the curators embedded within - gradually realised it might have been the bedfellow, accomplice even, of environmental destruction and corporate greed.

The question how design could become a less deleterious, perhaps even restorative practice is now part of mainstream discussion. Academics and designers strive to identify ways of working to aid in creating more just, socially and ecologically sustainable societies, but they are aware they are addressing what design researcher Horst Rittel famously referred to as a "wicked problem" – by definition in flux and difficult to define (Rittel & Webber, 1973).

Exhibitions have long been a catalyst to aid architecture and design practice leap forward and find orientation in times of uncertainty. In a 2017 study of 11 epochal architecture and design exhibitions, curator Zoe Ryan suggests that a number of exhibitions have "fundamentally repositioned architecture and design and explored the relationship between these fields and the economic, social and political changes affecting everyday life." (Ryan, 2017, S. 16)

In an era that is all about identifying new ways to apply design for the advancement of the common good, how could museums –

known so far mostly as the “arbiters of taste” (Hoffmann, 2017, S. 40) – enter the conversation?

Outside the profession, the value of including the cultural sector in the search of sustainable and social development innovation has long been recognized. In the 1990s, sociologists Henry Etzkowitz and Loet Leydesdorff developed the Triple Helix Model of Innovation. According to them, interactions between academia, industry and government institutions – which in turn create new intermediaries and interfaces – foster economic and social development in knowledge economies. (Etzkowitz & Leydesdorff, 1995). In 2009, Carayannis and Campell added a fourth helix to “emphasise the importance of also integrating the perspective of the media-based and culture-based public.” (Carayannis & Campbell, 2011).

I am convinced that museums and other cultural institutions are important players in the research and development process for new, more sustainable applications of design. To become, as Bergdoll suggested in relation to architecture exhibitions, “an incubator rather than the mirror of new ideas.” (Bergdoll, 2020). For a number of years, I have explored how curatorial practice would need to adapt in order to form successful working coalitions with designers, industry, government, media and academia to not only mirror their aspirations for sustainable innovation, but to be an active and valuable driver.

As part of my contribution for the “Design as Common Good” conference, this paper aims to map and capture the status quo of this ongoing research. My forays into the history and present of design curation practice, as well as my own experience in working with contemporary designers are described here as separate research trajectories. I conclude with a first iteration of a framework for an “activist curator” – this is conceived as an ongoing document that will evolve as the research progresses.

2 Curating Design

One of the difficulties in formulating a forward-looking curatorial practice in design is the lack of tradition or history upon which to build on. Fine art, architecture or technology curation each seem to enjoy a vibrant scholarly and professional discourse – as evidenced in a wealth of publications, experts and courses, however although design is often included on the margins of these discussions, a focused conversation appears to be missing. After thorough study, design historian and former V&A Curator Gareth Williams too concluded, that “museums have had a chequered relationship with design. [...] Design curation practice [...] seems to find it hard to be considered as an autonomous subject.” (Williams, 2010) Although I am aware that design itself is – and should remain – a hybrid discipline that unites elements of technology, art, and philosophy and overlaps into all these fields, for me, as a cura-

tor, I did find it imperative to engage with the traditions that are particular to design curation in order to situate myself within this field and define my position relative to existing paradigms. For instance, in curating architecture, a vibrant discourse centers around the intrinsic difficulty that the exhibiting of architecture can only ever be representational, thereby fueling a discussion and experimental culture around architectural curating.

But what are the recurring tropes, clichés or pitfalls of design curating? A historical exploration reveals a central theme to design curating is its situation in a field of tension between industry interests and public education.

This is already evident in the World Exposition that were important precursors to Applied Arts Museums like the V&A in London and the MAK in Vienna. Conceived as places of education around the products of industrialization, philosopher and cultural critic Walter Benjamin cynically referred to them as “places of pilgrimage to the commodity fetish.” (Benjamin, 1999 (1927-1940)).

This tension around cultural and commercial interests is also prevalent in the world’s most prominent – and first – dedicated department of design within an art museum. Established at the MoMA in 1934, many of the department of design’s exhibitions (particularly after the end of the second WW2) presented everyday objects and furniture that became available to buy to the emerging, style-conscious middle class of the time. A paramount intention of these exhibitions was the public education around taste and quality items of utility. Former MoMA chief curator Barry Bergdoll suggests about these exhibitions that they were “as successful in making the museum another cog in the machinery of consumer desire - most famously in the museum's Good Design exhibitions at mid-century - as they were in challenging the status quo.”

The design museums of the “third wave” in the 1980s and 1990s too were conceived in distinct relation to the maturing consumer culture of the time. Vitra Design Museum Director Mateo Kries points out that at the time of the museum’s opening in 1989, “it was becoming obvious that this evolution required new museums and institutions which would guide consumers through the volatile aesthetic diversity of products and images, while also developing criteria for design research and providing platforms for debating design’s new responsibilities as a key cultural aspect of society.” (Kries, 2018).

To me, this continuous thread in design curating – the dependence, entanglement, friction and negotiation of the relationship between cultural and commercial realm is intrinsic to design curating distinguishes this area of curating from other. In light of this, it is especially interesting to examine the conscious shift of

design exhibitions towards thematic and often speculative exhibitions that are consciously pitted against any commercial interests. In 2003, Canadian designer Bruce Mau proclaimed a new age for design exhibitions by asking “Now that we can do everything, what will we do?”.

His touring show *Massive Change* (2003) was constructed as a poetic response to this question. In its wake came exhibitions that similarly aimed to understand the possibilities of design, such as *Design Takes on Risk* (2005-2006) or *Design for the Elastic Mind* (2008), both at MoMA. Recent international examples include the Walker Art Center’s *Designs for different Futures* (2020), the V&A’s *The Future Starts Here* (2018), The Vitra Design Museum’s *Hello, Robot* (2017) or the Mori Art Museum’s upcoming *Future and the Arts: AI, Robotics, Cities, Life - How Humanity Will Live Tomorrow*.

From a curatorial perspective, what is most interesting that these shows have also foregrounded and promoted emerging forms of design practice. Many of the works are produced within a new studio model of design, one that revolves heavily around speculative inquiry and research. Its authors have freed themselves from commercial clients’ expectations and instead work to self-initiated briefs, producing outcomes that critique the status quo, speculate on future society and at times offer encouraging proposals. Antonelli’s blockbuster exhibition *Broken Nature*, which opened in late 2019 at the Triennale in Milan (and travelled to the MoMA in late 2020), featured a long list of those kinds of practitioners, gathered under an umbrella of what Antonelli termed here “restorative design”.

At a time where design practice struggles to find purpose, the museum – and within it, this new model of design exhibition – provides a space for experimentation and speculation, producing hopeful applications of design for a better future.

However, these developments also represent a segregation into two types of design practice – continuing commercial practice and the speculative, experimental practice, constructed for the museum only. The debate around these hypothetical futures risks to remain insular, part of the museum and academic design community only.

3 Curating Designers

As a curator at the Vitra Design Museum Gallery, it was my role to work in-depth with early to mid-career designers and as such, I engage in-depth conversations with practitioners. These include artist and designer Alexandra Daisy Ginsberg, whose works examine our fraught relationships with nature and technology, as well the human impulse to “better” the world, German-born, Finland-based Julia Lohmann who conducts unique research into the potential of Seaweed, as well as Dutch Designer Christien Mein-

dertsma, whose in-depth research methods into traditional crafts and materials has spawned unique objects and serial works.

This, I know, is a rare privilege in the world of curating. If a designer's work is included in a group show, an initial conceptual discussion will very quickly be superseded by pragmatic correspondence about object dimensions, loan fees or label text. But working on solo shows requires curators to delve deep into the work and – more importantly – engage with the philosophies and the working conditions of the designers.

Through being able to lead these in-depth conversations – as well as comparing notes with fellow curators on their work I discovered a number of recurring issues.

- However speculative, poetic, critical though it is, much of the work produced by these designers stays at the museum. Although the kind of design practice that is proposed here should be promoted and fostered – ultimately benefitting the environment or the common good, either by way of actual solutions or by critically appraising the status quo – it remains in a vacuum.
- The work rarely supports its authors financially. Museum projects tend to be cross-funded by other professional pursuits – academic employment or teaching, a commercial practice, or grants. The designers often find themselves unable to devote sufficient time to this type of work.
- Good work is rare. Few designers are unable to self-fund larger speculative, research intensive works. Museum curators compete with other curators to be the first to show the available work.
- The work does not evolve. To be exhibited, it often (needs to) find a natural finishing point, as some kind of closure is required to warrant exhibition. It remains a one-off research project. To develop it further, an iterative, long-term commitment would be needed, but this does not fit with the exhibition schedules of museums and galleries.

4 Museum Practice

At the time this paper is written, most European Museums are closed, but COVID was not the beginning of the Museums' existential crisis. For decades, museums have struggled to counteract their didactic education traditions and elitist reputation. Even the central museum body ICOM (International Council of Museums) felt compelled to write relevance into the museum's *raison d'être* by proposing a reworked definition of a museum to include the words "polyphonic" and "democratic". Rem Koolhaas famously stated that shopping is the only cultural activity left in our city centres, and that even "the experience of the museum is becoming increasingly seamless with that of the department store." (Koolhaas, 2001). Most museums – and within them design curators – are eager to rise to the challenge. Former curator of Architecture, Urbanism and Design

at the V&A, Rory Hyde calls this “the big shift that we are seeing in Museums now. Instead of controlling the narrative, the idea is to create a platform where we can come and make sense of the world together.” (Hyde, 2020). However, in reality many museums find it easy to come up with new ideas for participation in internal workshops, but when it comes to putting these formats into place, they struggle to transcend established conventions, conservation regulations - not to mention budget limitations. Apart from this, the foundation stone for many museums is an expansive and maintenance-intensive collection, which, by decree, also forms the basis of the majority of exhibition activity – it is a difficult environment to innovate within (nor should this basis be eroded). Additionally, there is the issue of staff and organizational hierarchies. As far as curators are concerned, many were originally trained and recruited to be experts in collecting, preserving and exhibiting objects of design – it is difficult for them as well as their colleagues to rethink their job descriptions, as well as recalibrating the spaces they work with.

5 The Activist Curator Framework

Based on my analyses and observations I propose the framework of the “Activist Curator” to conjure a more networked curatorial practice that ultimately aids in supporting design practice to produce (and finance) experimentation without commercial pressure, show and test prototypes to a wider public, and connect with likeminded and complementary organisations to ensure long-term development possibilities. In pursuing this practice, the Activist Curator might choose to work with only a small number of designers on more in-depth projects. In doing so, one or a number of the imperatives form the touchstones of the framework.

– Be the client

In 2019, I curated the first solo exhibition in an international design museum of British artist and designer Alexandra Daisy Ginsberg. We were initially attracted to Ginsberg because of her speculative works at the intersection of design and Synthetic Biology, but as soon as I embarked with her on the 6-month conversation that would eventually end up becoming the exhibition, I found her physical objects and artworks were underpinned much broader, ongoing philosophical and critical inquiry into the purpose that drives all design work – the concept of “better”. As part of her PhD, Ginsberg had gathered an impressive collection of the promises of better – made by companies such as Coca Cola or Unilever – to set up the following questions as a framework for anyone engaging with design projects: “What is better?”, “Whose better?”, and “Who decides?”. “Whose better?” is a particularly relevant question for curators working with designers on new museum projects or commissions. Here, curators have the unique opportunity to take the role of a client and thus, stipulate “whose better” designers might respond to. Ewan McEoin, Senior Curator Contemporary Design and Architecture at the Nation Gallery of Victoria (NGV) in Melbourne, Australia, has established a model of curatorial commis-

sioning based on this premise. “We act on behalf of environmental and social change,” he says, explaining that he and his colleagues often research and develop extensive briefs for the designers they decide to work with. One of the most successful projects McEoin has initiated is Ore Streams, undertaken by Dutch-Italian studio Formafantasma and first exhibited in 2017. McEoin and his colleague Simone LeAmon approached Formafantasma with the idea to research the global mechanism of e-waste disposal and distribution, and proposed to exhibit this research. This model of commissioning has now become an established format for the NGV-curators. They do, however, concede that it requires long lead times, significant financial commitments and a willingness to take risks.

- Forge alliances

Curating has never been viewed as a team sport. History is full of curators across all fields who act(ed) as public intellectuals and beacons of opinion. The activist curating practice in design necessitates to work in teams. This includes creating teams of curators with complimentary skills, but also seeking alliances with researchers, academics, think tanks and philanthropists to work on long-term projects (some of which may never come to fruition). This also ensures that these can exist beyond the traditional exhibition cycle of a museum. Ore Streams, for instance, might have been commissioned by a number of institutions, with each institution presenting new steps of the research. Another project exhibited at the NGV. Urchin Corals was created by designer and researcher Pirjo Haikola for the NGV's 2020 Triennial. Co-financed with RMIT University, Haikola explored ways in which design can help tackle specific ecosystem imbalances and improve conservation and sustainable practices. The project was commissioned in late 2019, was first exhibited in late 2020, but – due to its funding nature – is due to continue beyond the duration of the exhibition. Such alliances – for instance, joint ventures with philanthropic organisations that support minorities or with universities - can also move the museum toward the polyphonic space that ICOM is envisaging. “Think of it as a form of social engineering,” suggests cultural theorist Reesa Greenberg about such alliances (Greenberg, 2015). This does, however, require skills of the activist curator that were not previously called upon, at least not in an institutional context, such as entrepreneurial thinking and fundraising. The curator becomes a convenor of culture, a conduit rather than a solitaire, connecting isolated discussions and engineering new possibilities – in every direction. To industry, they may provide input to instigate experimental, at times risky, innovation by suggesting projects and inviting artists or designers.

- Challenge the format

The Activist Curator positions the cultural institution as producer of design, not solely as an observer and presenter of its outcomes. These institutional modes of production include, but are not limited to, acting as commissioner for projects, underwriting research projects or facilitating co-funding opportunities for re-

search and development. This requires new formats. Curating is traditionally defined by the medium of exhibition, but an Activist Curator needs the content to effortlessly shape shift to take on different forms – this may include films or podcasts, publications or conferences. It is the content that stipulates the outcome, not vice versa. Since established cultural institutions, especially museums, may struggle to overcome their working patterns and staff hierarchies (as evidenced by the inertia displayed by many organisations during the Covid pandemic), it may be useful to find inspiration in cultural institutions that deliberately pit themselves against museum practice. The Canadian Centre for Architecture (CCA) – somewhat provocatively – proclaims the conventional framework of the Museum as too limiting for the ways in which architecture should not only be exhibited, but also discussed and experimented within the cultural realm. Thus, the CCA, manifesto-style, states that “normally, a museum is a place that puts on exhibitions. It typically has a collection. [...] In our world being a museum is not enough.” (Borasi, Ferré, Garutti, Kelley, & Zardini, 2019) Australian curators Fleur Watson and Kate Rhodes have been experimenting with new formats at the design exhibition space Design Hub in Melbourne. They refer to theirs as a process-driven programme, and although they follow a regular, six-month exhibition cycle, try to challenge both the format of the exhibitions and the very definition of what constitutes an exhibition. “Curatorially, a process-driven program means rethinking beyond the traditional exhibition: rather than the poster, the object on a plinth, the image on the wall – what about the workshop, performance, field trip, walk, listening exercise, collective bike ride, factory visit, Skype conversation, pin-up crit, reading or exchange over a meal?,” they asked (long before Covid-19 necessitated such forays for many cultural institutions overnight.) (Rhodes & Watson, 2014) To be able to become more flexible in terms of formats and possibility, it is the staff of the museum – not its spaces – that will need to become more adept to new ways of working, regrouping in different teams and being open for new tasks and inspiration from sources entirely outside museum practice.

- Play the long game

Although this point has been made in the previous two paragraphs, it still warrants its own sub-heading. The new curatorial opportunities may require ongoing stop-and-start conversations among many actors, they may require patience and the dismantling of project-based thinking in favour of issues-based approaches and fostering ongoing strategic networks. This is both the last but also the first step in activist curatorial approach.

References

- Benjamin, W. (1999 (1927-1940)). *The Arcades Project*. (H. E. McLaughlin, Übers.) Cambridge, Massachusetts and London, England: The Belknap Press of Harvard University Press.
- Bergdoll, B. (Fall 2020). In the Wake of Rising Currents: The Activist Exhibition. *Log, Curating Architecture*(20), 159-167.
- Borasi, G., Ferré, A., Garutti, F., Kelley, J., & Zardini, M. (2019). *The Museum is not Enough*. Berlin: Sternberg Press.
- Carayannis, E. G., & Campbell, D. F. (2011). *Mode 3 and Quadruple Helix Innovation Systems - 21st Century Democracy, Innovation, and Entrepreneurship for Development*. Springer.
- Etzkowitz, H., & Leydesdorff, L. (1995). The Triple Helix - University-Industry-Government Relations: A Laboratory for Knowledge based Economic Development. *EASST Review*, 14, S. 14-19.
- Greenberg, R. (2015). Activist-Patron-Curators and North American Museums. In H. B. Amundsen, & G. E. Morland, *Curating and Politics beyond the Curator: Initial Reflections* (S. 55). Ostfildern: Hatje Cantz.
- Hoffmann, J. (2017). *Curating from A to Z*. Zürich: JP Ringier.
- Hyde, R. (10. September 2020). *Design and Public Life. MSD at Home*. <https://www.youtube.com/watch?v=fGk7mmYnbzwa>
- Koolhaas, R. (2001). *The Harvard Design School Guide to Shopping: Project on the City*. Monacelli Press.
- Kries, M. (2018). *The Atlas of Furniture Design*. Weil am Rhein: Vitra Design Museum.
- Papanek, V. (2012, (1971)). *Design for the Real World - Human Ecology and Social Change*. Chicago : Academy Chicago Publishers.
- Rhodes, K., & Watson, F. (31. October 2014). *Curating Ideas in Action. Cusp - Designing into the next decade*. Von <https://cusp-design.com/read-rmit-design-hub-curating-ideas-in-action/> abgerufen
- Rittel, H., & Webber, M. (1973). *Dilemmas in a general theory of planning*. *Policy Science*.
- Ryan, Z. (2015). *Design and Violence; Zoe Ryan interviews Paola Antonelli*. *MAS Context* (27), S. 64-81.
- Ryan, Z. (2017). *As Seen - Exhibitions that made Architecture and Design History*. Yale University Press.
- Williams, G. (2010). *On the problematic relationship between institutions and critical design thinking*. In Jeppsson, Freda, *In Case of Design - Inject Critical Thinking* (S. 27). Stockholm.

Making the Design Commons – Methods, Tactics and Processes

**Collectivizing the White Cube:
Design Gallery as Commons**
Ellen Christensen

**Walking by the Commons:
Developing Design Patterns for Future
Cultures of Consumption
and Production in Exhibition
Interview Walks**
Martina Fineder, Luise Reitstätter

**The Design of Social Independent
Magazines. Multiple Translations
for a New Design Sensitivity**
Elena Caratti, Giovanni Baule

Collectivizing the White Cube: Design Gallery as Commons

Keywords: Commons, Collective,
Co-design, Gallery.

Ellen Christensen^{a*}

^aSan Francisco State
University School of Design
*ellenchristensen@sfsu.edu

How can the design gallery be collectivized? How can the gallery be activated and reclaimed as a common space (both shared and everyday) contributing to the current and future common good through processes of co-design, co-curation, and co-authorship—with the goal of common ownership? This paper will explore three specific case study strategies for collectivizing the gallery space: 1) the 2019–2020 exhibition “Making Common,” curated by Maryland Institute College of Art (MICA) AICAD Post Graduate Teaching Fellow Elaine Lopez; 2) the 2015 re-envisioning of the graphic design gallery at the Rhode Island School of Design as a “design commons”; and 3) Studio Moniker’s Conditional Design manifesto for collaborative artistic co-processes (Maurer et al., n.d.). Julie Ault’s framework of viewing exhibition-making as a political “process of inclusion and exclusion” (Ault, 2003, p.363) will be applied to analysis of practices of co-authorship, co-design, and collective memory.

1 Introduction

How can the design gallery be collectivized? How can the gallery space - the “white cube” that at its most sterile strips work of “meaning, liveliness, and dynamism of use” (Bilak, 2006) be activated and reclaimed as a common space contributing to the common good through processes of co-design, co-curation, and co-authorship - with the goal of common ownership? How can the exhibition space realize its full potential as an anti-elitist shared, social, and political space? If we are to collectivize exhibition spaces, we must first acknowledge their potential as sites of social production: “Exhibitions are social spaces where meanings, narratives, histories, and functions of cultural materials are actively produced.” (Ault, 2003, p.362) Within dynamic gallery spaces, the social and relational aspects of design are intrinsic to the creation of the space.

“Politics and culture cannot be disconnected; the processes by which art is taught, made, distributed, financed, shown, and used are not neutral, but are shaped by historical, economic, and social dynamics. One role of cultural activism is to articulate critical readings of these processes and examine the relationship between artists and social structures, including the art industry. Cultural activism in the art field can illuminate crucial links between culture, politics, and social agency. Exhibition-making can be an efficient and engaging way to express and portray social processes and conditions.” (Ault, 2003, pp.365–66).

Three potential strategies for collectivizing the white cube outlined by Julie Ault in “Exhibitions as Political Space” are “structures, subject matter, and modes of display and presentation” (Ault, 2003, p.365). Each of Ault’s strategies is applied below to three relevant case studies.

2 Case Studies in Collectivizing the White Cube

2.1 Subject Matter as Tactic: Elaine Lopez’s Making Common Exhibition

Perhaps the most direct tactic for centralizing the collective is to create exhibitions refocusing attention on the collective common through a focus on radical subjectivity.

“Among other things, curating or exhibition-making is a process of inclusion and exclusion. The curatorial field, by definition, is invested in hierarchical descriptions of culture. Though usually not outspoken, a hierarchy of cultural practices is discernible upon considering what institutions deem worthy of their support, what they subsequently exhibit, and what they don’t. As well, power structures are evidenced by taking into account criteria and organizing principles of exhibitions, how they are enacted, and how viewers are addressed.” (Ault, 2003, p.363).

The 2019–2020 exhibition *Making Common*, curated by AICAD Maryland Institute College of Art (MICA) Post Graduate Teaching Fellow and brilliant designer-leader Elaine Lopez, “brings together art and design students, professors, and practitioners that share a common interest in communicating non-normative experiences and perspectives. Collectively the show explores the expression of cultural identity, personal experiences, and underrepresented narratives through photography, printed matter, installations, websites, and videos. These works model alternative ways to use art and design to question and expand our worldview.” (Lopez, 2019).

Making Common was first shown in the MICA (Maryland Institute College of Art) Bronze Gallery in Fall 2019 and traveled to DesignSpace at San Francisco State University in February 2020. The exhibit brings together “art and design students, professors, and practitioners that share a common interest in communicating non-normative experiences and perspectives.” (Lopez, 2019). *Making Common* is vibrant and questioning, with potency in the directness of the contributions, such as:

- Tatiana Gómez Gaggero's *América ≠ America* (2018) riso print series switches one small glyph as what Gómez Gaggero describes as a “clear example of language applied to geopolitics, where different cultures appropriate terms and name things depending on their power over other cultures, their backgrounds, their versions of stories.” (Lopez, 2019).
- Paul Soulellis' *QUEER.ARCHIVE 2 and 3* (2019) is shared by Soulellis as “an imperfect signal sent into muddy waters, the start of a speculative practice forming within (and emerging from) the undercommons.” (Lopez, 2019).
- Shira Inbar's *Separated/Separados* (2019), a catalog of visual responses to the situation of migrant children being separated from their families and detained in concentration camps at the Southern U.S. border (Lopez, 2019), is arranged sheet-by-sheet on a gallery surface with equal attention to all newsprint pages. Copies are stacked within the gallery space for those who would like to purchase one on an honor system, with any profits donated to support and benefit detained migrant children in the U.S.
- Platform's website design and development for *Photo Requests From Solitary* (2019), a “participatory project that invites men and women held in long-term solitary confinement in U.S. prisons to request a photograph of anything at all, real or imagined, and then finds a volunteer to make the image. The astonishing range of requests, taken together, provide an archive of the hopes, memories, and interests of people who live in extreme isolation.” (Lopez, 2019).

In each of these contributions, the “common” is also a tactic of connection - and in some cases, direct action.

Marketing for Lopez's exhibition was heterogenous, echoing artist collective Group Material's flexible promotional tactics for exhibitions such as *Democracy Poll / Demokratische Erhebung* (1990) with posters of all different sizes created in a variety of aesthetic. Promotional posters for the exhibition were created by all willing workshop participants, without rigid enforcement of a particular branding style guide. Fliers were placed in whatever locations participants traveled to during their daily routines, rather than within strategic corporate locations.

In the iteration of the *Making Common* exhibit at San Francisco State University DesignSpace, the following vinyl-cut words were affixed on the reflective floor by the front door to immediately greet visitors entering the gallery space:

common space
common place
common goals
common good
common form
common bond
common sense
common ground



Fig. 1: Vinyl cut text on the gallery floor for Elaine Lopez's *Making Common* exhibition installation at San Francisco State University Designspace, February 6, 2020.

Through the unconventional placement on the imperfect floor of the public university gallery, traditional exhibition formats were immediately subverted. Instead, visitors were greeted with a manifesto of collective ownership and an invitation to participate as co-contributors to the exhibit which invited flexible additions by gallery visitors - such as their own memories on post-its - in relation to the installed pieces. The repetition of the word “common” was intended to function as something of a community agreement for those who entered the space. The rhetorical device is also intended to mark the space as a space of flux and play.

2.2 The Rhetoric of the Common

For rhetorical precision, the Common is not necessarily the popular.

“Leslie A. Fiedler's essay 'Cross the border - Close the Gap' played a significant role in the discussions around postmodernism. We could say that it now reveals itself as a 'visionary' text because it pre-empts the postmodern concept of the artist as double agent of both the elite and the popular. This artist, who in reality is a double agent of social circumlocution, fits the social into a synaesthetic concept of pluralism and multi-dimensionality as just another fractal aspect among so many others. The white cubes of today - be they gallery boutiques or fashionable commercial art spaces - don't sell ideas, pose questions or structure analyses like they did at the beginning of conceptual art thirty years ago.” (Babias, 2004, p.103).

The Common is not commodified individualistic perception. It is not to be confused with “artistic practices that originate from real-life experiences and that strive for a de- or reconstruction of reality [that] played a dominant part in the development of art in the 1990s. In the 1990s the absorption of real-life relationships, circumstances and situations became the principle of the aesthetic production of reality. Perception became tradeable and aesthetic experiences took on the form of commodities.” (Babias, 2004, p.102). Urban and lowbrow aesthetics of the past few decades have been co-opted by capitalism in a variety of spin-offs of the white cube.

The Common places rhetorical emphasis on the political. Previous art historical frameworks of the “everyday” or “ordinary” veer dangerously close to notions of “universality” that systematically ignore the real socioeconomic, economic, and political factors creating starkly unequal everyday working conditions and experiences of this everyday. This oversight has echoes in the worst applications of “universal design” theory which overgeneralize and compress vastly different individual experiences into catch-all solutions that overlook differences in power and positionality. The rhetoric of the “common” is important as this term acknowledges power dynamics within the white cube and art historical traditions, subverting dynamics of power and class by centralizing the “commoner” - traditionally one without rank or privilege. This rhetorical elimination of

the ruling class is pushed further in Jerome Harris' titling of his seminal exhibition *Of, Not For: Dethroning Our Absolutes*.

2.3 Modes of Display and Presentation as Tactic: RISD GD Design Commons as a Case Study in Flexibility

Flexible, adaptable modes of display and presentation are a key emphasis of the 2015 re-envisioning of the graphic design gallery at the Rhode Island School of Design by then-department head John Caserta. The previously sterile, underutilized gallery space was reinvented as a "design commons" - a multifunction shared space designed collaboratively and envisioned as a space for sharing works-in-progress, to encourage "the creation of new work (in the broadest sense), and present-tense experiences" (Caserta, 2015) This collaborative project re-envisioned the gallery as a common space of the everyday, of interconnectivity, and of constantly changing visible labor. "[...] It is crucial to approach exhibition-making activities newly in relation to the particular contents or material to be exposed. Display and presentational modes are necessarily flexible." (Ault, 2003, p.364).

As Caserta defines it, the RISD Graphic Design Commons is "more than a repository for finished works: the space encourages the creation of new work (in the broadest sense), and present-tense experiences for the GD community and beyond (when desirable). The five large windows allow for lots of looking in and out. The activities that occur within the space are a show. The Commons is meant to support the more open undergraduate curriculum in terms of gathering students and the undertaking and siting of 21st century projects." (Caserta, 2015).

Caserta enumerates the core principles of the Commons as below:

- "The Commons is the largest non-classroom / non-studio academic space in the Department, and as such, is ideal as a meeting point / interstitial space for activities that reach beyond both classroom and studio. It is neither a gallery or a classroom, but may, in spurts, take on activities that resemble those areas.
- The Commons should encourage daring new works and activities that benefit the GD Community.
- The Commons is part public and part private, because of its visibility to those inside and outside the community.
- What happens in the Commons is by default open and visible. Activities there should not block or exclude the GD community (or ideally the greater community). Exceptions include sponsored events or when used for administrative purposes." (Caserta, 2015).

Practical application of these theoretical principles means that the space is reinvented on an almost weekly basis, with student-designer-leaders working collaboratively to lead many of the new spatial identities. By so doing, the Commons aligns with Ault's belief that "Alternative exhibition strategies can interrupt the imposture of neutrality and propose dynamic situations and temporal dislodgement of boundaries and hierarchies that support the status quo of mainstream culture." (Ault, 2003, p.364) The dynamism of the Common is its defining characteristic, with a changeable format to accommodate lectures, informal critiques, discussions, and critiques for core undergraduate studio courses of as many as 80 students showing all formats and types of design output.

With a focus on pop-up critique, there is an almost unlimited potential for co-authorship and presentation to be found in this revolving space:

"Temporary exhibitions share an ephemeral quality which makes intervention and exposure of symbolic potential possible. In a way similar to political graphics acting in the street, exhibitions can introduce agendas into the public spaces of art institutions. Exhibitions can temporarily change or recode the spaces they inhabit. Exhibitions, as forms for the presentation of specific materials, art or otherwise, are also forms for proposing complexity through what they materially, intellectually, and aesthetically bring into proximity, for the narratives they can intertwine. Potentially, an exhibition produces a new political space in a cultural site." (Ault, 2003, p.366).

The radical transparency and openness envisioned for the space is admirable, but this idealism downplays the real power dynamics within any institutional setting.

"Every detail in the process of making an exhibition, from the conceptualizing of its subject and scope, to negotiations with staff at a presenting or sponsoring institution, is imbued with politics - on the everyday procedural level as well as on the larger level of cultural politics. Political conflicts which are specifically relevant to a project's subject matter may also emerge." (Ault, 2003, p.360).

By granting sponsored events and administrative particular power over the space while never specifically naming students as co-owners, campus hierarchy is perpetuated. This emphasis on the space as "always open and visible" also neglects to survey students, who must at times participate in critiques within the space solely in order to fulfill degree requirements, about their voluntary co-adoption of this core principle. By doing so, the principle denies students agency over the definition of the commons in the most equitable manner, by directly making space for and inviting student discussion around issues related to the politics of display including safety,

vulnerability, the gaze, and differences of subject positionality each student may bring into the space.

2.4 Structures as Tactic: Conditional Design as a Method of Common Practice

Luna Maurer, Edo Paulus, Jonathan Puckey, and Roel Wouters of Studio Moniker's Conditional Design Manifesto and its related workbook and workshops espouse the group's guiding principles: process over outcome, methodology shaped by "logic" or constraints, and an embrace of "input" - chance elements, external factors that cannot be controlled, and contributions by participants in a collaborative design process. "At first glance the manifesto recalls the system theories of the 1950s and 1960s, conceptual and process art of the 1960s and 1970s, or perhaps even the more scientifically tinged language of graphic design of the same period." (Blauvelt, 2013, p.iii) While conditional design may at first appear inaccessible and constrictive, its strict rules for process spelled out clearly through a set of rules at the start of each collaboration enable all participants access to entry and participation at the start of each workshop. When workshop procedures and expectations are not spelled out so thoroughly, participants with a socioeconomic status and background traditionally central to the cultural institution may enter with a level of comfort and understanding of expectations not shared by those less familiar with the gallery space. A focus on "collaborative co-processes rather than products: things that adapt to their environment, emphasize change and show difference" (Maurer et al., 2013) can animate the barren and static exhibition space. The embrace of chance is employed strategically as a method to redirect attention to that which is personal and authentic.

"An open system collects its input from the world in which it is situated and returns its results back to that world. It responds to feedback and adapts in order to sustain itself. Conditional design supports this notion insofar as it recognizes that its input: 'should come from our external and complex environment: nature, society and its human interactions.'" (Blauvelt, 2013, p.v).

Elaine Lopez's *Bound Together* workshop, a conditional design workshop presented at disparate real and virtual locations from 2019–2020 embraces the social and relational "inputs" of intimate one-on-one conversations between workshop participants. *Bound Together* was originally a conditional design workshop that took place on November 12, 2019 during the Senior Seminar class at MICA GD. Over 100 students engaged in a dialogue by answering questions designed to help them get to know each other better, and then bound their responses together through an experimental bookbinding format. The second iteration of this workshop took place at San Francisco State University DesignSpace on February 6, 2020 in conjunction with Lopez's *Making Common* lecture and the opening day for her *Making Common* exhibit on the same day. In this one-day workshop, twenty students embarked on a semester

together through a series of face-to-face prompts aimed at helping the students identify what they had in common with one another.

Students documented their discoveries about each other, commonalities, and conversations in Sharpie on pieces of paper of varying sizes and bright colors. A methodical rhizomatic structure was embraced during the process, with each student first binding their handwritten scraps of paper and memories together with their conversation partner, then expanding to bind this shared document with an adjacent pair of students, and so on and so on. The conditional design tenet of embracing difference is visible immediately through the variety of handwritten scripts and outputs, sharpie colors and sizes, paper sheet sizes, and lengths of coil. By the end of the workshop, each student who had bound their loose pages was visibly linked by a variety of spiro coils until an entire chain of subjective narratives reached the entire way across the gallery space.

“Together” conditional design workshop at San Francisco State University Designspace, February 6, 2020.

The tools in this workshop are pen, paper, and coils, but the inputs are subjective and related to prompts about memory, connection, and the personal. As Blauvelt notes, “Traditionally, the subjective has been located with the artist and designer. What is different about process-oriented approaches today and in the case of conditional design in particular is that the subjective has been distributed throughout the process.” (Blauvelt, 2013, p.v). Through a focus on lived experiences within the “Bound Together” conditional design workshop, Lopez repositions student participants (who are often subject to a top-down “banking” educational model within which educators hold all power as grade gatekeepers) as experts, educators, and co-facilitators.

By emphasizing a shared process of co-creation, conditional design prioritizes the improvisational, relational, and dynamic rather than the strictly defined and bureaucratic.

“The desire to form a common practice rather than a shared medium reflects the blurred nature of today’s design practices and at the same time recalls the intermedia experiments, interdisciplinary design studios, and post-studio artistic practices of a previous era. Another common thread connects these historically distinct practices, as evident in the epigraphs above, namely the need to guard against the specter of a totalizing, closed, and rationalized system.” (Blauvelt, 2013, p.iii).



Fig. 2: Co-designed, physically connected student outcome from Elaine Lopez’s “Bound.”

The clear and equitable guidelines for all contributors - as well as emphasis on the playful, authentic, and responsive - make conditional design a legitimate and potentially underutilized tactic for community building outside of the walls of the “white cube.”

3 Toward Radical Openness and Common Ownership

Definitions of design have broadened greatly in the past decade, with a greater focus on design’s malleable potential to overlap other tactics, processes, and disciplines. When Peter Bilak wrote about the “white cube” more than a decade ago, it was “more and more common to see design as ‘object’, not only in books and magazines, but also in the ‘white cube’ of the exhibition space” (Bilak, 2006). This materialistic object-based definition has largely been cast aside by design communities embracing design’s multidisciplinary nature in this age of rapid digital image production, dissemination, and circulation. The new approach is to “design designing: to open the closed system of design, which is no longer just about the controlled production of discrete objects but involves itself in larger questions such as who designs, what kind of tools will be available to create with, and what kinds of systems will be available to share and distribute this production.” (Blauvelt, 2013, p.v) This ideal new common of our postdigital age is built upon a foundation of transparency and the open source: “Today’s world of open source computing, social networking, crowdsourcing, user-generated content, app store platforms, and other manifestations of the participatory culture of Web 2.0, suggest systems that are more radically open in nature, soliciting input from and empowering creation by many users.” (Blauvelt, 2013, p.v).

While the above case studies are promising steps toward prioritizing the common and collective within the politicized gallery space, it is important to note that each of these design actions took place within an academic institution. Even as these exhibitions were free and open to the public, these locations limit the audience to those living in close proximity, with easy access via available transportation options, with working schedules that permit visits during posted gallery hours, and with access to social networks that would provide notice about these types of events. Given the institutional locations within major cities, potential audiences are self-selected to those with access to higher priced urban living, and to those with cultural comfort within an institutional setting.

Organized tactics for occupying the academic space are essential, but rely on large-scale strategic community organizing for political and economic shifts toward collective and public ownership. On a smaller scale, those with power over the physical “white cube” must push for more expansive applications of real and radical digital tactics for co-authorship, co-design, and political transparency. Platform’s website design and development for *Photo Requests From Solitary* (2019) in *Making Common*, the project that focuses on fulfilling and making visible through photography the real wants

and needs of those held in long-term solitary confinement within the U.S. prison system, creatively uses crowdsourcing to intrinsically link the privileged white cube of the institution to draw attention to a more urgent space of limitation and confinement.

While this effort is admirable, all those involved in the collectivizing of the design gallery must put in the work to ensure that the gallery display and visible consumption of this type of project doesn't become performative consumption in order to provide a false sense to those stepping out of the gallery of having collectively solved a social ill:

“Instead of bringing to light the state of affairs in a comprehensive political analysis and thus possibly helping to create a revolutionary situation, temporary art interventions take on the form of a socio-romantic service, fictitiously reconciling the real conflicts. This critique might seem polemic. Participatory projects, as problematic as their compensatory function might be, could nevertheless contain elements of a comprehensive analysis of society. The inclusion of homeless people, drug users, ghetto kids, disabled people and other socially marginal groups does not necessarily lead to a social service.” (Babias, 2004, p.108).

The gallery's potential as a common space of co-creation, dialogue, and advocacy must be utilized to underscore the need for real societal change, with an emphasis on taking collective ownership not just of the space itself but by broadening understanding of how community responsibility extends beyond this specific community site. The collective must undertake “negative responsibilities, ie. to radically criticise the hegemony of the economic over the political and cultural.” (Babias, 2004, p.109) The design commons of the future must be expanded to reach beyond institution walls into the commons of the street. By making room for stories and spaces at the periphery and centering marginal and disenfranchised groups as co-authors and co-designers, the white cube begins to be opened. This visible power of the dispersed, imperfect, authentic, and politically urgent must, however, be strategically harnessed as a motivating factor for broader community activism. Shared community stewardship and co-ownership of gallery spaces bypassing traditional economic patronage are essential to the gallery-commons reaching its full potential as a tool for collective organizing for the social good.

References

- Ault, J. (2003). Exhibition as Political Space. In *Critical Condition: Selected Texts in Dialogue* (German-English Edition. ed., pp.359–367). Zollverein: Zeitgenössische Kunst und Kritik.
- Babias, M. (2004). Subject Production and Political Art Practice. *Afterall: A Journal of Art, Context and Enquiry*, 9, 101–109. <https://doi.org/10.1086/aft.9.20711542>
- Bilák, P. (2006, June 17). *Graphic Design in the White Cube*. Typotheque. First published in the catalogue of the exhibition *Graphic Design in the White Cube*. Retrieved March 30, 2020 from https://www.typotheque.com/articles/graphic_design_in_the_white_cube
- Blauvelt, A. (2013). Ghost in the Machine: Distributing Subjectivity. In Maurer, L., Paulus, E., Puckey, J., & Wouters, R., *Conditional design workbook*. Valiz.
- Caserta, J. (2015). *RISD GD Commons*. John Caserta. Retrieved July 28 from <https://johncaserta.com/gdcommons.html>
- Grigely, J. (2010). *Exhibition Prosthetics: Conversation with Hans Ulrich Obrist and Zak Kyes* (2nd ed.). AA Publications.
- Lopez, E. (2019). *Curatorial Statement — Making Common*. Making Common Exhibit. Retrieved January 18, 2020, from <https://makingcommonexhibit.com/Curatorial-Statement>
- Maurer, L., Paulus, E., Puckey, J., & Wouters, R. (n.d.). *Conditional Design: A Manifesto for Artists and Designers*. Conditional Design. Retrieved June 8, 2020, from <https://conditionaldesign.org/>
- Maurer, L., Paulus, E., Puckey, J., & Wouters, R. (2013). *Conditional design workbook*. Valiz.
- Von Osten, M. (2014). If White is Just a Colour, the Gallery is Just a Sight? In *Exhibition* (pp.67–71). Cambridge, Massachusetts: The MIT Press.

Acknowledgements

Boundless thanks to Elaine Lopez for her foundational thinking, curating, and community organizing around the idea of the common, and for generously sharing her graduate thesis, exhibit, and workshop with my students. I would also like to acknowledge my Spring 2020 Design Gallery students who participated in these events with enthusiasm and sincerity. Thank you to John Caserta and all those within the RISD community for their limitless contributions to a lively design commons.

Walking by the Commons: Developing Design Patterns for Future Cultures of Consumption and Production in Exhibition Interview Walks

Keywords: Mobile methods, Object elicitation, Exhibition, Design Patterns, Design and Production Communities.

Martina Fineder^{a*},
Luise Reitstätter^b

^aUniversity of Wuppertal

^bUniversity of Vienna

*fineder@uni-wuppertal.de

This paper introduces the experimental method of the exhibition interview walk and explains how it was used to create “Design Patterns for Future Commons.” Methodologically, the exhibition interview walk references the focused interview, thinking aloud and object elicitation within a mobile research situation. The key argument is that through a thematic confrontation in the form of visual/material artifacts within an exhibition, complex or conflict-laden topics are more easily discussed, even with “newbies” to the research field. The aim of our first use of the exhibition interview walk was to study the social perception of commons good principles from different positions of economic and political thinking. In response to the preconception of commons as being avant-garde or counter-cultural, we focused on their potential to change the dominant capitalist system. From an overarching perspective our findings suggest that commons gain acceptance when their initiatives are considered to be of high societal relevance.

1 Introduction

Situations frame how we perceive the world and how we encounter subjects and objects. According to Erving Goffman's frame analysis (1974), situations – marked by verbal but also territorial indications or requisites – build organizational principles for social events that help us to understand what is happening at the moment. "Walking by the Commons" is a research situation located within an exhibition that we created for the joint exploration of commons good principles in dialogue with participants from the fields of economy and industry. The aim of this paper is to introduce the experimental method of the exhibition interview walk and to offer insights into its first findings, "Design Patterns for Future Commons."

Both the method of the exhibition interview walk and the design patterns are results of the research project "Commons as Mindset and Innovation Strategy in Design: From the Avant-Garde to a New Industrial Paradigm?", funded by the Austrian Council for Research and Technology Development. The project was conceived and conducted by a group of researchers (Martina Fineder, Harald Gruendl, Luise Reitstätter, Ulrike Haele, Viktoria Heinrich) from the Institute of Design Research Vienna (IDRV). It grew out of our observing that a growing number of young designers and inventors worldwide are realizing their ideas in the form of knowledge and production communities, and that their design principles are considered avant-garde or even counter-cultural in many areas of conventionally market-oriented sectors of society.

Commons – or better commoning – is a centuries-old concept ranging from rural communities that shared land or fishing grounds to so-called "new commons" (Hess, 2011) such as urban gardening or wikipedias. Although the latter common-good strategies are increasingly studied in design contexts concerned with public spaces, neighborly activities and knowledge commons (c.f. Dellenbaugh, Kip, Bieniok, Müller, & Schwegmann, 2015; Meroni, 2007; Unteidig, Domínguez Cobreros, Calderon-Lüning, & Joost, 2017), they remain suspect to many in the traditional industrial context. Even in the context of Industry 4.0 it is often overlooked that on a broad conceptual and ideological level the key concepts of the commons – such as the democratization of design and manufacturing processes (e.g. Bollier & Helfrich, 2012, 2015, 2019; Linebaugh, 2009) – are also found in open design, which has its roots in the open source software and open source hardware movements (Boisseau, Omhover, & Bouchard, 2018; Newman, Tarasiewicz, Wagner, & Wuschitz, 2016; van Abel, Klaassen, Evers, & Troxler, 2011). Irrespective of different self-attributions to one movement or another, a more democratic access to our material and immaterial worlds through participation and collective government is the overriding goal of all.

Against this background, we investigated small-structured and decentralized (but internationally connected) communities that use new digital technologies to collaboratively develop, design and manufacture objects or provide platforms. Our six case studies (fig. 1a–f) were: 1) the *MakerNurse* platform, part of *MakerHealth*, which provides doctors and nursing staff with tools and resources to realize their own medical-technological inventions; 2) the *Bionicohand*, an open source hand prosthesis that can be produced with a 3-D printer at a relatively affordable price; 3) the *WikiHouse*, a modular building system of standardized parts that allows rapid assembly and affordable housing; 4) the *AXIOM* open source film camera by apertus^o Association, a durable modular camera that users can upgrade and repair by themselves; 5) the *Faircap Open Water Filter*, a low-cost water filter that can be screwed on to any plastic bottle to make contaminated water potable; and 6) the *Air Quality Egg* by Wicked Device, that allows users to collect and share high-quality air data worldwide.

Within our search for design patterns we follow authors who have made efforts to disseminate commons logics through the formulation of patterns for joint action (Bollier & Helfrich, 2015; Leitner, 2015) or “rules of engagement” (Thackara, 2015, p.147). These authors make clear that commons emerge from active social practices (commoning) and involve many forms of sharing determined by their respective group or community. To a large extent, these formulations are grounded in Elinor Ostrom’s economic principles for successful commoning (Ostrom, 1990). For decades, Ostrom’s aim was to counter the assumption that communities without regulation from the state or the private market economy could not administer common goods without destroying them. In order to overcome such prejudices, we focused on questions of connectivity between the commons and the dominant capitalist market system by promoting the possibilities that common-good strategies offer for the development of more socially and ecologically compatible cultures of consumption and production. With the plural “cultures” we imply the necessity of increased diversity in design as proposed by Arturo Escobar in his book *Designs for the Pluriverse* (2018).



Fig. 1: *MakerHealth, DIY infant eye-mask for protection during phototherapy, Nicaragua (Anna Young); video still from BionicoHand - Open Source Prosthesis for Residual Limbs (Nicholas Huchet & Makea Industries); WikiHouse, Farmhouse, Warwickshire, UK (Architecture 00); presentation brochure for the apertus° AXIOM project; video still from The Fair Cap (Mauricio Cordova); advertising image for the Air Quality Egg (Wicked Device).*

2 The Exhibition Interview Walk as Research Method

2.1 Methodological References and Aims

In this section we share the methodological background and the first application of the exhibition interview walk in our research project. By offering concrete descriptions of all of our procedures, we aim to make the method's use in the commons research project both easily comprehensible and applicable to further cultural and design studies.

By walking through and collectively exploring an exhibition, the exhibition interview walk combines the methods of the focused interview, thinking aloud and object elicitation in a mobile research situation (Reitstätter & Fineder, 2021). The focused interview is referenced in so far as it makes use of a specific stimulus to explore participants' reactions, an exhibition in our case. While its hypothesis-led procedure is less in line with the explorative research style of the exhibition interview walk, its experience-based criteria provide valuable guidelines. This includes the least possible influence on the interviewee through a minimum of guidance and the documentation of a broad range of meanings of the stimulus (Merton & Kendall, 1946). These criteria are also met in the method of thinking aloud, wherein interviewees are asked to immediately share their thoughts and reactions regarding given stimuli. By keeping participants continuously talking, the aim is to access short-term memory and immediate affect instead of highlighting rationalizations and justifications (Ericsson & Simon, 1996). In human computer interaction research, the main focus of thinking aloud is placed on an individual's handling of products and services in order to identify patterns of use (Boren & Ramey, 2000). This approach – followed in the exhibition interview walk too – allows questions to be asked in order to clarify participants' verbal and sensory reactions.

The stimulus of the exhibition, used to make people think out loud, is further taken up in the method of object elicitation. As a semi-structured interview method, object elicitation works with source materials such as photographs, videos, models or products bearing a narrative effect (e.g. Harper, 2002; Holzwarth & Niesyto, 2008; Willig, 2017). Objects help to focus and relax the conversation at the same time: Instead of asking questions directly, that gesture

is transferred to the objects. In addition, interviews conducted with the help of objects can be expected to intensify emotional reactions (Croghan, Griffin, Hunter, & Phoenix, 2008) or to establish a shared base of understanding, even if the participants are skeptical about the topic (Kuehne, 2013). This was both decisive in the commons exhibition interview walks with their aim of investigating the acceptance or rejection of the commons logics shaped by participants' personal and professional biographies. In general, walking, looking and talking in the exhibition establishes a common ground between the interview partners sharing movement, sight and thoughts.

2.2 The Exhibition as a Research Setting

Traditionally, exhibitions are spaces where visitors encounter certain objects and issues within a leisure-time activity. An exhibition's natural characteristics of being a walkable environment that can be perceived physically and explored in social encounters on-site (Reitstätter, 2015, 2020) can, however, also be used for empirical investigations. In our digital age, exhibitions in contrast can strongly rely on their auratic spatial qualities, which allow for conscious sensory experiences (Kohle, 2017). In addition, exhibitions are noted for their specific sociability as they are often visited in pairs or groups and examined in joint discussions (e.g. Debenedetti, 2003; Jafari, Taheri, & vom Lehn, 2013; Reitstätter, 2018).

Our commons research project was linked to the exhibition "CityFactory: New Work. New Design" at the MAK – Museum of Applied Arts in Vienna, within the larger context of the Vienna Biennale 2017 (Fineder, Gruendl, & Haele, 2017). Content-wise, this provided an excellent framework within which to embed our commons research project as the exhibition dealt with topics such as the circular economy, co-creation and alternative income strategies. Practically, we could easily integrate the commons case studies in the exhibition as the team of curators was also part of the research project. As a consequence, the exhibition worked first as a planned public show and secondarily as a research setting. Approximately one-third of the 1,400 m² exhibition hall hosted the six commons case studies on four "exhibition islands" (fig. 2). Their presentation resulted from a collaborative process between the curatorial team and the projects' protagonists aiming to showcase objects as working materials (rather than in a representational manner). In addition to the case studies, we further included an introductory text as well as two large banners opposing the logics of commons with the logics of the market, based on the model of Silke Helfrich (see www.commonsinstitut.org).



Fig. 2: Installation shot of the exhibition "CityFactory: New Work. New Design" (photo: Peter Kainz/MAK).

Instead of curating one's own show, using a pre-existing exhibition also works for an exhibition interview walk. The establishment of an exhibition as a research setting first requires the selection of adequate objects; these can be combined with additional materials if needed. A second step is the development of a spatial guide that will give structure to the exhibition interview walks. Practically speaking, a floor plan with marked areas serves as a location-based substitute for the verbal interview guide. In our case, we marked the entrance area with the commons introductory text, the four exhibition islands with the six selected case studies, as well as the text banners as areas to be passed and objects to be discussed (fig.3).

In general, a spatial guide guarantees that all participants are confronted with the same artifacts during the exhibition interview walks. It is, however, important that participants feel invited to individually engage with the objects, looking at and discussing them as they wish or not at all. In contrast to ethnographic research projects with their self-chosen routes (e.g. Leder Mackley & Pink, 2017; Lee & Ingold, 2006; Pink, 2008), here less the routes but the encounters with the objects invite the participants to bring their personal memories, experiences and knowledge into the research setting of the exhibition.

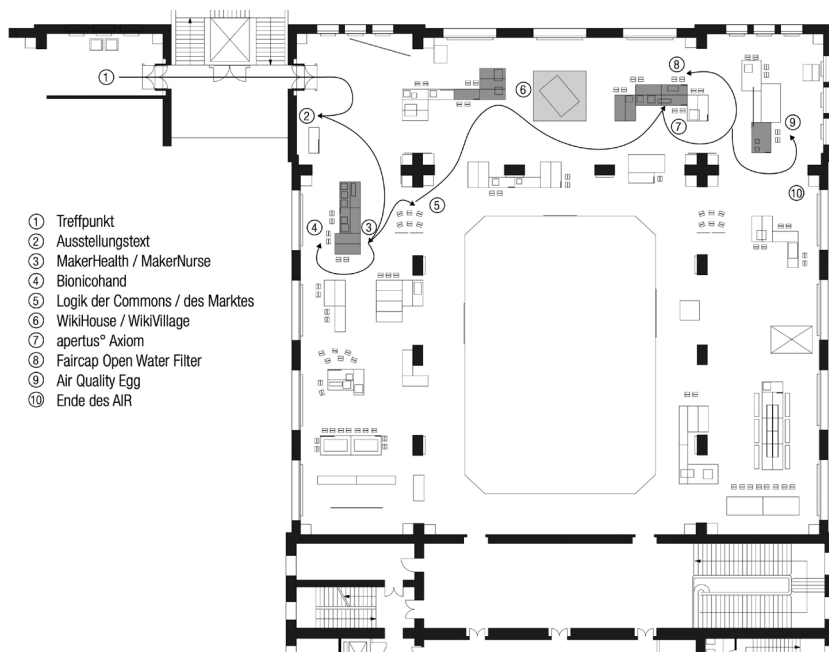


Fig. 3: Spatial guide (visualization: EOOS).



Fig. 4: Installation shot showing MakerHealth/MakerNurse and the Refugee Nation flag in the background (photo: Peter Kainz/MAK).

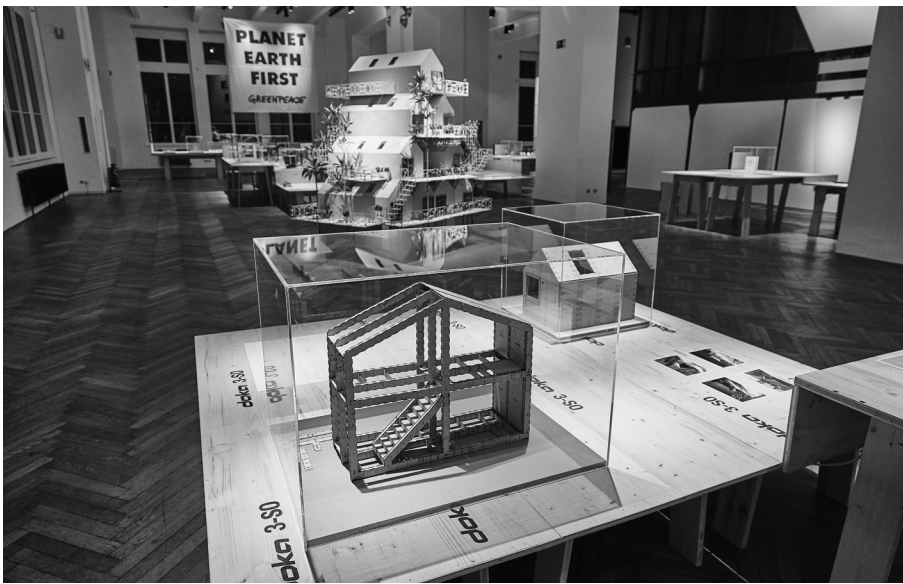


Fig. 5: Installation shot showing the Wiki-House and WikiVillage
(photo: Peter Kainz/MAK).

2.3 Conduction of the Exhibition Interview Walks

The conduction of the exhibition interview walks is characterized by collective processes of deciphering visual/material stimuli and corresponding verbal and sensory reactions in data collection and analysis.

Collective data collection begins with the selection and invitation of participants whose expertise relates to the thematic focus of the research project and the chosen exhibition. The participants' expertise, however, does not necessarily need to be thematically congruent as the exhibition interview walk offers access to an unfamiliar terrain and allows for the productive discussion of formerly unfamiliar topics. Aiming for a variety of perspectives, we invited experts from different positions of economic and political thinking. The ten participants had little to no contact with commons principles, but were senior management experts in work areas that play a vital role in the shaping of post-industrial work and production cultures. Specifically, they came from the fields of healthcare, medical technology, climate and sustainability research, organization and innovation development, labor market service, design, branding and strategy consulting.

We conducted the exhibition interview walk as a team of two, one taking the role of the interviewer, the other that of the observer. While the interviewer gave only standard introductions to stimulate the participant to think aloud, or asked questions, the observer took notes in the background, capturing the sensory engagement with the exhibits and the interview climate in general. Both roles were performed as discreetly as possible. Instead, the selected objects stimulated and shaped the conversations as their sensual-aesthetic impulses made the participants stop, linger, look

and speak. To a certain extent, sensory perception is limited in exhibitions by the “do not touch” rule; here, however, it is introduced to the conversation by describing what one means to feel.

Following the exhibition interview walks, the recorded audio files need to be transcribed and the observation protocols structured and supplemented with additional notes. In the commons exhibition interview walks (lasting between one and one-and-a-half hours) the transcripts produced an average of twenty-two pages of text, while the handwritten protocols covered about eight pages per walk. During this process of data preparation, however, it became clear how difficult it is to meticulously record a large number of multisensory reactions for each single object. Thus, we suggest video-recording exhibition interview walks as a potential alternative or even in addition to the participant observation. We also propose collectively analyzing the documentation of the walks to interpret the rich multi-modal data set. In the commons project, we undertook the data analysis in collective coding sessions according to the Grounded Theory methodology (Strauss & Corbin, 1996). The protocols, on the other hand, were evaluated according to the methodology of “sensory ethnography” (Pink, 2015) analyzing facial expressions, gestures and postures. This combined analysis finally resulted in the “Design Patterns for Future Commons.”

3 From Empirical Data to Design Patterns

This section explains how the reactions of the participants in the course of the exhibition interview walks resulted in five “Design Patterns for Future Commons.” As Bollier and Helfrich outline in *Patterns of Commoning* (2015), there is a great need to grasp the essence of the (social) process of commoning in order to create connectivity between collaborators. According to Christopher Alexander (1977), such patterns are best built on descriptions of cases and elements, including the identification of problems as well as the definition of solutions. We have followed this approach in our open access research report, but will only briefly describe the patterns here in reference to statements and observations from the walks due to the chosen methodological focus of this paper.

In short, the five interlinked patterns are: 1) initiative, 2) relevance, 3) decentralization, 4) modularity, and 5) affordability. Some of these patterns were more expected than others, e.g., modularity, which is an essential principle in sustainable design. In correspondence with existing theoretical and practical strands, our patterns depict the prevailing concepts that we discovered in our empirical data led by the research aim of investigating the perception and possible acceptance of commons principles.

3.1 Initiative

The pattern “initiative” signifies that outstanding projects come into being through the pioneering spirit of one or more central personalities who can gather and keep collaborators around them and/or find partners who offer special expertise, equipment or

funding. Those personalities have an individual interest in or intrinsic motivation for the solution of a specific problem that directly affects themselves and/or their immediate surroundings. This special kind of initiative was positively highlighted in the exhibition interview walk by various participants, and with two prevailing perspectives: The first especially highlights the nature of innovations that arise from acute situational needs. In the words of the innovation expert, this means: "What I find very exciting is the aspect that where there is an urgent need for improvement the idea is developed and ideally can trigger innovation. One example is the hand prosthesis, because in Austria, where the health system probably pays for a prosthesis with five movable fingers, I tend not to build one." (int07, ll. 780-785). The second concerns the search for a suitable implementation context (followers, partners, supporters etc.). The *Air Quality Egg*, which grew out of an Internet of Things workshop, was carefully looked at by the climate scientist who commented: "This immediately reminds me of a project that I have been carrying around with me for a long time, but for which I just haven't found anyone yet to implement it with." (int08, ll. 470-472). The necessity of professional partners was continually stressed by all interviewees of the health sector as this area is subject to high safety regulations and quality controls.

3.2 Relevance

This pattern is about solving an urgent problem of high social necessity but for which industry, society and politics do not yet offer satisfactory solutions, especially in terms of financial affordability. It focuses on projects with social or ecological relevance for "very, very many people," as one sustainability expert noted (int08, l. 595). During the exhibition interview walk, the *Fair Cap Open Water Filter* was clearly regarded as having the highest relevance: "If anything needs to be democratized, it is water." (int03, ll. 615-616). The water filter is often described as "great" or "totally cool" and perceived as a project with "exclusively positive effects" (int03, l. 609). It is therefore not surprising that the use of public funds for such projects is not questioned. As one design expert stated: "It is nice that there are people who can do something like that [...] nice that there is financing." (int01, ll. 384-386). While projects classified as highly socially relevant were considered for possible new forms of funding (cf. int02), projects having less societal value (e.g., the Axiom camera) were less engaged with or even regarded with some skepticism (int01). From the perspective of the labor market, projects with high social relevance not only serve basic needs but also contribute to the creation of meaningful future work (int06). This view was shared by a sales manager from the medical sector who noted, looking at the text banners, that among the younger generation of employees the "question of meaning arises much more than in a generation before" (int03, ll. 334-335).

3.3 Decentralization

This pattern concerns the decentralization of knowledge and production through worldwide developer communities and local production communities. Both developments have become possible through the increasing availability and affordability of new digital technologies, and are fostered by an ideology of open source. During the exhibition interview walks the participants emphasized the decentralization of knowledge in reaction to the neoliberal countertrend of commercially exploiting knowledge financed with public funds. Discussing basic commons principles, the climate scientist highlighted that even if in climate research public data is still largely available “it becomes critical when the data is very, very new. [...] This is not quite understandable to me because we all pay for this with our tax money.” (int08, ll. 46-52) In the context of health care, several interview partners welcomed open knowledge and production cultures in order to bridge shortcomings of medical equipment through DIY workshops, manuals or design for download (int02, int03, int04). In response to the MakerHealth platform, the branding expert even praised “these new developments and technologies and this sharing [for their] truly sustainable benefit for the common good” (int05, ll. 74-76). On a general level, experts from different fields welcomed decentralized, organized developer communities because they offer creative problem-based solutions that might be “ideas to be picked” by others (int06, ll. 212-213). Problems for decentralized product development and their market implementation are seen in public restrictions such as legal (health) standards, safety restrictions and building regulations.

3.4 Modularity

The pattern of modularity is closely linked to decentralization. On the one hand, it is about a general modular thinking where several developers contribute their expertise and work in a co-creative process. On the other, modularity refers to the structural design of products and services that allows for the adaptation of hardware and software within a system or a product range. The participants' reactions in the interview walks proved that modularity is seen as a promising way of dealing with technological leaps through upgrades and retrofits – in contrast to technical devices that soon become obsolete and are substituted by new ones. In particular, experts from different medical sectors agreed that “reprocessable equipment is a huge factor in medicine” (int04, ll. 30-31) because “if you have a device for five years, you can assume that it will be old after that.” At the same time, the newest “diagnostic devices are also an argument that hospitals use to advertise.” (int02, ll. 475-476). Looking at the models of the *Wikihouse* and *Wikivillage* (fig. 5), interview partners see modularity as a good basis for customization as well as an interesting way to create new and more open forms of private or social housing (int03, int07). However, it is important to note that despite this strong appreciation of modularity, the project with the strongest focus on this pattern, the *Axiom* camera, was the one of the six case studies that was the least noted in the exhibition interview walks. Participants often simply walked by

or had little to say about the camera which might also be due to the rather plain proof-of-concept presentation. One participant also expressed skepticism about consumer comfort by recalling experiences attached to other modular products such as the *FairPhone* (int06).

3.5 Affordability

This pattern concerns the affordability of resources, products and services for individually affected persons and larger population groups in areas where the market does not yet provide satisfactory solutions. Different forms of commons-based production set new standards in the availability of health care products, of living and working spaces or technical equipment for artists' production. In the exhibition interview walks, the price of some exhibits prompted gestural and verbal enthusiasm: "That's incredibly cheap!," a manager from the healthcare sector claimed while observing the video of the *Bionicohand* (int02, l. 283). Although the innovation expert joined in the excitement, she noted that calculations do not include the costs of working hours (int07, ll. 218-219). The low price is only possible through much self-initiative (pro bono work) and a funding partnership with an external company. In addition, the interview walks brought to light the fact that financial affordability is often linked to the empowerment of the people involved, as this remark of the job market developer evidenced: "This is of course really great, because apart from the fact that it really makes a big difference for people who otherwise cannot afford such a prosthesis, it is also important that you become active yourself. [...] It is important to find meaningful activities." (int06, ll. 165-173). Almost all of the participants developed a positive stance towards do-it-yourself-strategies in situations of social need or even catastrophe. This changed, however, when these solutions affected participants' professional or personal lives, as when, for instance, one participant pondered on the "spooky" idea of self-built implants (int07, l. 281).

4 Reflections on a New Method and its Findings

The key idea behind the development of the exhibition interview walk was to create a suitable research method that would allow, on the one hand, a gathering of various geographically widespread commons case studies at one site, and on the other hand, an opportunity to interview commons "newbies" – though experts – from relevant fields. We can readily see the method's benefits in providing a framework to collectively study complex or eventually conflict-laden topics in informal, mobile and sensory ways. Conducting experimental exhibition walks however – in contrast to conventional sit-down interviews – also comes with some challenges. The method's implementation in this open research setting requires certain preparatory efforts for the creation or adaptation of an exhibition and demands experience in social science as well as situational competencies on the part of the researchers.

In this sense, participants who prefer talking only about things within their field of expertise might struggle in dealing with previously unknown objects and being asked to suddenly think out loud about them. However, while the spontaneity required in this research situation was perceived as a “personal challenge,” it was also credited as being a good method to foster “basic intention” and to “get a good feeling” (int05, ll.642-647). In addition, the dialogical situation of the exhibition interview walk was positively highlighted by a number of experts for its quality to reduce the feeling of being a mere informant and for obtaining new insights and information.

Reflecting on the single objects’ power to elicit conversation, we must state that the respective degree of interest correlates with the degree of affect triggered by the different objects. If objects can neither be personally nor emotionally connected to the interviewees’ lives, they then remain silent. Accordingly, we were particularly surprised at the intense reactions to the text banners juxtaposing the logic of the commons versus the logic of the market. This schematic comparison provoked unexpected reactions and was criticized for its bold black and white presentation. However, this criticism was ultimately beneficial to our research aims since it not only brought about detailed explanations of personal versus professional perspectives, including the defense of one’s own market-economy positions, but also corrections of our own preconceived perceptions.

A major result of our commons exhibition interview walks is to be found in the participants’ astonishment at the number of commons projects that already exist but were unknown to them – experts in their respective fields. In order to foster exchange between these avant-garde innovations and the dominant industrial system, the experts recommended that public relations and dissemination strategies of common-good design principles be increased. In this sense, the high level of recognition of the commons projects due to their inspiring initiatives and along with the high valuation attributed to their social relevance suggests that innovations carried out by individuals and their networks can have the power to change the dominant regime. Therefore, in order for common good practices to be translated into guiding principles for the sustainable development of society, they need to change from being mere niche solutions to becoming the everyday business of society.

References

- Alexander, C. (1977). *A pattern language: Towns, buildings, construction*. Oxford University Press.
- Boisseau, É., Omhover, J. F., & Bouchard, C. (2018). Open-design: A state of the art review. *Design Science*, 4, 1–44.
- Bollier, D., & Helfrich, S. (Eds.). (2012). *The wealth of the commons: A world beyond market & state*. Levellers Press.
- Bollier, D., & Helfrich, S. (Eds.). (2015). *Patterns of commoning*. Levellers Press.
- Bollier, D., & Helfrich, S. (2019). *Free, fair, and alive: The insurgent power of the commons*. New Society Publishers.
- Boren, T., & Ramey, J. (2000). Thinking aloud: Reconciling theory and practice. *IEEE Transactions on Professional Communication*, 43(3), 261–278.
- Croghan, R., Griffin, C., Hunter, J., & Phoenix, A. (2008). Young people's constructions of self: Notes on the use and analysis of the photo-elicitation methods. *International Journal of Social Research Methodology*, 11(4), 345–356.
- Debenedetti, S. (2003). Investigating the role of companions in the art museum experience. *International Journal of Arts Management*, 5(3), 52–63.
- Dellenbaugh, M., Kip, M., Bieniok, M., Müller, A. K., & Schwegmann, M. (Eds.). (2015). *Urban commons: Moving beyond state and market*. Birkhäuser.
- Ericsson, K. A. (Karl A., & Simon, H. A. (1996). *Protocol analysis: Verbal reports as data*. MIT Press.
- Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*. Duke University Press.
- Fineder, M., Gruendl, H., & Haele, U. (2017). *CityFactory: New work: New design*. Institute of Design Research Vienna. <https://issuu.com/idrv1/docs/stadtfabrik-cityfactoryopensource>.
- Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harper & Row.
- Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies*, 17, 13–26.
- Hess, C. (2011). Mapping the new commons. *SSRN Electronic Journal*, July.
- Holzwarth, P., & Niesyto, H. (2008). Präsentativer und diskursiver Selbstausdruck junger Migranten und Migrantinnen im Kontext verschiedener (medien-) kultureller Ressourcen. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 9(3), Art. 10.
- Jafari, A., Taheri, B., & vom Lehn, D. (2013). Cultural consumption, interactive sociality, and the museum. *Journal of Marketing Management*, 29(15–16), 1729–1752.
- Kohle, H. (2017). Ein viel umfassenderes Wahrnehmen. *neues museum: die österreichische museumszeitschrift*, 17(3), 8–17.
- Kuehne, G. (2013). "I don't know what's right anymore": Engaging distressed interviewees using graphic-elicitation. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 14(3), Art. 2.
- Leder Mackley, K., & Pink, S. (2017). From emplaced knowing to interdisciplinary knowledge: Sensory ethnography in energy research. In S. Pink, V. Fors, & T. O'Dell (Eds.), *Theoretical scholarship and applied practice*. Berghahn.
- Lee, J., & Ingold, T. (2006). Fieldwork on foot: Perceiving, routing, socializing. In S. Coleman & P. Collins (Eds.), *Locating the field: Space, place and context in anthropology* (pp.67–85). Berg.
- Leitner, H. (2015). Working with patterns: An introduction. In D. Bollier & S. Helfrich (Eds.), *Patterns of commoning* (pp.15–25). Levellers Press.
- Linebaugh, P. (2009). *The Magna Carta manifesto: Liberties and commons for all*. University of California Press.
- Meroni, A. (Ed.). (2007). *Creative communities: People inventing sustainable ways of living*. Edizioni Polidesign.
- Merton, R. K., & Kendall, P. L. (1946). The focused interview. *American Journal of Sociology*, 51(6), 541–557.
- Newman, A., Tarasiewicz, M., Wagner, S.-C., & Wuschitz, S. (2016). Introduction. In *Openism: Conversations on open hardware* (pp.6–9). University of Applied Arts Vienna.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.
- Pink, S. (2008). Mobilising visual ethnography: Making routes, making place and making images. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 9(3), Art. 36.
- Pink, S. (2015). *Doing sensory ethnography*. Sage.
- Reitstätter, L. (2015). *Die Ausstellung verhandeln: Von Interaktionen im musealen Raum*. transcript.
- Reitstätter, L. (2018). So sozial? Eine Analyse der Ausstellung als Interaktionsraum. In G. Isenbort (Ed.), *Szenographie in Ausstellungen und Museen VIII: Museum und Stadt/Stadt und Museum: Ausstellung als sozialer Raum* (pp.96–108). avedition.
- Reitstätter, L. (2020). Besucherverhalten: Die wechselseitige Beziehung von Raum und Handeln. In P. Kiedaisch, S. Marinescu, & J. Poesch (Eds.), *Szenographie: Das Kompendium zur vernetzten Gestaltungsdisziplin* (pp.156–165). avedition.
- Reitstätter, L., & Fineder, M. (2021). Der Ausstellungsinterviewrundgang (AIR) als Methode: Experimentelles Forschen mit Objekten am Beispiel der Wahrnehmung von Commons-Logiken. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 22(1), Art. 6.
- Strauss, A. L., & Corbin, J. (1996). *Grounded Theory: Grundlagen Qualitativer Sozialforschung*. Beltz, Psychologie-Verl.-Union.
- Thackara, J. (2015). *How to thrive in the next economy: Designing tomorrow's world today*. Thames & Hudson.
- Unteidig, A., Domínguez Cobreros, B., Calderon-Lüning, E., & Joost, G. (2017). Digital commons, urban struggles and the role of design. *Design Journal*, 20(sup1), 3106–3120.
- van Abel, B., Klaassen, R., Evers, L., & Troxler, P. (Eds.). (2011). *Open design now: Why design cannot remain exclusive*. BIS publishers.
- Willig, C. (2017). Reflections on the use of object elicitation. *Qualitative Psychology*, 4(3), 211–222.

Acknowledgements

This paper relates to the research project "Commons as Mindset and Innovation Strategy in Design: From the Avant-garde to a New Industrial Paradigm?" by the Institute of Design Research Vienna (IDRV). The project was funded by the Austrian Council for Research and Technology Development in the framework of the Vienna Biennale 2017. We very much thank our colleagues from the IDRV as well as Karolin Galter for her precious editorial assistance and Arturo Silva for his attentive proof reading.

The Design of Social Independent Magazines. Multiple Translations for a New Design Sensitivity

Elena Caratti^{a*},
Giovanni Baule^b

We are living in an epoch in which critical reflection on the meaning of the human condition is impelling. Equally urgent is the creation of artefacts and experiences that can heighten awareness concerning collective challenges within everyday contexts and processes of social and economic life (Julier 2019, p.336).

As the research commissioned by the Arts and Humanities Research Council about Social Design Futures declared:

Society currently faces extensive large-scale complex challenges, which social design is suited to addressing. The challenges of climate change, migration, ageing populations, chronic disease, wealth disparities, and pressures on public sector finances, require smarter and more agile responses to how problems and opportunities are identified and framed, and how new solutions are generated, explored, prototyped, resourced and realised. (Armstrong et al. 2014, p.20)

In this paper we would like to assert that the sector of independent editorial design for the social can positively contribute to information sharing, reinforcing knowledge and debate, reframing issues, building a memory of good practices, and supporting the importance of social design in different contexts, both civic and academic.

More specifically, the paper intends to:

- Reveal the characteristics and potentialities of social independent magazines as cultural attractors and cultural activators.
- Describe how they can be conceived and interpreted.
- Reflect on the design process through multiple translation practices (beyond the interlinguistic translation).

- Consider the ethical dimension of translation and its implications on education through three projects developed at the Design School of Politecnico di Milano, MA Course in Communication Design.

We will refer to ongoing research regarding the relationship between design and translation, focusing our attention on the process of editorial translation. For this purpose, we will consider a series of contributions from the fields of social design and independent magazine design and, in particular, from theories in text, medium, and translation studies.

1 Social Independent Magazines

The design of social independent magazines is a compelling and growing field of research and design experimentation both at the professional and academic levels.

We are referring to a specific area within the complex reality of social publishing, which is thematically focused on cultural and social issues (concerning human rights, education, environmental, welfare, health, migration, and so on) where research, content writing, and multiple translation processes converge.

As testified by the Report on Social Publishing 2010 (Battiston et al. 2010, 44), social magazines can be understood one of three ways: 1) as simple “house organs” of non-profit organizations; 2) as thematic magazines that are on the market even if they originate from third sector organisations; or 3) as magazines promoted by commercial companies or cooperatives that deal with social issues.

In this paper, we will take into consideration an additional category inside the social magazine publishing ecosystem, which is characterised by the adjective “independent.”

Independent and small publishers are like rare plants that pop up among the larger growth but add something different: they feed the soil, bring colour or scent into the world. (Hawthorne 2014, p.135)

Hawthorne’s assertion brings us back to the fact that the realisation of social independent magazines is motivated (to a greater or lesser extent) by social and cultural values rather than financial gain (Murray 2021, p.103). Indeed we are not alluding to the mass mainstream magazine market, but to a more sophisticated typology of editorial artefacts that are experimental and open to innovation in terms of content, writing style, format, layout, and iconographic or typographic apparatus.

Independent social magazines can have a monthly or bimonthly edition (see for example the Italian magazine *Gli Asini*, <https://gliasinivista.org>), a long-term periodicity (see for example the biannual

It's Freezing in LA, www.itsfreezinginla.co.uk), or even have a limited edition (see for example the six numbers of *Migrant Journal*, migrantjournal.com).

Their distribution is counter to traditional magazines; for example, independent social magazines can be distributed offline or online, by bookstores or by specialised magazine shops (see for example Mag Culture Shop in London and its platform magculture.com).

The independent magazine houses involve writers, researchers, editors, or curators in strict collaboration with communication designers. Their activity is in some cases comparable with the “research and development” area of a company (or an agency or an organisation) as a whole (Galligan 2007, p.40). Their main purpose is to create “innovation” in terms of content (with talented authors), multimodal translation (visual, auditory, etc.), and multimedia divulgation.

Content is structured according to different organisational principles that can contribute to our understanding of reality; some magazines even orient sections within the same publication differently in order to respond to different principles. Categories of content include convergent/divergent, focussed/flexible, linear/lateral, serialist/holist, and propositional/appositional, all of which can be significant for the index definition, but can also replicate how the reader approaches the ideas. As Nigel Cross affirms, such natural dichotomies may reflect the underlying dual structure of the human brain and its apparent dual modes of information processing (Cross 2007, pp.40–41).

According to traditional research approaches, however, content can simultaneously be treated in relation to a single discipline or to integrated disciplines from an interdisciplinary, transdisciplinary, or multidisciplinary point of view (Pohl et al. 2019, p.64).

We can consider other analytical perspectives to better comprehend the features of an independent social magazine and the related translation processes that allow it to generate culture, change behaviours, and interact with other textual forms or other media.

In the field of semiotics, the “text” is an overall configuration of meaning which, by resorting to some expressive support, guarantees the generation, circulation, and interpretation of social and cultural meanings (Marrone 2010, 18); to consider a magazine in terms of “text” means to perceive it not only in terms of a physical support, but also as an “abstract model of investigation” (Marrone 2010, p.VI), or a sort of “metacognitive apparatus” (Dallari 2012, p.19).

2 Further Interpretations: Independent Social Magazines as Text, Medium as Device

According to these premises, an independent social magazine is interpretable as a “polyalphabetic and polymorphic text,” and as a communicative artifact, unitarily and organically conceived, which is characterised by a plurality of codes and expressive modalities (verbal, visual, sonorous, tactile, etc.).

We can thus deconstruct the text according to: the *iconic code* that refers to the use of images (iconic illustrations, photos, representations or symbols, etc.) to describe or represent actions, situations, and contexts; the *verbal code* and its relationship with the iconic code; the *graphic code*, or the compositional elements of the pages (the format, the layout, the orientation); the *typographic code* that refers to the choice of paper, the form, and the application of other materials on the magazine’s pages including the binding, the care, and the quality of the print process; the *reading method code* that is connected to the content fruition procedures (sequential or punctual); and finally the *relationship code*, which is related to the expedients and methods in building a dialogue with readers (Dallari 2012, p.49).

The simultaneous coexistence and mutual interdependence of these multiple codes enables us to recognise the transformative potentialities of the artefact both in the analogue and digital environments.

The principle of “intertextuality” constitutes an additional factor of innovation. Each independent social magazine (as a text) is located within a series of exchanges and interactions with other texts: a single text contains other texts, refer to other texts, was born from other texts, and produces other texts. As Roland Barthes asserts, a text is not understood as a closed cultural product but as a production in progress that is associated to other texts, other codes, and society (Barthes 1991, p.184).

This relationship with what is external transforms the independent social magazine, thus amplifying its own concept, its content, and its cultural meaning.

Alongside the intertextuality principle, we also have to recognise the principle of “intermediality” that represents a further expansion of intertextuality and its presupposition simultaneously since it is interested in the relationships established between different media as devices (Zecca 2013, p.38).

According to Federico Zecca, it is also necessary to shift attention to the entire medial dimension (Zecca 2013, p.19). From this perspective, an independent social magazine can be redefined in terms of a “medium,” which has to be understood:

not only as a transmission channel, nor only as an expressive language; but as a 'cultural device' tout court which, in accordance with its internal characteristics (linguistic, technological, experiential) and its economic-social function, regulates the production and circulation of texts, actively affecting, at various levels, also on the form and 'existence' of their relationships. (Zecca 2013, p.143)

To summarise, the concepts of "text," and "medium" as "cultural device" affects our way of perceiving independent social magazines as entities that are strictly connected to language and its codes, but also as artefacts with specific material and technological conditions that can influence and orient new forms of social experience. These interpretative categories bring us closer to the process of "translation" in all its forms.

3 Multiple Translation Processes

Translation is not historically and geographically understood according to a common meaning; each tradition has made and makes use of specific cultural paradigms that are often very different from one another (Bettini 2012, p.X). This field of study still remains multifaceted and intertwined with other disciplinary fields (linguistics, sociology, history, psychology, literary studies, philosophy, etc.), and can be defined as "translatology" (from the French *traductologie*), science or translation theory, the poetics of translating, or in term of *Translation Studies* (Jervolino 2001, p.10).

The range of ways in which translation practice can be conceived and articulated within the editorial ecosystem can be connected to the concept of "total translation," originally expressed by Peeter Torop in 1995 and successively amplified and codified by Bruno Osimo (2020, pp.256–258).

According to these studies, we can conceive translation as a cultural and semiotic process, (deep and total), that entails the transfer between a starting system (prototext) and an arrival system (metatext).

It is important to note that the different translation methods identified by Torop are immensely applicable within the design process of magazines. As Baule asserts:

The editorial field is one of the spheres in which the translation paradigm for communication artifacts would seem to find a natural home. The editorial field—understood as a content processing and artifact design system identifiable also as the *content industry*—has been configured right from the start and, as a whole, as a highly complex translation system subject to structured interweaving of diverse scales and a range of translation passages. (Baule 2017, pp.41–42)

If we transfer the translation categories identified by Torop to the process of magazine design we can identify:

- *Mental translation*: The conceptualisation process of the editorial product. The concept itself is a sort of mental representation that shapes, processes, preserves, and transfers knowledge. It has specific cultural characteristics and can be of various types and different complexity; its borders are indefinite and mobile (Arduini 2020, p.23).
- *Metatextual translation*: According to Torop, it consists of the translation of a text in the form of any metacommunicative tool (Torop 2010, p.11). We refer here to all texts that are external to the main text; they accompany the text by highlighting aspects of it in order to facilitate its decoding. This is typical when we use notational tools (the flatplan, for example) for content planning, or when we design the cover of the magazine or the teaser as a promotional video.
- *Intralinguistic translation*: The processes of reformulation of the content that we can find, for example, in the index of the magazine.
- *Interlinguistic translation*: The traditional interpretation of translation in terms of content transfer in other languages.
- *Intersemiotic translation*: The translation that is expressed as content transfer between different semiotic systems such as the process of de-verbalisation (from the verbal to the visual) or vice versa from visual to verbal (according to the ekphrasis), from the mental to the visual during the writing process and typographic transcription, or from the verbal to the sound.
- *Intertextual or intermedial translation*: The translation as an expansion of the content within other texts or media; in other words, the contents are the result of a process of reinterpretation of previous content, the contents are amplified or cited in new texts, or the content migrates between/among different media.
- *Cultural translation*: Translation as cultural mediation and transfer; when an independent magazine transfers or synthesises verbally and/or visually the distinctive features of a culture (its characteristics, values, signs, or memories).

These multiple categories exemplify the plurality of possible translation paths; in some cases, they are more adjacent to the starting system (prototext), and nearer to the arrival system (metatext) in others.

According to Torop, some categories are more akin to a process of analysis. In these terms, they are finalised to the comprehension of the properties and characteristics of the prototext, while others are closer to a synthesis process that is finalised to the re-creation (recoding and/or transposition) of the properties and characteristics of the metatext (Zecca 2013, pp.170–171).

4 The Implications of Translation Processes in the Editorial Design Education

According to Paul Ricoeur (2001, pp.51–74), translation is both a hermeneutic practice and an ethical act. It can be understood as the former because it can be finalised to comprehension, as explained by Domenico Jervolino:

[Translation] requires a methodological moment, it does not limit itself to vindicating the indisputably creative character of language and interpretation, it does not only want to understand, but also to explain. In this sense, the encounter with a practical and reflective science of translation, purified from the temptation of a totalizing rationalism and a more or less explicit positivism, becomes necessary and fruitful. (Jervolino 2001, pp.15–16)

Translation is an ethical act because it requires not only an intellectual, theoretical, and practical work, but also expresses an ethical problem (Ricoeur 2001, 67). This implies that translation must be considered “in relation to multiple factors,” or to simply “something else,” such as the source text, the differences between languages, the “native” texts produced in the target language, the people who translate, the machines that translate, the users of the translations, the situations in which the translations are produced, the culture of arrival, and so on (Palumbo 2010, p.151).

Such considerations are at the core of our MA course, which is aimed at the realisations of social independent magazines in analogue and digital fields.

The name of our studio course, “Magazzino Sociale,” was born from the association between the adjective “social,” with the English term “magazine” (the French “magasine” or the Italian “magazzino”), which derives from the Arabic “makhzan,” a space used for the conservation and storage of different types of goods. This metaphorical allusion allows us to conceive our object of investigation and design in terms of an “independent container of diversified social contents” (on education, welfare, the environment, rights, and health), where translation paradigm, design practice, and ethical mediation converge.

This is the context in which the translation paradigm is inserted, which is a happy way to go beyond the text and the fascination of textuality, without abandoning language. In the translation work one's own and the stranger, the self and the other, the other that we find within us and that is not reduced to the otherness of the other man. In the translation, a concept of plural humanity is at work and yet one, not reducible to a single thing in terms of a unified science, an absolute knowledge or a single language, but which can be united on the model of hospitality and coexistence, of cohabitation in a world made habitable by a practice of conviviality. (Jervolino 2001, p.34)

The following research questions reflect the path taken by the students within the course:

- What are the components of an independent social magazine?
- How can we analyse and interpret it?
- How can we design it, according to the idea of disseminating content and sensitising readers to social issues?
- What are the conceptual assumptions of the independent social magazine?
- What is its identity?
- What are the recurring themes?
- What are the areas of reference?
- Who are the authors of the articles, and who are the readers?
- How can these kinds of visual artefacts incentivise the sense of otherness, hospitality, pluralism, and diversity?

In this paper we report a synthesis of three projects designed by students of the Master's course in Communication Design, with Professors Elena Caratti and Sergio Menichelli, with the tutors Giulia Piccoli Trapletti and Francesco Scagliarini (academic years 2018/19 and 2019/20).

These experimentations were designed in all their components and details for reinterpreting the environmental issue in analogue and digital fields according to translatability principles.

We recognised three primary approaches: the first, (Altamarea), was thematically convergent and pragmatic, the second, (Wireframe), focused on a specific interpretation of environmental issue with a critical approach, and the third, (Superfluo), was more playful and divergent.

4.1 "Altamarea. Zero metri sul livello del mare" [Altamarea. Zero Meters above Sea Level]

Altamarea is an independent social magazine born out of the desire to explore the social unease resulting from one of many consequences of climate change: the raising sea level in major cities around the world. It is a semi-annual magazine that includes six numbers about the cities of Venice, Rotterdam, New Orleans, Shanghai, Miami, and Bangkok.

The goal is to sensitise readers through scientific content and a series of verbal and visual reportages that summarises and artistically repurposes the life experiences of the inhabitants of those cities. In addition to the magazine, a series of promotional artefacts (posters, gadgets, and the teaser) have been designed in accord with the principle of intertextuality. In this article, we report the main characteristics of the first issue on Altamarea, which is about the city of Venice.



Fig. 1: *Altamarea* first issue, cover, academic year 2019/20, designed by Nicola Belfiore, Antonino Bellomi, Milena De Carla, Lara Marino, Vittoria Pinato, and Mattia Zanardi.



Fig. 2: *Altamarea* first issue, the flatplan, academic year 2019/20, designed by Nicola Belfiore, Antonino Bellomi, Milena De Carla, Lara Marino, Vittoria Pinato, and Mattia Zanardi.



Fig. 3: *Altamarea* first issue example of internal article, academic year 2019/20, designed by Nicola Belfiore, Antonino Bellomi, Milena De Carla, Lara Marino, Vittoria Pinato, and Mattia Zanardi.



Fig. 4: *Altamarea* first issue, poster and boot cover, academic year 2019/20, designed by Nicola Belfiore, Antonino Bellomi, Milena De Carla, Lara Marino, Vittoria Pinato, and Mattia Zanardi.

4.2 Wireframe: Juggle the Overload

Today we are inebriated by the digital medium, without being able to fully evaluate the consequences of such intoxication. This blindness and simultaneous numbness represent the crisis of our day. (Byung-Chul 2015, 31).

The concept of this magazine stems from the problem of the digital content overload that affects every aspect of human life and often creates discomfort if not actual disorders (known as Information Fatigue Syndrome, or IFS). As Han Byung-Chul claims, at a certain point, the information is no longer informative but deformative; communication is no longer communicative, but merely cumulative (Byung-Chul, 2015, p.735). The narrative model of the hero's journey constituted the reference for the structuring and organisation of the content. We can identify in the index four different phases which correspond to different types of content: articles, infographics, and expert interventions for the first phase; scientific articles and interactive contents for the second phase; interviews and virtuous cases reported for the third phase; and articles aimed at reflecting and overcoming the problem for the fourth phase. The key concepts of the articles are highlighted in colour, and texts are enriched by interesting and sophisticated iconographic apparatuses, including photos, illustrations, and infographics.

The interactive section allows the reader to access content in audio format.

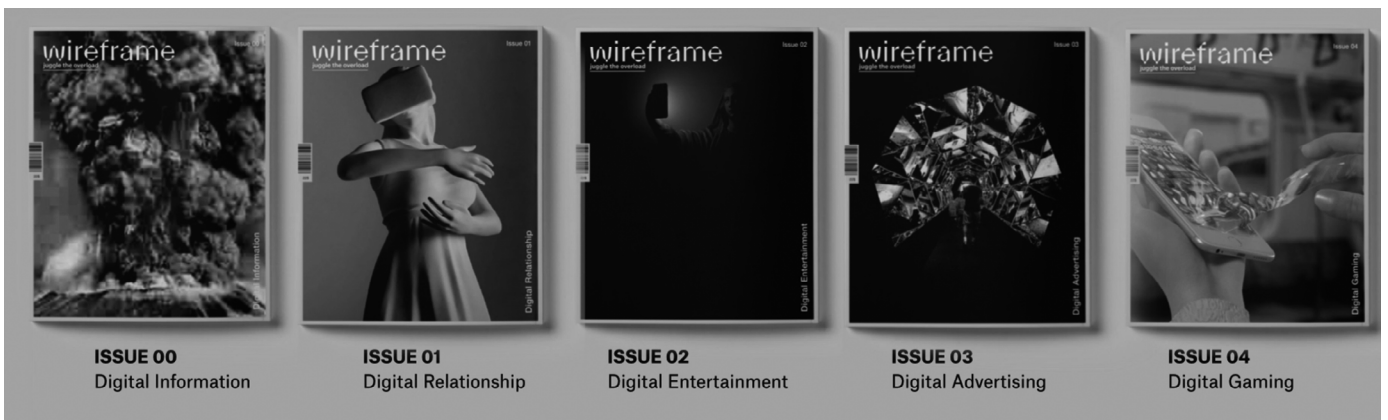
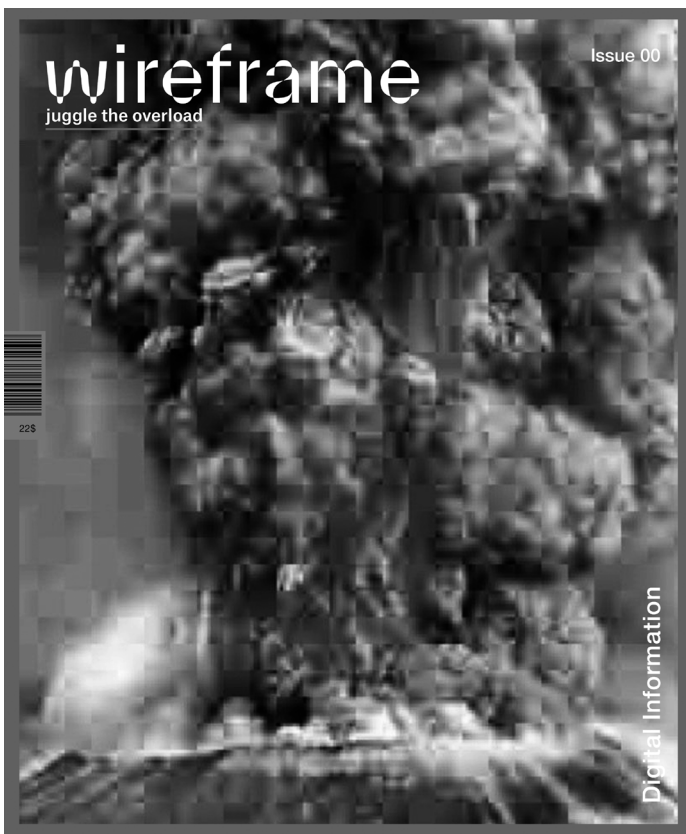


Fig. 5 a-b: *Wireframe* front cover of first issue (a) and covers of subsequent issues (b), academic year 2019/20, designed by Elena Buttolo, Caterina Cedone, Francesca Fincato, Marta Monti, and Federico Pozzi.

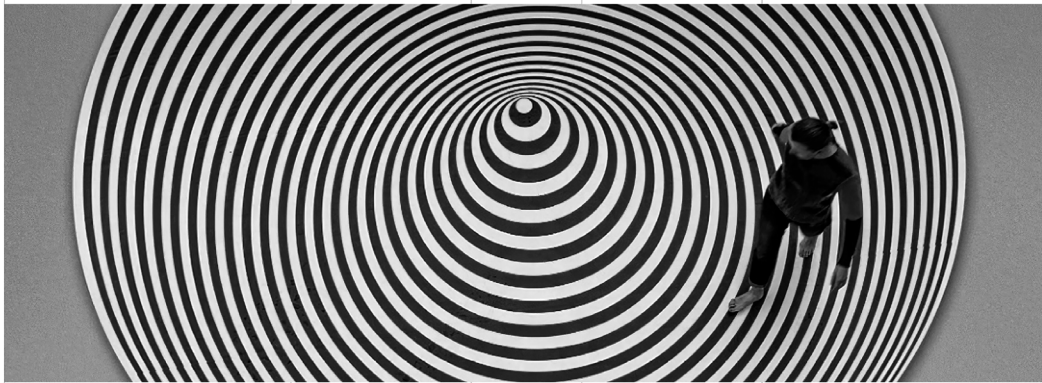
WIREFRAME/Digital information	
5	Editoriale
14	Permaflux: a new state of mind report by SUPERIMPOSE CREATIVE AGENCY
26	How we can protect truth in the age of misinformation text SIMAN ARAL art MARINA APOLLONIO
34	Living in a post truth era? text JOSE ZARZALEOS photography MAX PINKERS
42	What are we gonna do with all these images? text GEORGIA FONTANA
50	Oscillating political opinions on social media text ALIF IBRAHIM project DONALD MCATEER
56	How Google's algorithm rules the web text STEVEN LEVY graphics FRANCESCA FINCATO
66	Finding the Blank spot text MEG MILLER installations MIMI ONUDHA
78	How far I have scrolled in a year text HURSEI IN KESVANI
80	Information media around the world data STATISTA.COM
83	The memory overload that sends the brain out of sync text JOBDANA CAPELWICZ graphics CATERINA CEDONE
89	Which of these news are fake?

WIREFRAME/Digital information	
92	The irresistible charm of bullshit text ANTONIO SGOBBA illustration CATERINA CEDONE
102	The fake news stand text MARTA MONTI photography TIM NUDD
114	Scaruffi.com text SUSANNA MARCHINI. LIZ SHEMARIA illustration FRANCESCA FINCATO
120	Cultural distillations text JAMIE GREEN project TOM JOYES
126	Thomas Ruff: JPEGs text LEO BENEDICTUS photography THOMAS RUFF
140	Interview with Jeroen van Loon text FILIPPO LORENZIN photography JEROEN VAN LOON
156	Mess with reality text RUBY BODDINGTON illustration STEFFER ULLMAN
162	The art of Calculation text SUSANNA MARCHINI art GEORGE WIDENER
168	Internet's implication across Art text ELEONORA RASPI in conversation with PABLO CIRIO
182	Praise of slowness text CARL HONORE photography BRESSON

Fig. 6: Wireframe index of first issue, academic year 2019/20, designed by Elena Buttolo, Caterina Cedone, Francesca Fincato, Marta Monti, and Federico Pozzi.

How we can protect truth

FAKE NEWS CAN SWAY ELECTIONS, TANK ECONOMIES AND SOW DISCORD IN EVERYDAY LIFE. SINAN ARAL HELP US UNWEAVE THE TANGLED WEB BETWEEN TRUE AND FALSE.



Sinan Aral is the David Austin professor of management at MIT and a founding partner at Manifest Capital. He was formerly the chief scientist at SocialAmp (until its sale to Merkle in 2012) and at Humint (until its sale to Tinder in 2016). He serves on the advisory boards of the Alan Turing Institute, the British National Institute for Data Science in London, the Centre for Responsible Media Technology and Innovation in Bergen, Norway and OS Bank, one of the first all-digital banks of Brazil. He has also worked closely with Facebook, Twitter, WeChat, Yahoo, Airbnb, Jet.com, Microsoft, IBM, Intel, Cisco, Oracle and SAP on understanding social media and big data analytics.

TEXT
Sinan Aral
ART
Marina Apollonio

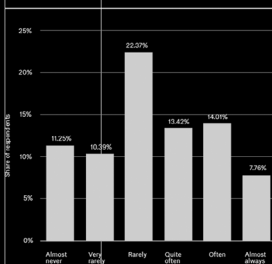
in the age of misinformation

Information media around the world

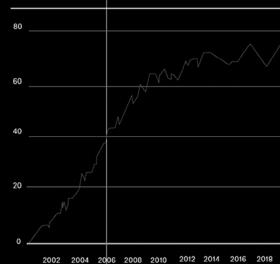
DATA
statista.com

Global data
US data

USE OF SMARTPHONE AS SOURCE OF INFORMATION

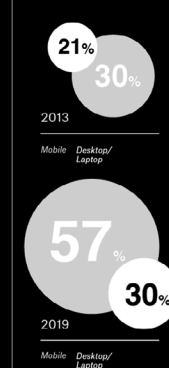


% OF AMERICANS THAT ARE HOME BROADBAND USERS



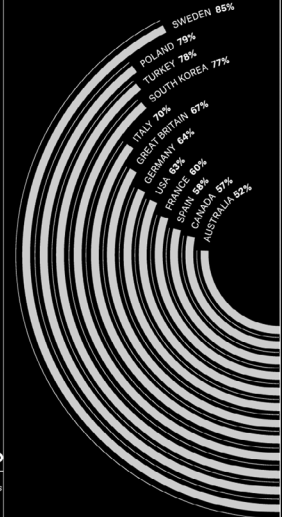
WHERE AMERICANS GET THEIR NEWS

About six-in-ten Americans often get news on a mobile device



WHICH COUNTRIES READ THE NEWS THE MOST?

Share of respondents in selected countries who read the news more than once a day



GLOBAL INTERNET POPULATION

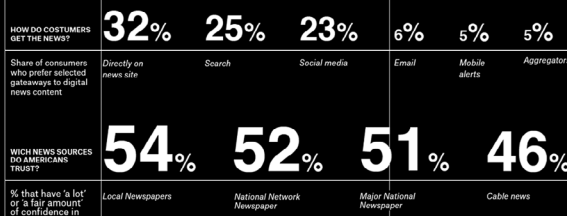


Fig. 7 a-b: Wireframe internal pages of first issue, academic year 2019/20, designed by Elena Buttolo, Caterina Cedone, Francesca Fincato, Marta Monti, and Federico Pozzi.

4.3 “Superfluo.
Con sottotitolo ambientalista”
[Superfluous.
With Environmental Subtitle]

Superfluo magazine confronts the environmental issue in an original and playful manner.

Its concept was developed in consideration of the two connotations of the adjective “superfluous”: it is most commonly a synonym for “unnecessary,” but the word is also related to the combination between the term “super” and “fluo,” which is the abbreviation of “fluorescent,” an adjective that stands for something that is colourful and bright.

The multi-coloured cover and the silver treatment of the written text are emblematic of this dual meaning. The monothematic semi-annual independent magazine publishes content that debates the current environmental situation through the contraposition of oppositional interpretations of a central topic. The first issue is about food and the following issues are about cosmetics, fashion, and sports respectively.

The magazine presents two content indexes and two editorials in order to highlight the “sense of being-in-between,” a plural vision of the same topic.

Ironic and playful rhetoric constitute the fil rouge of the entire project, supported by rich, provocative, and original iconographical and typographical research.

The intertextual and intermedia translation provides a promotional campaign and the design of an app that highlights the world of environmental operators through the same aesthetic as the overall magazine, implementing bright colours to make a strong visual impact on the readers.



Fig. 8: The cover of Superfluo magazine, first issue, academic year 2018/19, designed by Gabriele Della Pepa, Federico Guglielmetti, Francesca Granzotto, Paola Rondi, Elena Stefani, and Giulia Valentinuzzi.

Fig. 9: *Superfluo* magazine, internal pages, academic year 2018/19, designed by Gabriele Della Pepa, Federico Guglielmetti, Francesca Granzotto, Paola Rondi, Elena Stefani, and Giulia Valentinuzzi.



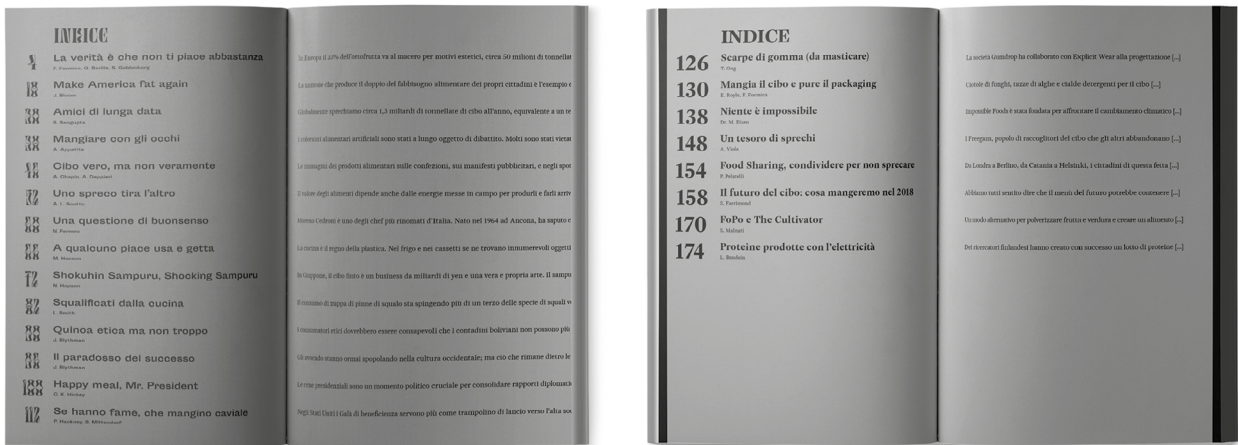


Fig. 10: Superfluo magazine, first issue, two indexes, academic year 2018/19, designed by Gabriele Della Pepa, Federico Guglielmetti, Francesca Granzotto, Paola Rondi, Elena Stefani, and Giulia Valentiniuzzi.

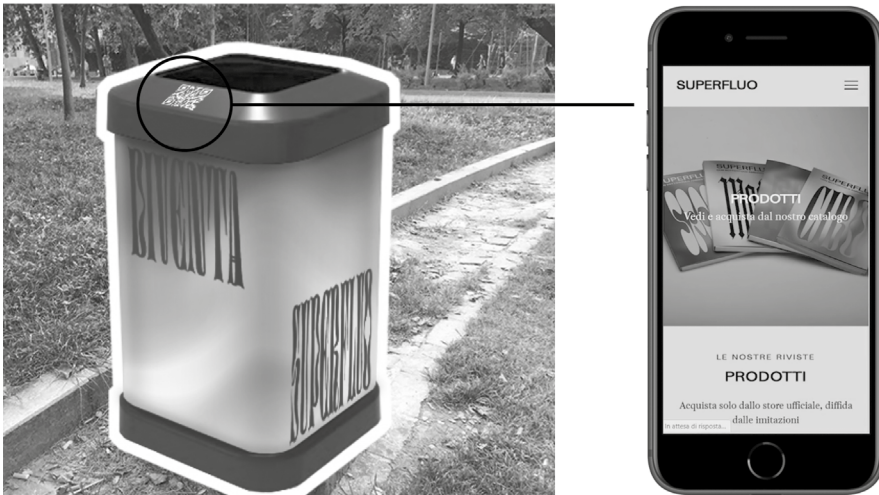


Fig. 11: Superfluo magazine app and campaign around the city, academic year 2018/19, designed by Gabriele Della Pepa, Federico Guglielmetti, Francesca Granzotto, Paola Rondi, Elena Stefani, and Giulia Valentiniuzzi.



Fig. 12: *Superfluo* images from the visual campaign around the city, academic year 2018/19, designed by Gabriele Della Pepa, Federico Guglielmetti, Francesca Granzotto, Paola Rondi, Elena Stefani, and Giulia Valentinuzzi.

5 Final Considerations

In this paper, we have discussed the publishing field of independent social magazines as a territory of experimentation that is constantly evolving in terms of content, iconographical apparatuses, formats, and the possibilities of interaction with the final readers.

Despite many difficulties, new independent social magazine projects, both in traditional paper dimensions and in new digital formats, have established themselves into the broad field of magazine design, opening debate on pressing issues concerning health, human rights, environment, education, and welfare, and inviting the readers to make significant change.

We theoretically defined these artefacts in terms of text and medium as dispositive to comprehend their complexities and articulations and underline their potentialities in the dissemination of social content beyond mainstream publishing.

The application of the translation paradigm to the design of independent social magazines allows us to recognise: the potentialities of language (verbal, visual, etc.) that undergo continuous change since language is an active force; the interpretative aspect of translation which consists of a “situated act” (temporally, geographically, socially, and ideologically); the risk of producing misinformation, (i.e., the risk of betraying the original intentions of the source text), but at the same time facilitating the opportunity to create new significations beyond stereotypes or schemas; new ways to interact with or include the readers; and new possibilities of producing hybrid texts and cultural exchange.

The translation paradigm in all its declensions is also useful in the education of a communication designer, aiding in one's understanding of the processes through which social issues can be shared, transformed, diversified, metabolised, conserved, recycled, or even falsified. Therefore, the process of translation can be understood as "ethical-practical mediation work" (Ricoeur 2001, p.67) that consists of a continuous negotiation process that embraces new meanings and values of hospitality, alterity, pluralism, and diversity.

In conclusion, three coexisting dimensions can be identified in an independent social magazine: *epistemic*, because it concerns research, knowledge and the interpretation of the most pressing social issues; *cultural*, because culture can contribute to capture, orient, determine, intercept, shape, control and ensure the gestures, behaviours, opinions, and speeches of living beings (Agamben 2006, p.14); and *experiential*, because it is strictly connected to the perceptive, semantic, and pragmatic features of the design practice and to the various methods of interaction with the final readers.

References

- Agamben, Giorgio. 2006. *Che cos'è un dispositivo?* [What is a device?]. Milano: Nottetempo. Kindle Edition, 14.
- Arduini, Stefano. 2020. *Con gli occhi dell'altro. Tradurre* [With the eyes of the other. To translate]. Milano: Jaka Book.
- Armstrong, Leah, Jocelyn Bailey, Guy Julier, and Kimbell Lucy. 2014. *Social Design Futures: HEI Research and the AHRC. Project Report*. Brighton/London: University of Brighton/Victoria and Albert Museum.
- Barthes, Roland. 1991. *L'avventura semiologica* [The semiological adventure]. Torino: Einaudi.
- Battiston, Giuliano, et. al. 2010. *Rapporto sull'editoria sociale. Numeri e tendenze di case editrici, riviste e siti*. [Report on social publishing. Numbers and trends of publishing houses, magazines and sites]. Roma: Edizioni dell'Asino.
- Baule, Giovanni. 2017. "The Translator Gaze. Design and Translation in the Editorial Field." In *Design and Translation: A Manifesto*, edited by Giovanni Baule and Elena Caratti, 39–70. Milano: Franco Angeli.
- Bettini, Maurizio. 2012. Vertere. Un'antropologia della traduzione nella cultura antica [Vertere. An anthropology of translation in ancient culture]. Torino: Piccola Biblioteca Einaudi.
- Byung-Chul, Han. 2015. *Nello sciame Visioni del digitale* [In the swarm. Visions of the digital]. Roma: Nottetempo. Kindle Edition, 31.
- Cross, Nigel. 2007. *Designerly Ways of Knowing*. Basel: Birkhäuser.
- Dallari, Marco. 2012. *Testi in testa. Parole e immagini per educare conoscenze e competenze narrative* [Texts in the head. Words and images to educate narrative knowledge and skills]. Trento: Erickson.
- Galligan, Anne. 2007. "The Culture of the Publishing House: Structure and Strategies in the Australian Publishing Industry." In *Making Books: Contemporary Australian Publishing*, edited by David Carter and Anne Galligan. Brisbane: University of Queensland Press.
- Hawthorne, Susan. 2014. *Biodiversity: A Manifesto for Independent Publishing*. Melbourne: Spinifex Press. Kindle Edition, 135.
- Jervolino, Domenico. 2001. "Introduzione." [Introduction], (pp.7-37) In *La traduzione. Una sfida etica* [The translation. An ethical challenge], edited by Paul Ricoeur. Brescia: Morcelliana.
- Julier, Guy. 2019. "From Design Culture to Design Activism." In *The social Design Reader*, edited by Elizabeth Resnick, 327–344. London/ New York: Bloomsbury Visual Arts.
- Marrone, Gianfranco. 2010. *L'invenzione del testo* [The Invention of the Text]. Roma: Laterza.
- Murray, Simone. 2021. *Introduction to Contemporary Print Culture: Books as Media*. New York: Routledge.
- Osimo, Bruno. 2020. *La traduzione totale di Peeter Torop: Spunti per lo sviluppo della scienza della traduzione* [Total translation by Peeter Torop: Insights for the development of translation Science]. Milano: Kindle Direct Publishing.
- Palumbo, Giuseppe. 2010. "I vincoli traduttivi: appunti per una classificazione" [Translation constraints: Notes for a classification]. In *Sui vincoli del tradurre* [On the constraints of translating], edited by Giuseppe Palumbo, 146–152. Modena: Officina Edizioni.
- Pohl, Christian, Dena Fam, Sabine Hoffmann, and Cynthia Mitchell. 2019. "Exploring Julie Thompson Klein's Framework for Analysis of Boundary Work." *Issues in Interdisciplinary Studies* 37, no. 2: 62–90.
- Ricoeur, Paul. 2001. *La traduzione. Una sfida etica* [The translation. An ethical challenge]. Brescia: Morcelliana
- Torop, Peeter. 2010. *La traduzione totale. Tipi di processo traduttivo nella cultura* [The total translation. Types of translation process in culture]. Milano: Hoepli.
- Zecca, Federico. 2013. *Cinema e intermedialità. Modelli di traduzione* [Cinema and intermediality. Translation Models]. Udine: Forum.

**Design for Common Good Needs
Some Ground Rules - The Need
for Ethical Design Pedagogy**
Saskia van Kampen, Cherly C. Giraudy

**DYING.DIGNITY.DESIGN.
End of Life Design as a Common Good**
Bitten Stetter

**Design and Visual Communication
as Common Good in the Field
of Palliative Care**
Tina Braun

**A Systems-Centric Approach
in Designing for the Common Good**
Shalini Sahoo

Design for Common Good Needs Some Ground Rules - The Need for Ethical Design Pedagogy

Keywords: Design, Ethics, Placemaking,
Social Justice, Design Justice.

Saskia van Kampen^{a*},
Cheryl C. Giraudy^b

^a*San Francisco State University*

^b*Ontario College of Art
and Design University (OCAD U)*

*saskia@sfsu.edu

A placemaking study in Toronto, Canada is highlighting the need for Ethical Design curricula that will serve the larger context of “Design for Social Good”. In reviewing diverse theories for socially informed design practice, it is apparent that Ethical Design, specifically socially-engaged design, as a core value is largely absent in pedagogy, training, and disciplinary practices of designers. As new health, social, economic, and environmental realities of contemporary life develop, communities are emerging as the driving force for social change, including dismantling colonial practices that sustain inequities in the making of our material world. Who a designer is and is not, as well as what role and position a designer may hold in that material world, is in need of reframing. An Ethical Design framework for both education and practice is needed to ensure that future designers respect communities as a collaborative partner and valued design team member.

1 Introduction

Design, in all its forms and definitions can no longer be considered the sole purview of those trained in the disciplinary fields. Citizens, individually and collectively, make design decisions, interventions, and changes on a daily basis that they deem good for their needs. These active choices directly affect their personal and community well-being, giving agency in the making of the world (Arendt, 1998). There is much that designers can learn from these innovations as they explore new definitions for “good design”.

Design ManifestO. 2020 (DM2020) is a participatory action research project for Toronto, Canada, that is exploring grassroots placemaking within urban neighbourhoods. Placemaking is the practice of creating spaces within neighbourhoods that reflect the residents’ identities and needs (Stewart, 2018). DM2020 has an inclusive design focus that expands thinking about accessible environments by considering culture, ethnicity, race, ability, and other diverse and intersectional ways of being (fig.1). The participatory nature of DM2020 uses narrative inquiry data collection practices to share stories and generate placemaking ideas together. The research team, consisting of educators and practitioners, work alongside participants, both listening and collaborating on ideas, in order to learn from lived experiences. The stories are positioned as *case-stories*, and include methods for working with city protocols and through disruptive measures.



Fig. 1: *The DM2020 Creative Practice as Protest Youth Workshop took place in OCAD U's Inclusive Design Building. This image depicts culmination presentations by youth participants. Photo by Nick Sagar.*

The emerging data points to a need for reframing the discourse around design in the public realm with greater respect and inclusion of citizen voices and community's lived experiences. This discussion should address the social, political, material, cultural, and aesthetic needs of people including a community's unique identity and its aspirations for the greater good of the urban or rural context it resides in. In this moment, as communities are driving major social shifts across environmental, racial, political, and economic realities, design has a civic role in contributing to this shift - including Black Lives Matter (Black Lives Matter, n.d.), Idle No More (Idle No More, n.d.), Me Too (metoomvmt, n.d.) and Climate Change Action (Climate Justice Alliance, n.d.). Communities are acutely aware of and experiencing the colonial design practices that have historically left them out of planning and design discourse critical in shaping their lives. These exclusions include, among other harms, a lack of respect and unethical practices in developing cities, spaces, and places, as well as the products and services created by designers *for* people and communities (Pitter, 2020). Citizens are mobilizing and dismantling old power structures that have for too long influenced designers and design practice.

Design for the Real World: Human Ecology and Social Change, written by Victor Papanek and published in 1971 laid bare the need for dramatic shifts in design and design pedagogy for human-centered outcomes. Change, though slow, is happening, and design education once lagging in its response to the need for Ethical Design, is undergoing a gradual transformation towards greater inclusion and diversity of perspectives. This paper interrogates the need for more holistic Ethical Design pedagogy, including redefining educational practices for future designers beginning with how institutions, educational or otherwise, define good design, design practice, and design as a force for common good. The gaps revealed through DM2020 findings in Ethical Design education and the youth workshop developed to explore Ethical Design practices in an educational setting all confirm our theories in terms of the need to evolve design education and institutes.

1.1 What is Ethical Design and Why is it Necessary?

Clothes that appropriate Indigenous patterns (Joseph, 2020), media that frames black protesters as thugs (Kilgo, 2020), the automatic soap dispensers that do not read dark skin tones (Goethe, 2019), the spaces that overlook those with different abilities (stopgap, n.d.), Chinese take-out containers that use stereotypical typefaces (Martin, 2020) - intentional or not, these are all examples of design decisions that support the continuance of xenophobia, micro and macro aggressions, and power inequities. These "mistakes" in design interpretation continue to this day despite all the efforts that have been made to ensure more equitable practices.

The architect Louis H. Sullivan famously stated in “The Tall Office Building Artistically Considered”, published in *Lippincott* magazine in 1896: “form ever follows function. This is the law”. The form follows function debate has been an ongoing paradigm in both the public and disciplinary realms. However, if design directly affects society and the environment, then this equation is incomplete without consideration of societal values such as equity and justice. This is echoed by Equity Designer Antionette Carroll who believes that socially responsible values should be the main catalyst for any project and calls for designers to ask themselves “am I designing a better world?” before engaging in any design project (Carroll, 2017). Ethical Design puts people and the environment first and recognizes the need for multiple voices at the table, especially those whose lived experience holds the greatest expertise.

2 What is Good Design and What Makes a Designer Good?

With forty-five years of collective experience as both practicing designers and educators, the DM2020 team has noticed a prescriptive pathway for becoming a professional and practicing designer. It starts typically with a child or youth who likes to draw and/or build things, demonstrates creativity and talent, and is encouraged to pursue the arts. However, one often hears stereotypical tropes on the economical differences between creative disciplines that are intended to discourage a career in fine arts in favour of say, architecture or engineering. With respect to an education in design, the typical process for entrance to a post-secondary program includes the highly regarded portfolio of creative materials that can demonstrate stellar creative thinking, making, and technical skills. In addition, potential students need to meet requirements from their formal education in terms of their grade point average (GPA). Once enrolled they are taught critical thinking, aesthetics, sustainability, craft, and historically grounded and universally accepted principles of design. They are also introduced to award-winning “star” designers, thereby framing who is a successful designer and what is excellence in design. Their goals greatly vary upon graduation but have been influenced by the education they have received. However, unlike other professions that directly affect the well-being of humans, designers do not have a code of conduct, such as the Hippocratic Oath taken by doctors, upon entering the field. Taylor and Dempsey touch on the need for Design Ethics tools as a way to hold designers accountable to values within the professional context and sees this happening on an individual basis within industry (Taylor & Dempsey, 2020). This might be more effective if done upon graduation so that design values are unified across the various practices and designers can move forward in industry with a collective understanding of ethical conduct.

Contemporary criticism of design education and practice sees that they are skewed to colonial understandings and “capitalist-imperial strategy” (Ansari et al., 2018). Art and design schools like OCAD U are exploring ways to decolonize the institution. However,

decolonization means different things to different communities thus making this a challenging task:

“For some, decolonizing is a project of de-centering the perspectives of settlers to emphasize those of the indigenous; others focus on decolonization as a process of recovery and the restoration of identity; still others use the term to critique Eurocentrism and modernism. All the concept’s varied, interconnected meanings have different implications when considered in the context of design” (Khandwala, 2020).

A portfolio review and specific GPA is still required for admission into many North American art and design schools. If designers and educators globally reframe the act of design as a fundamentally ethical one, with responsibility to not only fulfilling individual creativity, but also community and societal needs, then the make-up of future design students and practitioners may be more empathic, inclusive, and diverse. However, this would demand a shift in higher education art and design admission requirements.

While in higher education design students working with human participants are required to first submit their study proposal for ethics approval before proceeding - for example interactive design may require user testing for interface prototypes, while industrial design may need participants to test an object’s ergonomics. The Research Ethics Board (REB) in Canada, Institutional Review Board (IRB) in the US, protects both the institution, the researchers, and the participants by ensuring that the study will do no physical or emotional harm. However, once a study has REB/IRB approval there is no follow up or oversight to ensure that that the study is being conducted as claimed. This means that design researchers must hold themselves accountable during the project itself. Sieber and Tolich, authors of *Planning Ethically Responsible Research* (2013), explain how students need to be taught how to be ethical researchers - REB/IRB is not enough:

“[...] to overcome the limitations of this abstract, one-time review, researchers need to expand their knowledge of ethical considerations and to take more personal responsibility for their ethical conduct in the field. This responsibility must be planned for in advance, meaning that researchers need to be competent, ethical problem solvers” (Sieber & Tolich, 2013, p.xvi).

Educating students in becoming competent, ethical designers is an imperative aspect to curriculum and should not simply be a box that is checked off at the beginning of a project. Relying on ethics review boards endorses the notion that research needs ethical oversight rather than establishing what Borrett et al. describe as “a culture of ethical research” (2017, p.84). Helping students define their own ethical stance would not only be a response to making

social change happen, but also foster leadership and initiative in creating societal good.

Once in practice, some design professions are beholden to policies and procedures imposed by governments, industry, and others. Design practice is riddled with technical rules and regulations that include ethical practices, e.g. accessible documents, and this goes a ways to ensure that design solutions, responses, and outcomes are safe and viable. However, this is often done at the minimum level of implementation, e.g. building codes (Fry, 2012). This begs the question: is a good design something that meets the minimum requirements or is a good design socially responsible/ethical?

2.1 Evaluating Good Design

Design awards, typically judged by other designers, are evaluated on form and function. At the moment, many organizations have a separate award category delineating design for social good (Core 77, n.d.; IDA, n.d.; RGD, n.d.) while others allow for the public to vote on buildings that deserve accolades as a separate public choice award (OPN Architects, 2020). Although these efforts recognize Ethical Design the question remains: why is Ethical Design not seen as simply good design - in other words, the norm? If Ethical Design values are added into all award categories; including broader social consciousness and sustainability for both the physical and existential states, and the value-added outcomes for people and communities, how might this shift the awarded outcomes?

Deiter Rams, industrial designer and academic, a pioneer at the renowned company Braun, among other global product design giants, was a proponent of defining what “good design” should mean for designers. In the 1970’s, he formulated a series of design principles to consider in the making of the world, including: good design is innovative; makes a product useful; is aesthetic, understandable, unobtrusive, while long-lasting, and environmentally-friendly. He summarized that “Good design is as little design as possible” (The Design Museum, n.d.). However, in this discourse on good design, the designer is still the arbiter of design ethics and value.

The Seven Principles of Universal Design (Mace et al, 1997) were formed by a working group pioneered by Ron Mace, architect, designer-educator at North Carolina State University. The working group was comprised of architects, product designers, engineers and environmental design researchers, proposing that the design of environments, products and communications was in need of greater accessibility that informed all design with lived-experience. The principles, including Equitable Use; Flexibility, and Simple and Intuitive Use; Perceptible Information and Tolerance for Error; Low Physical Effort and Size and Space for Approach and Use (CEUD, 2020) formed the criteria for design consideration, and for a frame-

work in educating young designers on the merit of greater inclusion in design thinking, and practice. They have remained a foundational concept for design over the last several decades and support good and better design practice based on lived experience informing design.

2.2 The Evolved Designer

DM2020 findings along with the above suggests that design education is in need of review, starting with the admissions process. Requirements for entry into post-secondary professional design programs would benefit from looking beyond “talent” found in portfolios to include “soft skills”, such as volunteering, community work, and social collaboration experience. These could be seen as core Ethical Design values worthy of recognition for design school admission. A debate in some North American design schools is whether or not to abandon the portfolio interview requirement entirely which would be more inclusive (Burke & McManus, 2011). In other words, design programs could open their doors to a broader diversity of thinking and a new cohort of student.

Once inside the institution, how might curriculum support the shaping of the evolved designer? Initial ideas from DM 2020 findings suggest that program learning outcomes would need to expand to include:

- empathic awareness,
- leveraging assets in other people,
- negotiation skills,
- outreach and engagement,
- community feedback,
- cultural and community exchange.

While some of this is embedded in existing programs around the globe, the prime weight of design program outcomes has been on the technical and creative expression in line with perceived industry career goals and other historically defined characteristics of a design professional - form and function. By including the soft skills from the list above into curriculum students may become leaders in the social revolution and education would lead industry and government, not the other way around. However, before these can be effectively implemented and included into curriculum, deep investigation into existing Ethical Design practices and precedents needs to occur - learning from the experts.

3 Ethical Design Practices and Precedents for Change

There are many papers, books, organizations, institutions, and individuals that are actively engaged in disrupting all areas of the design profession and education to shift existing systemic power dynamics and to encourage social justice within the field. The resources below demonstrate the many varied precedents, practices, terms, guidelines, and models for Ethical Design and the overlap happening amongst the various organizations. This list is in no way

exhaustive but was compiled to demonstrate the breadth of effort within the field.

- Equity Design - Equity Design Collaborative was organized in 2017 to use design tactics to “subvert exploitative power dynamics” (Equity Design Collaborative, n.d.). Systems of oppression are outcomes of design processes and can be redesigned by disrupting dominant white cultural perspectives. The organization Equity by Design (EQxD) calls for more equitable ways in design practices to improve “the human condition and quality of life for everyone” (EQxD, n.d.). In her Ted Talk from 2019, Carroll explains how Equity Design builds upon existing resources to transform from within through a collaborative process of iteration, making, and testing. Because this process is well established within the field, Carroll believes that Equity Design should not be seen as disruptive, but the norm.
- Socio-Economic Practices - The Social Economic Environmental Design Network (SEED Network) proposes Public Interest Design as a method for more inclusive community design practices. SEED Network “provides a protocol to help guide, document, evaluate, and communicate the social, economic, and environmental outcomes of design projects” (SEED Network, n.d.). Their book, *Public Interest Design Practice Guidebook*, elaborates on and provides methodologies and case studies for Public Interest Design (Abendroth & Bell, 2016). Triple Bottom Line (TBL) theory is a way for designers to think socially, environmentally, and economically about their work. TBL accounts for people, planet, and profits when considering the impact of their products and services (Savitz, 2013).
- Disrupting Power Structures - Design As Protest (DAP) is an organization of “Anti-Racist designers dedicated to Design Justice in the built environment” (DAP, n.d.) and is a catalyst for individuals to participate in design activism. Their website also has a live, open-source Direct Action library with over 780 contributors. Digital Justice Lab is a Canadian organization that is focused on building alternative digital futures that are equitable by collaborating with technologists, community activists, and policymakers (Digital Justice Lab, n.d.). Sasha Costanza-Chock’s *Design Justice* is an in-depth critique of design and a call to build “a world where many worlds fit; linked worlds of collective liberation and ecological sustainability” (Costanza-Chock, 2020, p.xvii).
- Inclusive Design/Accessible Design/Universal Design/Human-Centred Design - Inclusive Design Research Centre (IDRC) out of OCAD U is an international community working together to “proactively ensure that emerging technology and practices are designed inclusively” (IDRC, n.d.). Inclusive Design upholds the idea of designing with, not for - closing the gap between user and designer. Human-Centred Design focuses on the user and considers the entire product experience from the object(s)

to the packaging, marketing and distribution (Thomsen, 2013). Global design company IDEO has developed the Human-Centred Design Toolkit which is free and can be downloaded from their website (IDEO 2009).

- Decolonizing Design - Decolonizing Design group blog is a platform for discourse on the dismantling of colonial structures as a necessary course. They propose “the (re)design of institutions, design practices and design studies” (Decolonising Design, 2020). Decolonizing Design moves beyond the limited notion of human-centred design to include the ecosystem. Similarly, the Hanover Principles were developed by William McDonough Architects in 1992 and is a list articulating how humanity and nature need to support one another. Dori Tunstall, the first black female dean of a design program anywhere in the world, is decolonizing OCAD U’s design program through focused equity hiring, supporting black youth and students (Lorenzo, 2020), and through robust cultural competency training for faculty.
- Sustainability and Environmental Justice - Landscape for Humanity (L4H), through the University of Oregon, supports social and environmental justice through landscape-based systems where “community and student engagement is central to the entire design and implementation process” (Landscape 4 Humanity).
- Ethical Design - *Ethics in Design and Communication* is a collection of essays edited by Laura Scherling and Andrew DeRosa, which discusses the complexity of Ethical Design within a capitalist structure. In her forward, Joanna Drucker asks “If we perform “ethical work” while continuing to practice and live within the very systems that perpetuate the abuse we protest, then how does this amount to an ethical agenda?” (Drucker, 2020, p. xiv).

What is consistent with all of the above is the idea that design needs to change - that design has been involved and continues to uphold systems of oppression and inequity. They all argue for providing platforms for voices that have been silenced in the past and they all offer strategies for how to move forward and evolve what design is and can be. What the above list also demonstrates is how these efforts to create ethical standards are fragmented — the complex plurality of the terms and theories make it difficult to pin down and teach effectively. What if all of these theories, strategies, and platforms are combined in order to find ways to deliver them to design students and studios in an accessible and actionable way?

4 DM2020 Study and the Creative Practice as Protest Youth Workshop

The focus of DM2020 is on spaces and how people make changes to create places for their communities to thrive. Through narrative inquiry the project is collecting stories of placemaking projects that occurred from the bottom up through proper protocols or guerrilla actions. These efforts hold valuable lessons for professional designers in terms of how to make sustainable places within neighbourhoods through ethical co-design practices. Inclusive placemaking happens from the inside and works out - it comes from the people who live, work, and play in those places. It is what the design field refers to as co-design - "working with, not for". When Placemaking is a top-down process it is less sustainable (McCreedy et al).

These stories and others collected from panel discussions and community forums are the main points of data that are being analysed for the DM2020 study. They have, so far, confirmed our theories about gaps in practice and pedagogy in terms of Ethical Design, and brought into focus the need to involve Ethical Design as an ethos for the Creative Practice as Protest (CPP) Youth Workshop.



Fig. 2: Left: The Creative Practice as Protest logo. Right: networking and having a snack during a break at the Workshop (images by research team).

The research team worked with social justice practitioners, community leaders, and community members to develop learning opportunities for youth participants that addressed the gaps discovered in Ethical Design pedagogy from data analysis (fig.3). The Workshop aimed to demonstrate Ethical Design practices that heard multiple voices and demonstrated ways that youth can make change happen within communities that they may or may not be a part of. Colloqate, a Design Justice organization out of New Orleans involved in activating and advocating for equitable and just spaces partnered with the DM2020 team for the workshop. Colloqate's founder Bryan C. Lee Jr. challenged the youth in the morning session with ideas on power, inequity, and racism which helped inform their design decisions in the afternoon session where youth participants worked on and presented placemaking ideas with peers, community members, and mentors (fig.4).

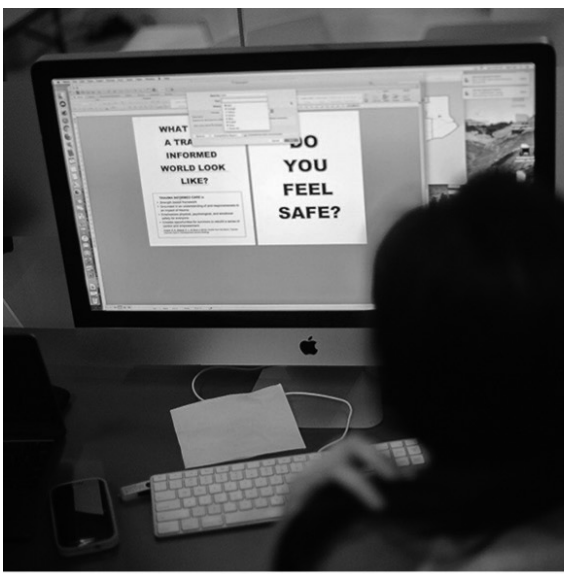


Fig. 3: Youth participants working on and presenting their ideas at the Workshop. Photos by: Nick Sager.

DM2020 is still in-progress. The pandemic has slowed down the course of action. The forums must pivot to online platforms and will need to navigate alternative methods for creating a remote environment that allows for equitable exchange of ideas. Since the beginning of the study over 100 participants have been involved. The outcome of the study has shifted many times as input is gathered. One aspect to the outcome may be a tool or resource for individuals and communities looking for placemaking tactics. A viable outcome that has begun development, as this paper identifies, is to create a framework for the integration of Ethical Design into pedagogy - putting theory to practice.

5 Modelling Ethical Practices in Design Pedagogy

In Goodman, Dong, and Langdo's study from 2006, when asked why a designer or company was not involved in inclusive design the most frequent answer was being "not aware" or they thought that inclusive design was "too hard to implement" (McAdams & Kostovich, 2011, p.29). Although educational institutions are very aware of the need for Ethical Design, the time, money, logistics, bureaucracy, and perceived complexity of implementation can be a deterrent to moving forward. Some privately funded institutions in the US have some incredible programs that support Ethical Design education. MIT Community Innovators Lab (CoLab), for example, is a centre for planning and development which involves students, faculty, external experts, and community members to develop and implement "inclusive economic development that is environmentally sustainable, socially just, and deeply democratic" (MIT CoLab, n.d.). CoLab's process mirrors many Ethical Design demands and protocols such as the inclusion of systemically excluded voices, and economic democracy with the goal of sustainable outcomes for citizens and the environment. In comparison, state schools and public institutions are less able to support programs such as these due to limited resources.

Additionally, higher education design programs can look to Ethical Design organizations such as the one's mentioned earlier for insight into pedagogical strategies. Carroll's organization Creative Reaction Lab, which is educating Black and Latinx youth to become "Redesigners for Justice", supports the education of youth in Ethical Design practices through their Equity-Centered Community Design approach. Colloqate, the DM2020 CPP Youth Workshop partner, is another organization that can be learned from: "for nearly every injustice there is an architecture built to sustain and perpetuate it" (Colloqate, n.d.). Colloqate runs workshop and engages in projects with community members to make environmental change happen. Their approach is to challenge power structures and make more equitable places for people to live.

DM2020 research team and authors of this paper have been developing and evolving Ethical Design curriculum for years. OCAD U instructor/professor Giraudy has worked with students and community members on inclusive placemaking and wayfinding projects with community housing and health care facilities. She also has students build spaces that account for specific needs of a family member. While holding the role of Vice President of Registered Graphic Designer (RGD)'s Design Education Committee, van Kampen developed the nation-wide Designathon (inspired by Vicky Meloney's Designathon from Kutztown University) where graphic design students, design mentors, and non-profits partner up and complete a project within a 12-hour time frame. In these examples, students are working directly with the folks that will be affected by the outcomes - placing them into real situations, not hypothetical, where they must listen, share, and engage with others. These efforts are in no way unique, as many faculty are making similar opportunities within their courses. However, in many cases, these efforts are done on an individual level rather than holistically or throughout the department. Ethical Design needs to be embedded throughout the curriculum, not just housed under one social design course, in a smattering of classes, or through a workshop as this inculcates in learners that it is a choice, that it is optional. Ethical Design should simply be Design if human and environmental well-being is to be achieved.

6 Conclusion

When asked what a designer is, the most common answer is "problem solver". This claim is outdated, egocentric, and misleading. Designers are part of a diverse team that work together to address the needs of a community. By claiming that a designer can solve problems continues a hegemonic notion of design practice. As Papaneck warned in 1971 designers may develop a solution that immediately appears to fix the problem. However, after a period of time the people for whom the solution was designed "realize quickly that, ... their 'solution' has resulted in twenty or thirty new problems" (Papaneck, 1971, p.85). In other words, the design is not sustainable.

Ethical Design is happening both professionally and institutionally despite what some scholars, such as Margolin and Margolin, discuss. For them, in terms of “how design for social need might be commissioned, supported, and implemented, little has been accomplished” (Margolin & Margolin, 2002, p.24). It may feel as though little has been done simply due to how deeply embedded and systemically ingrained these issues are in our society - what some might call a wicked problem (Cooper, 2016). The fragmentation of the various theories along with economic and other barriers of access complicate the ability for institutions to embed these ideas into curriculum in a coherent way. DM2020 have recognized a need to develop an Ethical Design framework that will aid in this process. As well, because the work of designers, both student and professional, directly impacts society and the environment there needs to be a way to hold them accountable for the decisions that they make and the work they produce. Even the design professions that do have codes of conduct, such as architecture, tend to be rooted in the technical aspects of the profession. Amending these to include values that uphold an Ethical Design framework may go a long way in reframing the form over function argument and normalizing Ethical Design as simply design.

References

- Abendroth, L.M. & Bell, B. (Ed.). (2016). *Public Interest Design Practice Guidebook: SEED Methodology, Case Studies, and Critical Issues*. Routledge.
- Ansari, A., Kiem, M., Martins, L.P.O., Vieira de Oliveira, P.J.S. (2018) Three Perspectives on Decolonizing design education. *PARSE*. 8. Retrieved December 2, 2020. <https://parsejournal.com/>.
- Arendt, H. (1998). *The Human Condition*. University of Chicago Press. 2nd Ed. (Original work published 1958).
- Black Lives Matter. (n.d.). Retrieved December 2, 2020, from <https://blacklivesmatter.com/about/>.
- Borrett, D.S., Sampson, H., & Cavoukian, A. (2017). "Research Ethics by Design: A Collaborative Research Design Proposal." *Research Ethics*. 13(2): 84. doi: 10.1177/174701611667313.
- Burke, P., & McManus, J. (2011). Art for a few: exclusions and misrecognitions in higher education admissions practices. *Discourse: Studies in the Cultural Politics of Education*, 32(5), 699–712. <https://doi-org.jpllnet.sfsu.edu/10.1080/01596306.2011.620753>.
- Carroll, A. (2019). Designing for a More Equitable World. TED Archive. Retrieved November 2, 2020, from <https://www.youtube.com/watch?v=z9XKBgdOrHU>
- Carroll, A. (2017). Justice by Design. TEDxHerndon. Retrieved November 2, 2020, from <https://www.youtube.com/watch?v=SFmeD-3P8YKQ>.
- The Centre for Excellence in Universal Design (CEUD). (2020). What is Universal Design?. Retrieved Dec 20, 2020, from: <http://universaldesign.ie/what-is-universal-design/>.
- Climate Justice Alliance. (n.d.). Accessed December 16, 2020. <https://climatejusticealliance.org/cja-history/>.
- Costanza-Chock, S. (2020). *Design Justice: Community-Led Practices to Build the Worlds We Need*. Cambridge, Massachusetts. The MIT Press.
- Colloqate. (n.d.). Retrieved October 12, 2020, from <https://colloqate.org>
- Cooper, K. (September 29, 2016). 'Wicked' Problems: What Are They, and Why Are They of Interest to NNSI Researchers? Network for Nonprofit and Social Impact. Retrieved December 2, 2020, from <https://nnsi.northwestern.edu/wicked-problems-what-are-they-and-why-are-they-of-interest-to-nnsi-researchers/>.
- Core77. (n.d.). Core77 Design Awards. Retrieved December 2, 2020, from <https://designawards.core77.com>.
- Decolonising Design. (2020). Retrieved November 2, 2020, from <https://www.decolonisingdesign.com/>.
- Design As Protest. (n.d.). Retrieved October 4, 2020, from <https://www.dapcollective.com>.
- The Design Museum. (n.d.). "What Is 'Good' Design? A Quick Look at Dieter Rams' Ten Principles." Design Museum. Accessed December 23, 2020. <https://designmuseum.org/discover-design/all-stories/what-is-good-design-a-quick-look-at-dieter-rams-ten-principles>.
- Digital Justice Lab. (n.d.) Retrieved October 4, 2020, from <https://digitaljusticelab.ca>.
- Drucker, J. (2020). Forward. In Laura Scherling and Andrew DeRosa (Eds.) *Ethics in Design and Communication: Critical Perspectives*. (pp.xiii– xv). London: Bloomsbury.
- Eisinger, P. (2000). The Politics of Bread and Circuses: Building the City for the Visitor Class. *Urban Affairs Review*, 35(3).
- Eisner, E.W. (2002). What the Arts Teach and How it Shows. In *The Arts and the Creation of Mind*, 70–92. New Haven; London: Yale University Press. Accessed September 5, 2020. <http://www.jstor.org/stable/j.ctt1np7vz.8>.
- Fry, T. (2012). *Becoming human by design*. London: Berg.
- Goethe, T.S. (March 2, 2019). "Bigotry Encoded: Racial Bias in Technology." *Reporter*. Retrieved December 2, 2020, from <https://reporter.rit.edu/tech/bigotry-encoded-racial-bias-technology>.
- IDEO (2009). *Design Kit: The Human-Centered Design Toolkit*. Retrieved December 2, 2020, from <https://www.ideo.com/post/design-kit>.
- Idle No More – Indigenous Revolution. (n.d.). Accessed December 16, 2020. <https://idlenomore.ca/>.
- Inclusive Design Research Centre. (n.d.). Retrieved October 4, 2020, from <https://idrc.ocadu.ca/>.
- The International Design Awards (IDA). (n.d.). Retrieved December 2, 2020, from <https://idesignawards.com/>.
- Joseph, Bob. (October 04, 2020) "Why Cultural Appropriation Is Disrespectful." Retrieved December 2, 2020, from <https://www.ict-inc.ca/blog/why-cultural-appropriation-is-disrespectful>.
- Equity by Design [EQxD]. "Origins." Retrieved October 4, 2020, from <http://eqxdesign.com/origins>
- Equity Design Collaborative. Retrieved November 2, 2020, from <https://www.equitydesigncollaborative.com>.
- Khandwala, A. (2020). "Decolonizing Means Many Things to Many People"—Four Practitioners Discuss Decolonizing Design," *Eye on Design*. February 20, 2020. <https://eyeondesign.aiga.org/decolonizing-means-many-things-to-many-people-four-practitioners-discuss-decolonizing-design/>.
- Kilgo, D. (May 30, 2020) "Riot or Resistance? The Way the Media Frames the Unrest in Minneapolis Will Shape the Public's View of Protest." *Nieman Lab*. Retrieved December 2, 2020, from <https://www.niemanlab.org/2020/05/riot-or-resistance-the-way-the-media-frames-the-unrest-in-minneapolis-will-shape-the-publics-view-of-protest/>
- Landscape 4 Humanity. (n.d.). Retrieved December 2, 2020, from <https://www.landscape4humanity.org/>.
- Lorenzo, D. (August 19, 2020) How OCAD's Dori Tunstall Is Rewriting the Rules of Design Education. *Fast Company*. Retrieved December 2, 2020, from <https://www.fastcompany.com/90541079/how-ocad-us-dori-tunstall-is-rewriting-the-rules-of-design-education>.
- Mace, R. Et al. (1997). Ronald L. Mace Papers (1974-1998), MC 00260, Special Collections Research Center, NC State University Libraries, Raleigh, NC
- Margolin, V. & Margolin, S. (2002). A 'Social Model' Of Design: Issues Of Practice And Research. *Design Issues*. 18(4): 24–30.
- Martin, E. (September 22, 2020). Can a Font Be Racist?. *Ceros Inspire: Create, Share, Inspire*. Retrieved December 2, 2020, from <https://www.ceros.com/inspire/blog/can-a-font-be-racist/>.
- McAdams, D.A. & Kostovich, V. (2011). A Framework and Representation for Universal Product Design. *International Journal of Design*. 5(1).
- McCreedy, D., Maryboy, N., Litts, B., Streit, T., & Jafri, J. (2018). What Does Working "With" (not "For") Our Communities Look Like? *Center for Advancement of Informal Science Education*. informal-science.org/broadening-perspectives
- Me Too. Movement. "Me Too. Movement." (n.d.). Accessed December 16, 2020. <https://metoomvmt.org/>.
- MIT CoLab. (n.d.). Retrieved November 2, 2020, from <https://www.colab.mit.edu>.
- OPN Architects. (April 7, 2020). Public Opinion Rules in the 2020 People's Choice Award. Retrieved December 2, 2020, from <https://opnarchitects.com/2020/04/public-opinion-rules-in-the-2020-peoples-choice-award/>.
- Papanek, V. (1971). *Design for the Real World: Human Ecology and Social Change*. 2nd Ed. Chicago: Academy Chicago.
- Pitter, J. (2020). *About*. Canadian Urban Institute. Retrieved December 2, 2020, from <https://canurb.org/team/jay-pitter/>

- Registered Graphic Designers (RGD). (n.d.). Events-and-Programs. Retrieved December 2, 2020, from <https://www.rgd.ca/events-and-programs/ultrabold-awards/info>.
- Savitz, Andrew. (2013). *The Triple Bottom Line : How Today's Best-Run Companies Are Achieving Economic, Social and Environmental Success — and How You Can Too*, John Wiley & Sons. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/sfsu/detail.action?docID=1495625>.
- Scherling L. & DeRosa, A. (2020). *Ethics in Design and Communication: Critical Perspectives*. London: Bloomsbury.
- Schneekloth, L.H. & Shibley R.G. (1995). *Placemaking: The Art and Practice of Building Communities*. New York: John Wiley & Sons.
- SEED Network. (2020). "Methodology – SEED Network." Retrieved November 2, 2020, from <https://seednetwork.org/tools/methodology/>.
- Sieber J.E., & Tolich, M.B. (2013). *Planning Ethically Responsible Research: A Guide for Students and Internal Review Boards*. Los Angeles: SAGE.
- Stewart, S. (2018). Canadian relationships and reconciliation for Indigenous identity and space. Presentation for Urban Territories Stream 1 Future Cities. Retrieved January 2, 2020. from <https://www.futurecitiescanada.ca>
- Stopgap. n.d. StopGap Foundation – Helping Communities Discover the Benefit of Barrier Free Spaces and Providing Support to Create Them. Retrieved December 2, 2020, from <https://stopgap.ca/>.
- Sullivan, Louis H. The tall office building artistically considered. *Lippincott's Magazine*, March 1896.
- Taylor, C., & Dempsey, S. (2020). Designing Ethics Tools for Self-Reflection, Collaboration, and Facilitation. In Laura Scherling and Andrew DeRosa (Eds.) *Ethics in Design and Communication: Critical Perspectives*. (pp.143–147). London: Bloomsbury.
- Thomsen, D. (December 20, 2013) Why Human-Centered Design Matters. *Wired*, Retrieved December 2, 2020, from <https://www.wired.com/insights/2013/12/human-centered-design-matters/>.
- Zitcer, A. (2018). Making Up Creative Placemaking. *Journal of Planning Education and Research*. doi:10.1177/0739456x18773424

Acknowledgements

The authors wish to acknowledge funding by Social Sciences and Humanities Council, Canada under the Partnership Engage Grant (2019). Expression of thanks goes out to research partners Colloqate Design, USA, and Graduate Research Assistant, Lena Phillips, MSc. A final thanks is in order for the tremendous input and insight of the diverse local communities across the City of Toronto that agreed to participate in this design research.

DYING.DIGNITY.DESIGN.

End of Life Design as a Common Good

Keywords: End-of-Life Design, Palliative care, Value Change, Research through Design, Multi-Layered Ethnography.

Bitten Stetter^{ab*}

^a*Studies in the Arts, doctoral program
of the Faculty of Humanities
at the University of Bern and the
Bern University of the Arts, Switzerland*

^b*Department of Design, Trends & Identity,
Zurich University of the Arts, Switzerland*

^{*}*bitten.stetter@zhdk.ch*

The paper gives deep insights in connections between settings of dying, dignity and design, shows how things affect vulnerable individuals and what influence the aesthetics of products, and the presence and absence from things have on our post-mortal society. It is an investigation of the material culture at the border of palliative care, end of life design, consumption and trend forecasting. Current lifestyles in western worlds and pre-, ad- and post-mortem styles are being reflected under aspects of the postmodern and (post-)material turn and with regard to individualization, value change, demographical change and holistic health. The research through design approach allows to transfer findings into new products for care givers, patients and relatives. The design proposals should act inside and outside medical and nursing worlds with the goal to improve awareness of dying, dignity, autonomy and self-empowerment. The work is a plea for end- of-life design as a common good.

When we walk through the city centers, we are flooded with beautiful things, useful as well as useless ones. When we enter a store and roam the mommy area, we are seduced by maternity clothes, birth gifts, diapers in jeans print, colorful bean bags made by organic cotton, rubber pacifiers, and a huge selection of baby carriages in retro or natural look. We find rompers from Dior to H&M equipped with golden buttons and dream catchers to lull our little ones to sleep. We are overwhelmed by options; we just have to decide what material or lifestyle fits us. When we further move on to the kid's section, through the departments for conscious Best Agers, we see that everyone can get what they think they need. The products for all phases and generations are finely segmented and infinitely differentiated. Most of these lifestyle offers increasingly clearly demonstrate that the design of meaningfulness becomes more important, because the "essence of meaning lies in our experiences" (Ossevoort 2015). They promise possibilities of a better future. Even Covid-19 has an impact on consumer world. Homemade masks lure us to take care of others and ourselves. Brands such as Soeder show us ways to integrate the pandemic crisis in the form of mindfully designed disinfectant bottles into our lifestyles without yielding our carefully acquired identities entirely into the hands of doctors and virologists.

When we walk through never-ending hospital corridors, visit a hospice or enter a palliative ward, the experiences are totally different. We "breathe" an aura of illness, dying and standardization. When the patient room becomes the center of life in the last phase of life, the nursing bed determines the radius of action, for living, eating bathing, and receiving visitors. In this case, the things that are (not) present become more important. Then we experience that our daily life had been taken place as a matter of course in the midst of a wealth of products, something we realize only in exceptional situations – when something is not right, does not work, is missing or seems inappropriate (Mareis, 2014: 10ff). If we think of artificial potted plants, washable resopal tables, barracks-like lockers, imitation leather seats, sinks hidden behind dralon curtains, bedpans and stackable feeding cups, then we realize how already the mere enumeration of materiality generates specific emotional qualities. This is what Walter Benjamin's calls the "aura" (1931): emotions and atmospheres created by spaces and things (Böhme, 2014). These things alienate us from the fact that we – as individuals and as a society – have to deal with mortality. The repulsive force of these things creates discomfort and distance and turns us away from places like these, whether we are patients, family, neighbors or friends. We want to escape and hope that we never end up there. We hope for a quick death in our lovely decorated homes and try to ignore that only a few of us will get this dream fulfilled (Borasio, 2013). We explore that dying is a process and death is not likely to be a sudden event, it is a phase – a phase of life.

As a relative of a chronic ill person, but also as designer, I was able to experience the medicalized and decelerated death first hand. I became unwittingly an “observer in residence” of settings of dying, in which patients and relatives spend most of their time. I became aware of health care atmospheres and I was confronted with drip stands that stood uselessly in rooms because they were no longer suitable for curative applications. I identified bedside tables that do not fit the needs of weak patients. I was involved in crises caused by a lack of human-centered design. I was irritated about the missing knowledge of dying in my community and I was shocked that—even as a non-mother—I know so much about baby-care, but nothing about dying. And I could not believe that there are no lifestyle offers for the final phase, even though our consumer society is normally very quick to offer “special things to buy”.

Fig. 1: Collage of current care objects in settings of dying.



I tried to get special clothes for people with special needs, I did not find it. I tried to get care accessories, they offered me products in packs of hundred. I asked for palliative-care lotions and they recommend products for babies. I searched on care websites and I found stackable products that communicate: “We don’t care about taste”. Design shapes and controls ourself and society, notes von Borries, “it influences on a material and immaterial level the ways and means of our living together. Whether we are fearful or courageous, free or not, lonely or in community, is not only, but also guided by design, according to Marx’s dictum ‘being determines consciousness’” (von Borries, 2019).

As a private person I was annoyed by the fact that my relative had to die, but as a trend researcher, I was also bothered that everyone is designing new fancy funerals formats or bio gradable urns. I was irritated that institutes of the future predict a “The New Death” (Manthorpe & Smith, 2015) and what I monitored are end-of-life-care-machines and death-planner-apps. I was confronted with the claim: “We are dying so individually”, but what I see is just uniformization. Consumers get “crazy” over terms like karma consumption and holistic health living, but more or less no designer cares about the phase when we are weak and in need of help. Diseases, like cancer, change our lives, in many cases destroying our

bodies and causing wounded identities (Corbin& Strauss, 2004). But not enough that they hurt our physics and psyche and cripples our social interactions, a health-obsessed society also excludes seriously ill and dying people from life outside the medical confinements. This social isolation is like adding insult to injury. A palliative physician describes it vividly: "Patients are not people who live on an island, they live in social contexts" (Kunz, 2017). These contexts are linked to lifestyles and an empire of things (Trentmann, 2016). We can criticize our consumer society on many levels, but we must accept that consumer goods transport narratives of social interaction and, in the way they affect our everyday culture, they also enable us to think about how we are able to bring to an end our own and the lives of others with dignity. Besides their practical functions, things have symbolic and ritual meanings (Bosch, 2014). The (non-)human-centered design creates (in)dependence, (non-)quality of life, dignity or unworthiness. In this sense, things are not only tools, they are "living objects" (Jordan, 2020). They can make us sad or happy, proud or ashamed, anxious or secure. They can empower patients, infuriate or delight them. However, they represent contemporary concepts and moral standards of dying.

2 Researching on Dying

After the death of my loved one, I took all my anger and sadness and started my dissertation "Things of dying - Assemblages. Goods. Transmitters". I visited medical care exhibitions, read books about death and dying and observed the dark sides of design, "including the fractures, ambivalences, taboos and transgressions" (Mareis, 2014: 22). I had further education in palliative care, entered the field and became part of the interdisciplinary research project "Settings of dying" (sterbesettings.ch) funded by the Swiss National Science Foundation. Questions that accompany me are: what effect does the lack of a material culture (or a de-aestheticized culture) have on our relationship to illness and dying? What support can design provide to improve dignity for dying people and which design methods are beneficial to implement end-of-life design as a common good? In my multi-scaped and multi-layered ethnography (Clarke 2005) I explore a design-sensitive society, in which the wearing of white diapers or "lying in bed" seems already understood as a "loss of our values" and a social and medical "defeat" (Prätorius 2005). And once again I realize: "What we consume has become the defining feature of our lives: our economies live or die by spending [...] and even public services are presented to us as products in a supermarket" (Trentmann, 2016) – preventive services for health included. I protest against the notion that "people who are free from disease and whose injuries are repaired are better able to pursue their own goods, to contribute to the common good, and to share communal interactions with fellow citizens" (Cochran, 1999). Certainly, there is agreement that modern medicine is important for repairing injuries and curing diseases and illness and that it is an essential aspect of the common good of modern societies (ibd.). But death is not an illness (Ariès, 1996) and accepting mortality

seems to be equally important for the common good in a modern society. I use approaches like empathy design (Kruger, 2008), mindful design (Niedderer, 2013), and frameworks of “Designing pleasurable products” (Jordan, 2020) for analyzing things in the field. “A feeling of pride may be linked to [...] good aesthetics. For example, annoyance might be linked to poor technical performance whilst anxiety may be related to a lack of usability” (Jordan, 2020). Significantly, the sensual qualities of things have received less attention in cultural science and medical research (Artner et al., 2017; Mol et al., 2010).



Fig. 2: *Collage of things of dying in the field, Center for Palliative Care, City Hospital Waid.*

This is despite the fact that my participatory field research has conclusively shown that nurses spend a lot of energy to change things in end-of-life settings. They act like amateur designers, converting existing plastic tablet cups into scented objects, hanging dralon curtains over neon lights to create a more pleasant atmosphere or creating specific palliative care products from towels. They improvise in using hacks to change curative settings to end-of-life settings, because the material present in health institutions often does not fit to the needs and demands of a dying person. This creative care knowledge is unfortunately mostly bound to the individual caregiver and is rarely shared with the public. It is used in acute crises and not for prevention; this end-of-life design knowledge seldom leaves the institutions, although it contains a lot of implicit know-how, which could be utilized by professional designers entering the field of end-of-life design.

According to the Design Council London (2018) “there is a huge wave of dying, death and bereavement” that affect design discipline and initiatives by designers like Sonnefeld start to re-invent death with a very wide range of ideas. Palliative care is part of this movement, focus on the time, when cure is no longer considered a primary goal. Palliative care includes medical treatment, nursing care and interventions as well as psychological, social and spiritual support. The discipline offers a way of holistic thinking that fits to our current spirit of time, where people search for meaning. Its fits into a Western world where community thinking, solidarity and words like common good are rediscovered. It relies on civic engagement

and wants to re-democratize death from a health care perspective. In doing so, the concept of participation as a “genuine goal” and “constitutive characteristic of democratic societies” (Fleckinger, 2013, p.113) is to be understood as a strategy in order to “no longer exclude the dying and seriously ill from society (the living), but to bring them back into society with their needs and requirements and thus enable them to die in community as well as in dignity” (ibd., p.65). Palliative care is thus a concept of and for the common good. The main goal is to resist the exclusion of the dying and to fight against a “societal and social definition of a dying person as already dead person” (Goebel, 2012, p.25). Well-designed products could have a similar function in this participatory concept as voluntary and spiritual work already have.

3 Things of Dying

The disposable sponge stick for mouth care is a good example. People outside the care sector are rarely familiar with these cheap sticks with pink or green sponges on top, as they are not available in pharmacies for private use. But in difficult care situations, these ephemeral things are more than a care thing with a clear-defined purpose. These sticks can work as a surrogate for the cultural practice of social eating, they enable closeness and affection, they empower relatives to act and to do something in the phase of “not being able to do anything anymore” (Stetter, 2019). They evoke non-verbal, sensual-physical, physical-mental connections (Krippendorf, 2013). They are care objects and “social workers” par excellence as they convey knowledge about the special needs at the end of life without many words. They allow us to create well-being not only for the patients but also for relatives. The big problem of simple disposable sponge sticks is that, unlike, for example, baby-soothers or feeding cups for babies, they are not part of our consumer culture, they are not created in variety and quality and they do not disrupt our everyday life. So, they cannot communicate knowledge about dying, they cannot change our behavior and are not able to sensitize a society for the final phase. We know that mindful design lead to special reactions (Niedderer et al., 2014). Craig and Chamberlain (2017) note that more and more health care researchers finally realize that human behaviour and design are integrally linked. The interest arises from the recognition that adopting certain behaviors leads to improved health outcomes and quality of life (ibd.), but this insight is not really noticeable in the material culture of dying, yet. In the mid-19th century our approach to illness and dying was different. Beak-shaped feeding cups were available in a variety of forms and high-quality materials. Today, feeding cups as well as other care products are made of cheap plastic, are dishwasher-safe, de-individualized, and not adapted to the individual needs and values of patients and their relatives (Stetter, 2019). They are omnipresent in medicalized settings of dying but not part of our lifestyles. If we take a closer look at the current aesthetics of feeding cups, uniformed nursing shirts and white adult diapers in the spirit of democratic consumption, then these

things make us aware of our relationship to death and profit-oriented health policies. If we contrast a historical filigree feeding cups with a plastic cup, they appear like a kind of societal utopia that acknowledges the reality of weakness and the need for care. The function of both cups is fundamentally identical, but the approach to the world is completely different. Design and its possibilities are often romanticized and idealized and often ignores the shadow sides of design (Mareis, 2014, p.22) that are closely linked to the design of society (Moebius & Pritz, 2012). In this sense, my research explores the dark side and the light side of design as well as manifestations of the “Old” and “the New Death” and tries to understand in which area novelties get visible.



Fig. 3: Collage of urns, coffins and grief objects.

I distinguish between pre-mortem, ad-mortem und post-mortem styles, because my investigation shows clearly that the most innovative designs are created post-mortem, ranging from new mourning clothes, webcasting funerals, Bio-urns to eco-friendly coffins. It seems to be symptomatic for an antiseptic and tech-affine society that pre-mortem products are missing, because dying is perceived as something dirty and shameful (Ariès, 1996). Most pre-mortem designs focusing on technologically and usability-based solutions such as community or death planner apps or care robotics. “The premise on which these approaches are based appears to be that the product must be designed such that the cognitive and physical demands places on the users are minimized – that the demands do not exceed the persons processing capacity” (Jordan, 2020: 7). According to Jordan this approach is “by implication if not by intention – dehumanizing” (Jordan, 2020, p.7). If designers were really hands-on in the field and would accompany dying with their bodies and souls, they would know that “high touch” is more relevant than “high tech” and that recapture of knowledge is more necessary than outsourcing as the questions of a relative impressively shows: “Is it medically justifiable if I stroke the hand of my dearest one?” (Stetter, 2020). I currently observe that some rhetorics of design (Jost & Scheuermann, 2008) view the social primarily as a “system of norms or as a chain of rational, utilitarian actions” (Reckwitz, 2015: 16), which reduces seeing, hearing, feeling, and smelling to information processing, that is, to

purely cognitive acts. The design approach I pursue is different, focusing on an alternative access to the world to criticize the retrograde idea that “for the continuance of modern, Western societies, there is hardly anything as superfluous as the aesthetic” (Reckwitz, 2015, p.13.). Using the power of aesthetics does not exclude usability, but includes a holistic approach to dying.



Fig. 4: Exhibition 2020: FINAL STUDIO apparel, FINAL STUDIO dish, FINAL STUDIO fold.

4 New Designs of Dying

My research-through-design approach allows transferring my findings directly into new products. They are being implemented as “materialized questions” in settings of dying and be presented in exhibitions like Design Biennale (2019), Werkschau Waid (2020), Friedhof Forum (2021) in Zurich for an expert and public audience. My designs are thought not only to support ill individuals but also to contribute to the common good by offering new accesses to mortality and enhancing our ability to shape our lives in a society that is secretly driven by the fear of death. I create individual nursing shirts with different patterns, materials and new functional solutions inspired by an interview with a palliative care doctor who remarked: “If I had seen this woman in her own cloth and not in a standard care shirt, I would have advised her differently” (Stetter, 2020). Most of these textiles are not only care shirts, but “apparel for transition” focusing to the fact that illness and dying is a process. In healthy times, one can wear the “apparel for transition” as dress or kaftan, and when one gets ill, it can be transformed into shirts to meet to care requirements. “Products of transition” allow us to be sensitive to our finiteness in times of blossoming health. They are travel companions that accompanies us through our lives. It shows who we are and who we want to be even in difficult times. These shirts do not communicate “I am a medical loss” but speaks self-confidently and with dignity: “Yes, I am finite”.



Fig. 5: FINAL STUDIO apparel.

Next to this product line, I create for example dices that help talking about moods and fears. Other products are ceramics, or folded paper product lines that relatives can decorate with messages and patients can use for the “Lebenswelt” (Lifeworld, Husserl, 1954) – the bed. All DIY-sets function as communication helpers and “well-being makers”. They provide information, invite participation and offer autonomy and collectivity. Dr. Roland Kunz used the term “bridge building” in an interview: “[...] Now I can imagine that design would not only help patients and relatives, it will also build bridges. Bridges to a society that has forgotten to understand death as part of life” (Stetter 2020). All product lines are part of Final Studio, a lifestyle brand that operates at the interface of research, design and end of life care, founded in 2019, and focus on different strategies such as tinkering, do it yourself, self-empowerment and travelling. Monika Obrist, general manager of palliative zh+sh, wrote in an email after visiting my exhibition: “You are really creating a significant added value for palliative care [...]. Is there a possibility to make these things available to a large circle of people?”

In regard to the last question, I feel the biggest challenge is to attract the retail sector. We know, that we do not only need creation, production, and media exposure, but also distribution channels to reach the intended audience. That means concretely that department stores or shops must find the courage to include products for “othered” parts of life. For the consumer trend “sustainable funeral”, the market was ready, but whether the aestheticized (health) market is ready for human-centred design in settings of dying, remains to be seen. However, I firmly believe that dignified end-of-life design take away fears, reduce suffering, bring attention to the social taboo and would contribute to furthering the common.

References

- Ariès, P. (1996). *Geschichte des Todes*. München: dtv Verlagsgesellschaft.
- Artner, L., Atzl, I., Depner, A., Heitmann-Möller, A., Kollwe, C., & Bruns, T. (2017). *Pflegedinge: Materialitäten in Pflege und Care*. Bielefeld: transcript.
- Benjamin, W. (1931). Kleine Geschichte der Photographie. In W. Benjamin, R. Tiedemann (eds.) (1977). *Gesammelte Schriften* Band II.3 (378 ff.). Suhrkamp. Frankfurt a. M.
- Böhme, G. (2014). *Atmosphäre: Essays zur neuen Ästhetik*. Berlin: Suhrkamp.
- Borasio, G. D. (2013). *Über das Sterben: Was wir wissen. Was wir tun können. Wie wir uns darauf einstellen*. München: C.H.Beck.
- Bosch, A. (2014). Identität und Dinge. In S. Samida, M. Eggert, H. P. Hahn (eds.). *Handbuch Materielle Kultur*. Stuttgart: Metzler Verlag.
- Cantauw, C. (2009). Tupperdose mit Heimaterde. In J. Moser, D. Seidl (eds.), *Dinge auf Reisen. Materielle Kultur und Tourismus*. Münster: Waxmann.
- Clarke, A. E. (2005). *Situational Analysis. Grounded Theory after the Postmodern Turn*. London: Sage publications Ltd.
- Cochran, C. E. (1999). The Common Good and Healthcare Policy. *Health Progress Journal of the Catholic Health Association*, 5/99.
- Corbin, J. M. & Strauss, A. (2004). *Weiterleben lernen. Verlauf und Bewältigung chronischer Krankheit*. Bern: Huber.
- Craig, C., Chamberlain, P. (2017). Behaviours: Design and behaviour change in health. In Tseklevs, E., & Cooper, R. (eds.), *Design for health. Design for Social Responsibility* (191–203). Abingdon: Routledge.
- Design Council (2018). *Reinventing death for the twenty-first century*. Retrieved June 1, 2019, from <https://www.designcouncil.org.uk/news-opinion/reinventing-death-twenty-first-century>.
- Fleckinger, S. (2013). *Ehrenamtlichkeit in Palliative Care: Zwischen hospizlich-palliativer Sorgeskultur und institutionalisierter Dienstleistung*. Bielefeld: Springer VS.
- Goebel, S. (2012). *Die eigene Sterblichkeit im Blick. Eine biographieanalytische Studie mit Hospizhelferinnen und Hospizhelfern*. Paderborn: Wilhelm Fink Verlag.
- Husserl, Edmund (1954). *Die Krisis der Europäischen Wissenschaften und die transzendente Phänomenologie. Eine Einleitung in die phänomenologische Philosophie*. Ed. by Walter Biemel. Re-print of the 2nd Ed., Leuven 1976.
- Joost, G. & Scheuermann, A. (2008). *Design als Rhetorik: Grundlagen, Positionen, Fallstudien*. Basel: Birkhäuser.
- Jordan, P. W. (2020). *Designing Pleasurable Products: An Introduction to the New Human Factors*. Philadelphia: Taylor & Francis.
- Krippendorf, K. (2013). Die semantische Wende. Eine neue Grundlage für Design. In: R. Michel (Ed.), *Die semantische Wende. Eine neue Grundlage für Design* (18 ff.). Basel: Birkhäuser.
- Kruger, R. (2008). Design and empathy. *South African Journal of Art History*, 23(3), 113–125.
- Kunz, R. (2018). *Vortrag Palliative Care*. Conference on Palliative Care and Psychiatry, Volkshaus Zürich, 01.06.2018.
- Manthorpe, R. & Smith, J. (2015). *The New Death*. LS:N Global.
- Mareis, C. (2014). *Theorien des Designs. Zur Einführung*. Hamburg: Junius.
- Moebius, S., & Pritz, S. (2012). *Design der Gesellschaft. Zur Kultursoziologie des Designs*. Bielefeld: transcript.
- Mol, A., Moser, I., & Pols, J. (2010). *Care in Practice. On Tinkering in Clinics, Homes and Farms*. Bielefeld: transcript.
- Niederderer, K. (2013). *Mindful Design as a Driver for Social Behaviour Change*. Retrieved May 5, 2020, from <https://www.semanticscholar.org/paper/Mindful-Design-as-a-Driver-for-Social-Behaviour-Niederderer/a57c65a98fe55910a69a93e334fb22bea0d451fc/>.
- Ossevoort, S. (2015). *Das Design wird emphatischer*. Retrieved May 14, 2019, from <https://www.zukunftsinstitut.de/artikel/das-design-wird-empathisch/>.
- Prätorius, I. (2005). *Handel aus der Fülle: Postpatriarchale Ethik in biblischer Tradition*. Gütersloh: Gütersloher Verlagshaus.
- Reckwitz, A. (2015). *Ästhetik und Gesellschaft – ein analytischer Bezugsrahmen*. In S. Prinz et al. (Eds.), *Ästhetik und Gesellschaft. Grundlagentexte aus Soziologie und Kulturwissenschaften*. Berlin: Suhrkamp.
- Stetter, B. (2020). Research diary and field notes. Unpublished.
- Stetter, B. (2019). Care Design: Palliative Gestaltungsräume am Lebensende. *Zeitschrift der Schweizerischen Gesellschaft für Palliative Medizin, Pflege und Begleitung*, 3(4), 24–27.
- Trentmann, F. (2016). *Empire of things: How We Became a World of Consumers, from the Fifteenth Century to the Twenty-First*. London: Penguin Books.
- Von Borries, F. (2019). *Design formt Gesellschaft – Essay*. Retrieved June 7, 2020, from <https://www.bpb.de/apuz/287808/design-formt-gesellschaft>.

Design and Visual Communication as Common Good in the Field of Palliative Care

Keywords: Palliative Care, End of life, Design, Communication Design, Design Rhetoric, Health Care Design.

Tina Braun^{ab*}

^aStudies in the Arts, doctoral program of the Faculty of Humanities at the University of Bern and the University of the Arts Bern, Switzerland

^bUniversity of the Arts Bern Institute of Design Research

^{}tina.braun@hkb.bfh.ch*

The focus of this paper is to show first analyzes and research entries on how communicative interfaces and materials at end-of-life situations can be improved and how to integrate settings of dying into the common good through better, more appealing communication design. The intention of the research perspective design/visual communication within the project “Settings of Dying” (SNSF project, 2020-2023), is to develop new communication materials and applications that are appropriate for a respectful communication between affected patients, their relatives, and the medical and nursing staff. Using methods that navigate between the discipline of anthropology and design, including field research, participatory observation and research through design, the investigation of the communication material will be guided by the following research question: How are patients and their relatives led through a common patient journey within these communication materials and applications? The research project aims to investigate on how the method rhetoric design analysis and the prototyping of new communication materials can improve information processes within a palliative care unit, and thus help to improve the situation of palliative care patients and their relatives.

1 Introduction

One of the first objects that I encountered when entering the research field in which I will obtain field work for my PhD, was a green sign in the material room saying “Dear visitors, please report to the ward office. Thank you.” This green sign, which is designed almost in the same way as a sign which shows us the way to an emergency exit in a public building or similar, is usually placed in front of the door within the palliative care station when a patient has just died and a relative, or another visitor, has not yet been informed. When looking at this sign from a distance and not being able to read what it says, it can be misunderstood as an emergency exit or – the way we read the color green in our cultural context – seems to indicate that something is available, accessible or enterable, but not mean the opposite: that we should not enter the room. This object is one of many touch points that patients, relatives, visitors and the nursing staff encounter when being on a palliative care station. Seeing this sign in the material room led me to the question why such a delicate message – the loss of a close person – was communicated in such a plain and sober way (fig.1, left). And in order to contrast this irritation: a similar sign, which is made almost the same way (Figure 1, right), and which wants to communicate a different message, namely that an isolation process is ongoing and that one also should not enter the room (“Isolation. Please observe appropriate actions! Thank you”), made me question both signs, their messages and with what kind of design rhetorical means they were delivered. Within my two roles in my practice-led PhD, I asked myself as a designer how I would redesign this object to transfer the message in a more subtle and accessible way. As a design researcher, I asked myself with which kind of design rhetoric elements this object functions and how the “conflicts of effects” (Jost/Scheuermann, 2008) – which lead to a misunderstanding of the sign through the color green evolve through the used material (Scheuermann 2017, Schneller 2015, Buchanan 1985).

These first examples show two of many examples that I am encountering and analyzing within my research project, and which show “conflicts of effects” (Scheuermann, 2017) that are made consciously and unconsciously through certain decisions by designers and non-designers through the use of design elements such as typography, photography and colors. Reflecting on the color green used for the mentioned door sign, which actually wants to signal that a room should not be entered, showed me that it is not so easy to find new solutions that communicate both with a soothing effect as the color green, with the intended message (“Do not enter”) and still in the respectful and subtle way that is needed in this field.

The aim of this paper is to show how important and sensitive communication and information processes between the nursing staff, patients and their relatives within the field of palliative care

are. Showing what role visual communication and design play in settings of dying, I want to give an insight into this research field and with which methods the communicative material will be investigated. The intention of my research is on the long term to show new ways and possibilities of how applying the methods of rhetorical design analysis (Schneller/Scheuermann, 2012) and research through design (Findeli et al, 2008) can contribute to the common good within settings of dying.

2 Settings of Dying



Fig. 1: Communicative signs within a palliative care station.

Settings of dying are designed living and working spaces in which people interact with each other, but also with things and with their spacial environment. Following individual findings on design materials highlighted in the state of research, in my dissertation I examine visual communication in the field of palliative care in an application-oriented context. I focus on both professionally and non-professionally designed products: brochures, blogs, websites and amateurishly designed communication material.

The procedure is based on the following questions: What kind of scripts are recognizable in the visual practices, what (pre-)assumptions are they based on, which institutional self-images materialize in the current means of communication? The aim is to work out the scripts of visual design elements as well as to test prototypes of visual communication material to further explore the scope of these visual design elements in the research field.

A central object of investigation of my dissertation are institutional communication tools that serve internal and external communication: brochures, elements of signage such as signs and inscriptions or directions for entry interviews. In a first step, the collection of material and data takes place at the practice partner. Communication materials from the field of palliative care as well as from relat-

ed fields such as nutritional counselling, social services, acute geriatrics, and oncology at a Swiss city hospital will be collected.

The procedure provides for guided interviews with those responsible for communication at the palliative care unit as well as rhetorical design analysis of the documents (Scheuermann, 2017). This will also include research on the practices and scripts from other perspectives: How do ways of talking about death or spiritual reflections affect visual communication? How does visual communication relate to linguistically formulated guiding principles of palliative care? Subsequent prototyping will determine in which respects institutional means of communication in palliative care could be adapted in the future. For this purpose, selected communication tools (e.g. information brochures, websites or signage) will be redesigned in an iterative process.

The focus of the collaborative project is on dying people and what palliative institutions do for dying people, in a constant effort to promote their well-being and create spaces for design. The practical added value of the project is therefore primarily for the palliative care institutions that are included in the process. The new applications should feel better for patients and the staff and be more practicable, they should strengthen their well-being and also promote the conversation between health professionals, patients and their relatives. Design is mediation, it sensitizes people to issues, it generates needs and makes things tangible.

3 The Term Palliative Care

The term "palliative care" is mentioned when patients get the diagnosis of being terminally ill, and which completely changes their perspective on life. According to the institution palliative.ch both curative medicine and palliative care "pursue a common goal in this phase of life: the alleviation of pain and other distressing complaints as well as psychological and spiritual support for patients. Ideally, this is done with the involvement of the next of kin^[1]." (palliative.ch, 2020).

The term "palliative care" is derived from the Latin "pallium," which corresponds to a coat-like cloak. The English word "care" encompasses: "I care for you" also means "I care about you", and "You are important to me" (palliative.ch, 2020)^[2]. The WHO defines palliative care thus:

"Palliative care improves the quality of life of patients and that of their families who are facing challenges associated with life-threatening illness, whether physical, psychological, social or spiritual. The quality of life of caregivers improves as well. [...] Palliative care is an approach that improves the quality of life of pa-

[1] Translation by the author.

[2] Translation by the author.

tients (adults and children) and their families who are facing problems associated with life-threatening illness. It prevents and relieves suffering through the early identification, correct assessment and treatment of pain and other problems, whether physical, psychosocial or spiritual.” (World Health Organization, 2017).

4 Patient Journey and Communication Within Palliative Care

Before patients enter a palliative care station, they are usually being transferred from their doctor or from a hospital to the station. The most important step after this transfer is made by doctors and the nursing staff, by finding out what condition the patients are in and – most important – if they can communicate. If this is not the case, both doctors and the nursing staff elaborate on possibilities to get the patient in a stable condition. This procedure is called SENS and derives from the German terms “Symptom-Management,” “Entscheidungsfindung,” “Netzwerk” and “Support[3].”

In that sense, a palliative care institution mainly plays a role in getting the patient into a stable condition for a decision-making process that helps both to support and relieve the relatives, but also to decide if the patient wants to die at home or to stay in the palliative care station. “For achieving the goal of high-quality end-of-life care requires one thing above all: time for good advance planning. Shaping the end of life, to build up a safety net, to learn the possibilities of self-help in symptom management, and to prepare for leaving this world, cannot be mastered in the last two months of life, a period of time that is usually marked by great physical stress [...] but also by symptoms such as confusion and weakness. Time, space and relief from suffering and alleviation of suffering to be able to complete the symphony, that is the task of palliative care.”[4] (Eychmüller, 2014).

As I learned in a short interview with a leading member of the nursing staff, these steps are made verbally during entry talks, and there are no communicative tools to inform relatives or other close affiliates about this procedure. Only brochures with general information about the procedure are eventually given to relatives. But no information is provided about the complexity of decision-making where different patient journeys can be decided, and other medical and psychological support from psychologists, occupational therapists, social services, pastoral care, pharmacy and art therapy become part of the process.

Therefore, a communicative ability, i.e. knowing how to talk to patients and relatives at the end of life, represents a core competence in the clinical practice of palliative medicine and care (Domeisen, 2018: 39). But even though this core competence of communication plays a central role, “in most western industrialized countries,

[3] Translation: “Symptom Management,” “Decision-making,” “Network,” “Support”.

[4] Translation by the author.

a lack of competencies in dealing with dying and death can be observed on a societal, organizational and individual level. Dealing with dying and death is not only difficult for those affected and their relatives, but also for members of the helping professions[5].”(Domeisen, 2018, p.37).

In short: to process this complex information that has been made verbally – within entry talks and examinations of the physical condition of the patients – is a broad task within a palliative care station. It consumes a lot of time for both doctors and the nursing staff to inform patients and their relatives.

5 Communication Interfaces and Material Within Palliative Care

For a better understanding on how all these complex processes of a patient journey are communicated externally, meaning how they are accessible through websites, downloaded-PDFs and information brochures, I am conducting a broad rhetorical design analysis of the communication material as a first research step before entering the research field[6] in spring 2021.

Since communication and information processes in the field of palliative care are very sensitive and challenging topics, I want to show, using a few examples of the communication and information materials that patients and relatives are confronted with, which information components they consist of, and how they serve as an orientation in a complex decision process. By using the method of rhetorical design analysis (Scheuermann, 2017) for analyzing the data corpus, I want to find out which roles these materials play within a patient's journey, how they affect the patient's and relatives' orientation and well-being, and how a redesign of these materials can contribute to a better information distribution, and a more respectful and appealing communication with all stakeholders of a palliative care station.

As part of the data corpus, information brochures from the field of palliative care as well as websites and, at a further stage, image films will be examined. In a more in-depth perspective other relevant touch points such as the reception, signage and orientation elements on the station will also be evaluated. Following this will be an investigation of the communication practices within a palliative care station to learn how that communication material is used within different communication processes as entry talks or similar.

[5] Translation by the author.

[6] Due to the fact that my field research is unfortunately delayed due to Covid-19, I decided to focus on the rhetorical design analysis of the communication material in palliative care stations.

5.1 Methodological Approach

In order to obtain a comprehensive picture of existing communication material, I compiled in a first step a data corpus (Status December 2020, in progress) of 40 institutions and facilities throughout Switzerland (hospitals, associations, hospices with palliative care facilities). This data corpus includes 37 websites in the field of palliative care, 121 digital documents and approximately 30 printed documents. In a next step, palliative care facilities in German-speaking countries and at international level will also be examined.

My research interest in these documents is to find out with which design rhetorical elements such as typography, images, and colors they work, where their conflicts of effects (Scheuermann, 2017) regarding information exist, and with which rhetorical means they are displayed. This analysis also observes which information they contain and how important aspects of the palliative care institutions are communicated.

The types of documents include web presences with general information on palliative care, information brochures and flyers for patients and relatives, palliative care concepts, registration forms, advance directives, bereavement brochures, and estate documents [7] (fig.2).



Fig. 2: Examples of different information documents.

[7] The categories can be described as follows:

1. Information for patients
2. Information for relatives
3. Information on counselling services
4. Registration forms, visualizations of procedures
5. Specific training materials in the field of palliative care.

5.2 Findings through Rhetorical Design Analysis

The investigation of the communication material is conducted through the method of rhetorical design analysis after the Bernese Model (Scheuermann, 2017) as its basis [8].

As a detailed description of the analyzed materials would extend the given space in this paper, I want to give a short summary of the most important findings within my analysis and the entry points of my research. Many of the analyzed communications materials are based on the Corporate Design of the institutions and therefore work in a very plain and reduced way of using the typography, images and colors of the respective institution. Those communication materials are mainly intended to inform about the most important aspects of a palliative care station rather than to address a certain stakeholder (fig.3).



Fig. 3: Examples of palliative care brochures.

[8] This method proposes to divide the analysis in the following four phases:

1. Formal analysis: Detailed description of the materials.
2. Assumed impact goals: Review of what was the intention of the communication material. Conflict of objectives (contradiction): Pointing out on aspects, where the intention of the communication conflicts with the way it is represented.
3. Rebriefing: Proposals that are the conceptual basis for a redesign.

5.2.1 Websites

Most of the analyzed websites contain a lot of text and display a high information density. As the website navigations are based either on complex website structures of a health institution or are made on the structure of a Word-Press-Template, it is often not easy to find the needed material. Reviewing these website-structures from a designer perspective, one can see that there is a lot of potential to address stakeholders with a more suitable User Interface (UI) and User Experience (UX) in order to gather and find the information in a more accessible way. Comparing the information display with the complex decision process that I have described above, it can be assumed that a lot of time-consuming research could be spared by structuring the websites through focusing on the stakeholders who should be addressed, e.g. a relative of an affected person (fig.4).

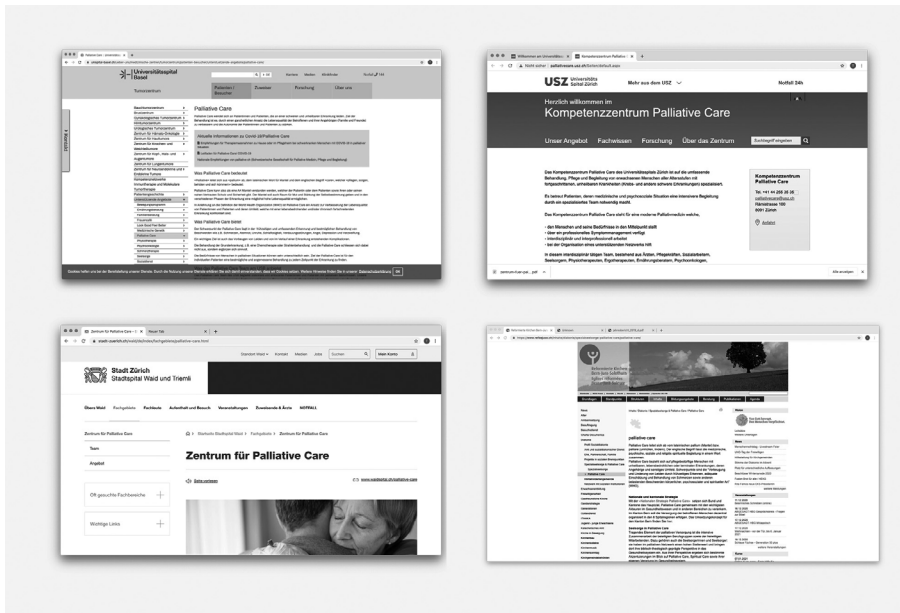


Fig. 4: *Complex information flow and structures within interfaces of palliative care website.*

5.2.2 Images

The images used within these communication materials vary from floral images when it comes to addressing topic of mourning and the process of losing a close relative, or a general insight into a palliative care station with images of a bedroom, a possible entry talk, or a consultation between a doctor and patient (fig.5). As the setting has a medical background, the displayed relationships between patients, relatives, and the staff members are shown in a stereotypical manner, which often uses the image of hands when it comes to the topic of empathy, or nature depictions when it comes to the topic of loss, mourning and farewells. Descriptions of a stereotyped depiction are for example:

- Dying person and patients are usually old;
- Nursing staff is often female and young;
- An empathetic relative;
- Empathetic nursing staff;

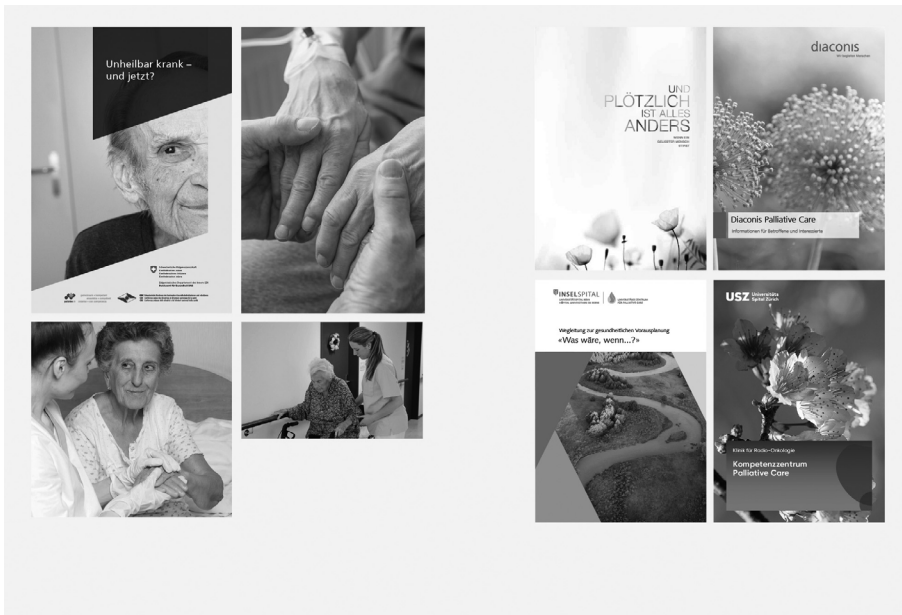


Fig. 5: Examples of imagery within the communication material.

Such stereotyped images do not especially help to transfer the sensitive topic of a dying process, as they do not give the stakeholders the opportunity to identify with the given situations. They also distort the image of a reality that varies from cultural context and the time span in which the images have been taken. As the images are often embedded in a medical context, some of them are very sober and factual depictions. These are created primarily by the objects depicted, e.g. by cannulas or similar utensils.

5.2.3 Information Brochures and Leaflets

Information brochures in the field of palliative care are either set up with a very strict grid which derives from their institutional Corporate Design (displays of sobriety), and, could easily be exchanged with any other information brochure from the medical field. Or they have no grid or structure at all, which often leads to disorientation and information loss in respect of the stakeholders.

Some of them use the above mentioned imagery, but often miss the stringent usage of the image concept, which leads the brochures into arbitrariness when it comes to finding the right imagery for sensitive topics.

Through the colors blue and green which derive from the medical background in which these brochures are designed, the communication materials give an even more sober impression as the topics of illness and dying become closer due to this cold color coding (fig.6).

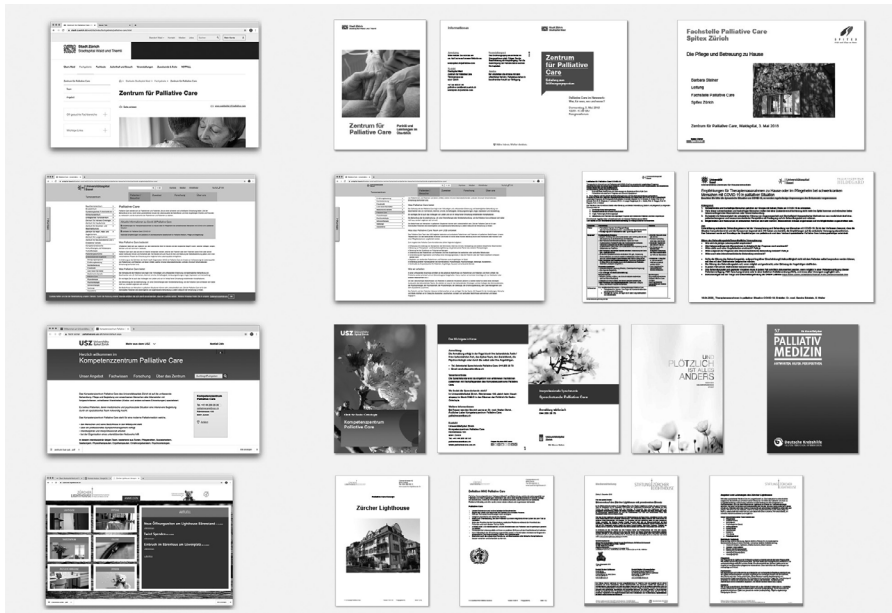


Fig. 6: Color coding of different communication materials.

5.3 General Summary of the Communication Material

As a general summary of this compiled and summarized data corpus, my interest in the further investigation, which will be the basis for the redesign of a different communication application, is led by questions such as:

- How can information about a palliative care unit – displayed on websites and on brochures – be structured and mediated in a more accessible way, so that addressed stakeholders find the needed information more easily?
- How can new image concepts be developed that show the process of dying in a less stereotyped, but authentic and dignified way, which will also encourage patients and their relatives to open up to the end-of-life topics?
- How can a patient journey and palliative care concepts (such as SENS) be displayed in the communication material, in order to help doctors and the nursing staff to inform both patients and relatives in a more efficient, yet subtle and respectful way?
- How can conflicts of objectives within communicative interfaces (exemplified in objects such the green sign described in the introduction) be avoided and solutions achieved by analyzing and redesigning the materials?

By investigating the material through the rhetorical design analysis, this method offers various possibilities for anticipating the

needs and expectations of users and incorporating them into the design process. The ability to put oneself in the position of a target audience is one of the most important foundations of rhetoric. According to Christian Kostelnick, an important development in design theory in this regard is that one can describe, analyse, and even anticipate the user's interpretation of an object by translating verbal concepts into visual rhetoric. Here, classical rhetoric, with its traditional appeals of pathos, logos, and ethos, offers a perspective from which to understand an audience's response to visual language (Kostelnick, 2008).

5.4 Further Methods: Interviews, Participatory Observation and Research through Design

In order to get a broader perspective of the work of the doctors and the nursing staff, another step of my research is to conduct field work with the method of participatory observation within a palliative care station. With this I want to find out where more communication is needed or how different communication materials could be applied within their work setting.

Another important aspect of my research is to involve the stakeholders in the design process and to reflect the experiences with end-of-life-phases of relatives and patients. Taking a closer look at stock material that can be found in stock agencies and on used images that I found within the communication material, brought me to the question of how patients and especially relatives reflect on an end-of-life situation. Since many of the protagonists in these stock photographs (both nursing staff and patients) are shown with a smile on their face, it is important to question how authentic and realistic these images are (fig.7).



Fig. 7: Examples of stock material found with the keyword "palliative care". Sources: Gettyimages, Adobe Stock and Shutterstock.

What are the aspects that are quite realistically portrayed in these stock photographs, and how do relatives describe the situation as they experience this end of life phase with their family members, partners and close friends? To get a more realistic picture of these situations, I conducted interviews with different stakeholders and asked them how they remember a dying situation or the dying process of a relative or someone close to them. For the practical approach of my PhD project, in which I will also redesign imagery for the context of palliative care, I am interested in the following question: How should these images be conceived in terms of content so that they reflect a more realistic image of these situations, but at the same time do not stir up the fear of death but represent patients and relatives respectfully?

The experiences and stories of my interview partners clearly showed me how multi-layered and complex accompanying a seriously ill relative in the last phase can be. If one tries to compare the framework conditions of a real death situation with the visual material of stock agencies or depicted within the communication material, different criteria or problems result which should be taken into account in the conception of such image concepts.

The combination of methods from the fields of design research and ethnography will provide important results for the next step, where I will prototype examples of communication material, by using the method research through design (Findeli et al, 2008: 71). The analysis of the communication material, conducting interviews and participatory observation lead my research questions to a multidisciplinary approach as described by Alain Findeli as the “the ultimate purpose of design to be the improvement of the “habitability” of the world, and deduced from that to know how humans do and project to “habitate” the(ir) world was to be one of the central tasks of design research and target of design knowledge” (Findeli et al, 2008, p.76–77).

As the “micro-experience” (Findeli et al, 2008: 77) of my research is the setting of a palliative care station, it seems as one of the most important reflections how new communication materials in the field can affect the daily routines of a station, how they are used for informational transfers and how they lead stakeholders through a patient journey. The knowledge gained from this experience can only be tested if prototypes are used in real settings and reflected by those who either use this material or who are addressed by it.

6 Conclusions and Outlook

The previously mentioned examples – communication material, stock material within palliative care, and objects within the palliative care station – showed that there are many communicative touch points within the field of palliative care where design and visual communication can contribute to the common good, either by giving more orientation in a dense flow of information, addressing sensitive topics in a more subtle way, and embedding taboo topics in a respectful manner into our daily routine.

An important aspect for the design of more appropriate communicative touch points is that the development of these applications must derive from a human centered perspective, and – as Richard Buchanan states – the aspect of human dignity:

“The implications of the idea that design is grounded in human dignity and human rights are enormous, and they deserve careful exploration. (...) We should consider what we mean by human dignity and how all of the products that we make either succeed or fail to support and advance human dignity. And we should think carefully about the nature of human rights - the spectrum of civil and political, economic and social, and cultural rights - and how these rights are directly affected by our work. The issues surrounding human dignity and human rights provide a new perspective for exploring the many moral and ethical problems that lie at the core of the design professions.” (Buchanan, 2004, p.3).

According to Richard Buchanan, it is important to review this in a new design thinking: that the central place in our work are human beings. To him, Human-centered design is also fundamentally an affirmation of human dignity, and it is an ongoing search for what can be done to support and strengthen the dignity of human beings as they act out their lives in varied social and cultural circumstances. (Buchanan, 2004, p.3).

Both statements play a central aspect when reviewing communicative materials and touch points within palliative care for patients and their relatives: Design can contribute to the common good within this field by making information more accessible and understandable, by addressing stakeholders in a respectful and appropriate rhetorical means, and by centering humans and their needs within the design of communication materials.

References

- Buchanan, R. (2004). *Human-centered Design: Changing Perspectives on Design Education in the East and West*. Design Issues 20:1, 30-39.
- Buchanan, R. (1985). *Declaration by design: Rhetoric, argument, and demonstration in design practice*. Design Issues Vol. 2 (No. 1), 4-23.
- Domeisen Benedetti, F. (2018). *Kommunikation und Interaktion am Lebensende: eine Betrachtung der institutionalisierten Palliative Care*.
- Eychmüller, S. (2014). *SENS – eine Strukturhilfe bei komplexem Fragestellungen in der Palliative Care*.
- Findeli, A., Brouillet D., Martin, S., Moineau C., Tarrago, R. (2008). Research Through Design and Transdisciplinarity: A Tentative Contribution to the Methodology of Design Research. In: Swiss Design Network (Eds.), *Focused – Current Design Research Projects and Methods*, 67-91
- Joost, G. & Scheuermann, A. (2008). *Design als Rhetorik: Grundlagen, Positionen, Fallstudien*. Basel: Birkhäuser.
- Kostelnick, C. (2008). Rhetorisches Gestalten: Zwischen Strategien wählen, sich dem Publikum anzupassen. In: Geesche Jost, Arne Scheuermann (Eds.), *Design als Rhetorik*. Basel: Birkhäuser, 89-100
- NFP 67 (2017). Leitungsgruppe des NFP 67 Lebensende (Eds.), *Synthesebericht NFP 67*. Bern.
- Palliative.ch: Swiss Society for Palliative Medicine, Care and Support. *When does palliative care begin?* Retrieved December 28, 2020, from <https://www.palliative.ch/de/palliative-care/wann-beginnt-palliative-care/>
- Scheuermann, A (2017). Die rhetorische Designanalyse und Buchanans ‚Design-Argument‘ – am Beispiel des Lego Star Wars ATAT Walker 448. In: Francesca Vidal (Ed.), *Rhetorik. Ein internationales Jahrbuch* (Band 36: Rhetorik im digitalen Zeitalter). Berlin, 109-127.
- Schneller, A. & Scheuermann A. (Eds.) (2012). *Visuelle Rhetorik 2: Regeln, Spielräume und rhetorischer Nullpunkt im Informationsdesign am Beispiel des öffentlichen Verkehrs*. Bern: Hochschule der Künste Bern.
- Schneller, Annina (2015). *Design Rhetoric: Studying the Effects of Designed Objects*. In: Nature and Culture, 10(3), S. 333-356.
- World Health Organization (2017). *Palliative Care*. Retrieved December 27, 2020, from www.who.int/news-room/fact-sheets/detail/palliative-care

A Systems-Centric Approach in Designing for the Common Good

Keywords: Systems-Centric Design,
Reflective Practice, Critical Thinking,
Action Research, Phenomenology.

Shalini Sahoo*

*shalini.sahoo@network.rca.ac.uk

In designing for the common good, the designer is merely in service to the system and the capacities of design are used to negotiate new solutions and is not primarily driven by the sense of novelty or creating the experience-skin for mere profit generation. Between the year 2018 and 2019, the author worked as a design consultant for Hochbahn Hamburg A.G. in planning the new series of smart stations on the new U5 metro-line in Hamburg. With the central reference to this work, the author discusses the challenges in designing for the common good. This paper illustrates methodical considerations that may assure a more systems-centric approach to negotiate a common good (in this case metro-stations) - by working with the needs of the commons and the limitations of the policymakers. This paper discusses the structure of a methodology that is congenial to a reflective-practice in designing for the commons. The epistemic foundation of this lies in phenomenology and cybernetics second order; where phenomena are observed and analysed to create an evidence-based qualitative research practice and conversational circularity is used to work with an unpredictable system.

1 Introduction - The Urban Space as the Common Good

The urban realm is a space contested by various users. The measure of its liveability is directly determined by the quality of its interconnectedness, making a democratic access to the city an issue of human rights. The basic infrastructure that makes a city consist of housing and utilities. Housing is where the citizens live, raise families and are at home and utilities are the facilities that support them, such as education, care homes, healthcare, childcare, place of work, recreation, etc. Between the housing and the utilities there is a whole system of communication and transportation that supports and inter-connects them. Therefore, the city is like an organism and the transportation systems ensure the flow within it. The city can only exist and function with its transit routes and nodes and these, on the other hand, exist only in relation to the city. The transportation system of a city represents its power-structures and determines the quality of life for various social groups. This makes the equal access to public transportation a political issue.

In early October 2019, the government in Chile announced that the rush hour metro ticket prices would rise by 30 pesos. This provoked an immediate public outcry. The Minister of Economy, Juan Andres Fontaine, replied that those who objected to the rise could wake up early and pay a lower rate. Students retaliated to this by conducting a mass fare evasion, jumping over the metro turnstiles and in many cases destroying them. As the authorities attempted to stop them by force, the protests flared out on to the streets, and a state of emergency was announced. This protest against the 3% transportation price hike was made in the context of an already high cost of living, low wages and pensions, poor public health and rising inequality (McGowan, 2019). The Brookings Institution's *Global Metro* report states how the emerging markets are focused on cities, 300 of the largest metropolitan economies account for nearly half of all GDP. urban concentrations attract large numbers of migrant workers, driving in and out of the city every day. This poses a systemic challenge with regard to commuting, housing, medical facilities and childcare. The right to exercise one's autonomous choice of movement and the ability to afford mobility in the regional context of the urban landscape is a basic right - a matter of "equality" and therefore a consideration of justice. (Franklin, 2019).

1.1 What Does this Paper Discuss?

Between 2018-2019, I worked as an external consultant for Hamburger Hochbahn AG, supporting them amongst others, to conceptualise the design-principles on which the next series of smart-stations were to be built on the new U5 metro-line. This paper primarily draws from this practice to discuss how designerly abilities may be used in designing for the common. Design here may be conceived as the conjunction between the human users and the materiality of the world that surrounds them. It is this proximity of purpose to the natural, formal and social structures of the world that makes the nature of design issues inherently complex,

iterative and which cannot be categorised as inherently right or wrong. It is design's propinquity to the 'real' human issues that have formed it to be a branch of knowledge which is 'not discipline-oriented but is mission- and process-oriented' collaborating with disciplines and skills to deal with 'real' problems in their wicked context. As the design theoretician J.P. Protzen commented, design goes 'beyond being an encyclopaedia of findings to becoming one Theory of Action'. Design has a direct impact on the *Leiblichkeit* of our lived world. Interconnected via various systems and subsystems a designed intervention of any kind unavoidably waves a change through it as Tony Fry writes, 'designed things go on designing' (Fry, 2009, p.12). Thus, the challenge in designing for the common good is a systems-oriented design intervention and being conscious of design's ethical implications. In the following, I will discuss the methodical implications of a systems-centric approach to designing for the common good as opposed to a merely profit-oriented system.

2 The Task

The Hanseatic city of Hamburg has one of the most rapidly growing economies in Germany. This is the reason why the Senate (city council) of Hamburg decided to construct a fifth Metro line (the line U5) connecting the far eastern and the far western edges of the city (Bramfeld and Siemersplatz) to the city centre and the central station. In addition, the new line will connect dense residential areas like Steilshoop and Osdorfer Born. Important business and recreational areas such as City Nord, the State University of Hamburg and Arenen will also be better connected to the rest of the city. The DT6 trains (the sixth generation of short distance trains) on this line are planned to be fully automatic, arriving at 90-second intervals during peak hours. The new U5 metro line is planned to have 25 stations distributed along a distance of 20 km. The planning started in 2015, the construction is planned to start in 2021 and the aim is to have the line running by 2028/29. A large segment of the U5 line connects boroughs which were previously only connected by bus to the network of transit rail. Approximately 120,000 people would benefit immediately from this. The U5 metro line is a high-profile project, estimated to be completed in 15 years and costing around 1.75 billion euros. The project therefore constitutes a high political risk. This is accentuated by the paradigm shift urban mobility is currently experiencing, with apps, shared taxis, autonomous vehicles, etc.

I was involved during the conceptual planning task, that asked: how can passenger experience of the U5 metro line be made attractive and enjoyable via the physical and the digital space in the station? How can these solutions be user-friendly, up to date and with no built-in obsolescence? These questions were asked with the understanding that building a new metro line in a major city like Hamburg is extremely time - and energy-intensive, and therefore the durability of the solution plays an important role. The aim of this phase was to lay down the design principles that provided a foundational direction on which the design and architectural decisions for

the new series of smart stations would be based on. This was the first part of the work. The second phase of the work involved establishing a more concrete interpretation of the design-principles defined in the first phase in the new metro station in Steilshoop. Both these assignments involved developing general guidelines to define the more fundamental principles on which the new U5 line was to be built on.

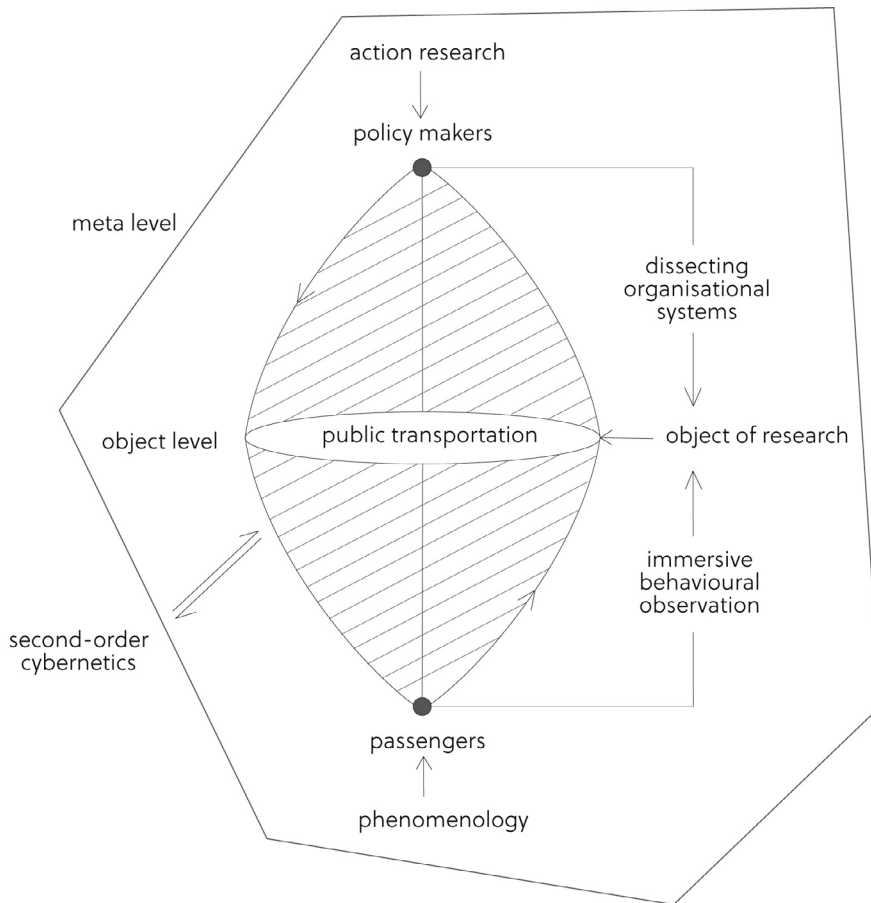


Fig. 1: A detailed systems context of the object of research.

3 The Methods

There are several stakeholders in a public transportation project – the city, the service provider, the citizens and the investors. Each of these have a clearly defined agenda and their ideas of how the project should be carried out. As an external consultant to the project my task was to negotiate a systems-centric solution. As depicted in Fig. 1, we see that the object of research, (that is, the smart-stations to be built on the new U5 line in Hamburg) is suspended between the needs of the users and the limitations of the policy-makers. As a designer within this context, I saw my task as a negotiator to generate systems-centric solutions. This systems-centric approach (as in Fig. 1) may be understood at two levels: first, as an attempt to understand better the complex issue of design for the common good. Second, to communicate to the policy-makers

the behavioural responses of the users to the policies they had devised. B.F. Skinner writes about a new order of problems that the post-industrial world faces, such as poverty, the exhaustion of resources, pollution and over-population (Skinner, 2005, p.vi). The solution to these, he writes, cannot be achieved only by technological intervention, such as prescribing contraceptives, finding new energy sources, or growing more nutritious grains, but also by understanding human behaviour.

To collect insights into passenger experience I used the Immersive Behavioural Observation (IBO) method (Sahoo & Schmidt, 2020). The IBO method was used to enquire into user needs and their behaviour within transit spaces. The information gained from this, non-obtrusive method was human-material centred and was bottom-up in nature. The field insights collected through the IBO method were fed into my interactions with the decision-makers in a top-down approach (see Fig. 1); so as to use the qualitative field data for an evidence-based policy-making. This involved working with artificially organised systems (of which Hochbahn is one) and finding a strategy to bring about a democratically agreed and directed change. An artificial system is a socially organised system, such as institutions, firms and companies, these are never fully knowable or adequately predictable. It is a part of a continuously fluctuating socio-economic system and its wicked repercussions (Rittle & Reuter, 1992). To understand it, I developed a framework, that I call Dissecting Organisational Systems.

In the following, I am briefly discussing the methods I used to develop the design-principles for the metro station on the new U5 line in Hamburg. The methods give only a brief insight into how a democratically agreed systems-centric solution may be generated while designing for the common good.

3.1 Immersive Behavioural Observation (IBO) Method

Any well-designed environment can have a significant influence on what people think and do. Interiors of urban transportation systems are intersection points for culture, society, technology and environment. Investigating the Human-Material-Interaction in these spaces has been the main objective during the field research, with the IBO method. The aim was to gain an insight into the object of knowledge – that is, transit spaces as created by humans in interaction with the materiality of the space. The value of these field-findings lay not only in the information that they carried but, in the way the Immersive Behavioural Observation was carried out in reaching them. The researcher in the IBO method is doing the observing by immersing themselves in the same spatial-temporal context as that of the observed - this observational-enquiry generates a sense of identification (both consciously and unconsciously) with the context and the observed. This makes it easier for the re-

searcher to use empathy and the context of their experiential repository to document the traveller's experience vicariously.

Thus, the IBO method has the advantage of enabling “objective-subjective” field research. This seemingly paradoxical expression refers to subjectivity based on a shared or defensible notion of objective reality or truth. The aim of the collected field data was to free the design and architectural decisions from mere considerations of styling and to understand the more authentic requirements of humans in interaction with the built environment. My approach here is Human-Material-Interaction centred, rather than simply user centred. Material here is everything we perceive via our sensory apparatus, such as olfactory encounters, the tactility of surfaces, the aural quality within the space, light, humidity, temperature – primarily everything that we perceive via our senses. A study based on Human-Material Interaction documents precisely how the human body interacts with a dominant material quality of the built environment in a given context. For example, in Figure 2 we see a commuter in interaction with a bench on a cold winter morning. He is seen making use of a copy of the free *Metro* newspaper to make his seating on the damp, cold bench more comfortable.



Fig. 2: 4- North Ealing, London.

The IBO method analyses meaningful bodily relations to our environment. Human beings constantly interact with their environment. But they don't just interact with their surroundings: they are often unconsciously guided by them. The aim of the IBO method is to understand relations that point to a background structure embedded in space which shapes the human interaction within it. The IBO method makes explicit an implicit, tacit knowledge that is part of our practical and purpose-driven understanding of and within a

place. On the one hand, the IBO method has its foundations in traditional anthropological field research methods such as participant and direct observation. On the other hand, IBO is deeply influenced by phenomenology, especially Maurice Merleau-Ponty's analyses of the lived body experience and Heidegger's analysis of a functional environment, or "totality of involvements", which describes the embeddedness of artefacts and materials (as inherent elements of our actions) in purposeful structures (Sahoo & Schmidt, 2020).

The field information collected by this method was used to support policy-makers' knowledge of particular topics with evidence based qualitative data. The IBO method uses the understanding of observed phenomena to analyse meaningful bodily relationships to the built environment. These are the *fluid phenomena* - evasive and often leaving no trace behind. To use this elevation of the fluid phenomena - that are normally either not noticed or are ignored - as *valid information* to influence the decisions of the service providers, architects, designers and policy makers has been important in this work. For example, in Figure 3, the passengers sitting on chipboard, rather than the "designed" metal seats, is a paradigm here of a more general hypersensitivity to detail that I then firstly make sense of and secondly, I am able to convey the importance of to the decision makers of the space.



Fig. 3: Field notes, Bremen, 2018.

3.2 Dissecting Organisational Systems Framework

The IBO method was used to collect user information from a bottom-up perspective. The information gained from this was fed into my interactions with the decision-makers in a top-down approach; so as to use the qualitative field data for a more informed evidence-based policy-making. This involved working with artificially organised systems (of which Hochbahn is one) and finding a strategy to bring about a democratically agreed and directed change. An artificial system is a socially organised system that is never fully knowable or adequately predictable. It is a part of a continuously fluctuating socio-economic system and its wicked repercussions. To understand it, I developed a framework, that I call Dissecting Organisational Systems, to be discussed below.

An artificially organised system in operation (in this research a public transportation provider) can be compared to a structurally determined living system. According to Humberto Maturana, living systems exist in two operational domains: the first is the micro domain, where it exists in its physiology and anatomy (Maturana, 1997). The second is the medium in which it arises and where it can be distinguished as an organism. In the context of a public transportation provider, the first domain is the internal structure of the company. This constitutes the hierarchical politics, long-term goals, agendas and ethical standards. The second domain is the context – that is, the medium in which it exists. In the case of the public transportation provider this is the social landscape of the city. The medium is the domain that triggers structural change through its interaction with the living system.

For this I developed the Dissecting Organisational Systems framework based on conversational strategy (Pask, 1976). This framework establishes between an external consultant and an artificially organised systems like firms, companies and institutions, a working relationship within the context of a particular task. With this, not only knowledge about artificial systems is generated - where the artificial system becomes the focus - but knowledge with the system is generated “in the very process of transforming them” (Ahmed, 2012, p.173). Its three main building points are as follows, the three points are stated for clarity in a linear classification, but de facto, they may be carried out in several combinations: simultaneously or within each other.

- Infiltration of the system at a micro and macro level.
- Orientation in the structure of meaning of the system.
- Iterative interaction with the system.

3.2.1 Infiltration of the System at a Micro and Macro Level

Infiltrating the system at micro and macro level, implies an understanding of a particular situation in its global and local context. The findings at the micro level feed into the understanding of the system at the macro level in order to develop general laws with a broader application range. Vice versa, the consistency of these general laws is proven only through their application and adaptability at the more specific micro-level situation.

3.2.2 Orientation in the Structure of Meaning of the System

In working with industrial partners and policymakers, I realised that one of the biggest challenges was language. Not language per se, but how similar situations were approached with differing worldviews. This phase dealt with orienting myself in the language structures of an organisational system. The strategy I use here draws much from Ludwig Wittgenstein's concept of language-games. According to Wittgenstein, "In the practice of the use of language one party calls out the words, the other acts on them" (Wittgenstein, 1953, Verse 7).

Thus meaning is created in the interaction, or more precisely in the usage, of the words with the Other.

3.2.3 Iterative Interaction with the System

An iterative interaction helps us not only "exteriorise cognitive operations"⁹ (Pask, 1976, p.12) but also to generate a shared notion of truth. The tools for executing this includes corporeal expressions and natural language exchange. This phase plays out over a longer period of time than the other two stages. This happens in four stages, Perception - Appearance - Validation - Iteration. An iterative interaction results in a structural congruency between the researcher and the observed system. During which the foundational, structural and conceptual acquaintance with the system is built.

4 The Results

The Dissecting Organisational Systems framework was applied in a series of participatory style workshops, between 2018-2019, conducted with managers from Hochbahn and members from the Senate of Hamburg. During these workshops, apart from crystallising the more realistic understanding of the design-principles for the smart stations, I saw my task as facilitating solutions that considered the limitations of the decision-makers and the needs of the user. The insights into user needs as gathered using the IBO method was applied in structuring the workshop sessions. The final design-principles for the U5 stations were as follows.

4.1 Humane in Focus

In a fully automated smart system no human presence in the station or in the train is required. This therefore makes it more crucial for Hochbahn to understand the humane aspect of their service design: passengers need to be treated with respect and care in the station; the human user may in no circumstances be used as a means to an end; and the services provided in the station are there to ease the stay of the passengers and not to entice them into mindless consumption.

4.2 Inclusive Design

It is envisaged that the station will be designed for intuitive non-ocularcentric orientation. This will enable the station to work easily for a wide range of users from diverse cultural backgrounds and differing age and physical capacities. The inclusive design of the station will be an inherent part of its architecture, not an extra add-on. This point is a key requirement of the Hochbahn service at both the digital level of apps providing information, navigational tools and ticketing and at the physical level of the station design.

4.3 Supporting Communal Living

A station is an important part of the neighbourhood. It is an entry or exit point to and from a neighbourhood, and as such may be used for providing services like post offices or dry cleaning/laundromats. The atmosphere of the station should be such that users feel safe and welcomed. The physical meeting point of the underground station with the neighbourhood could be planned with a focus on supporting a vital community life.

The station design-principles concentrating on the “humane” aspects of the passenger in the station also positively influences the quality of the station as a part of the cityscape, and a station that is well integrated in the neighbourhood would also be a place where passengers feel safe and comfortable. After defining these principles, the project was handed over to the architectural studio of Hadi Teherani to integrate these in the *Gestaltungshandbuch*: the design handbook that lays down the architectural guidelines for the stations to be built on the U5 metro line.

5 Discussions

In my work with Hochbahn, I infiltrated Hochbahn (with respect to the U5 project) at the macro and micro level by working with its language via an iterative interaction. This became an intuitive strategy to make up for my lack of knowledge of the system. As an external consultant, I was not a part of the “norm” – that constituted the employees of Hochbahn. Ahmed describes the norm as “how we are immersed in a life” (Ahmed, 2012, p.174). The need to orient myself in this artificially organised system, with its own idiosyncrasies, and having a task to perform in it, forced me to observe, reflect and consciously curate my interactions with it. The aim was to bring in a directed change, by raising a critical consciousness amongst those who formed, and accepted, the norm. Like Paulo Freire, my praxis in designing for the common good involved “reflection and action upon the world in order to transform it” (Freire, 1993, p.51). This I did from the position of external consultant – a position of privilege. By being made a part of the core internal team, I could reflect on what was happening in the project, not as an ideal intellectualisation but in an active iterative interaction with the praxis – the practical labour leading to knowledge (Ahmed, 2012, p.174). I was, as Ahmed asserts, withdrawing from submersion – which is the usual “norm” state – and fulfilling the role of an external, one who observes, reflects, articulates and transforms.

The IBO method and the Dissecting Organisational Systems framework show us how designerly abilities may be used to generate knowledge more suited to dealing with wicked problems. As they involve framing, documenting, working with and reflecting on the problem directly in the process of addressing it. The first object-level enquiry, done with the IBO method, was about understanding how materiality within transit spaces informed and sub-consciously influenced commuter behaviour. This constituted the bottom-up approach to the investigation. The second object-level enquiry is top-down. This aimed to understand how higher-level managerial policies influenced the quality of stay for commuters. I hoped, via design intervention, to negotiate between user needs and the constraints of policy makers, so as to transform transit 'non-spaces' (Auge, 2008) into ones that are more human-centred.

6 Conclusion

In my consultation work with Hochbahn, the meta-level enquiry aimed to understand how design research and practice can negotiate to eventually create products, services and spaces that bring about in our society an environment of sustainability, democracy, equality and the fulfilment of basic needs. As Horst Rittel writes, in a particularly intractable problem it is important to distinguish an observed condition from a desired one, and to identify actions that effectively narrow the gap between what is and what ought to be. This precisely was the main driving force in the work – to understand at a systems' level the factors that influence, promote or prevent the desired condition from the observed one. Here I investigated how design can make a significant contribution to form, more just and sustainable living conditions without compromising bottom-up initiatives. This meta-level enquiry also investigates into the scholarly reflexivity of design research so as to inform the workings of the real world and intervene to engender political and social engagements that go beyond branding and merely aesthetic commitments.

This paper discusses a systems-centric approach towards negotiating solutions for the common good. Design as a profession has changed from its initial days as a form-giver, concentrating largely on the poiesis, to creating systems (Dubberly & Pangaro, 2019). The problems in designing for the common good are its wicked repercussions. Due to this a methodological precision is often difficult to adhere to, though the approach suggested above offers a sort of flexibility one needs to deal with it. The paper pursues, out of an epistemic curiosity, a design issue, in this case train stations, in its complexity and investigates, at a meta-level, how designerly ways of thinking may be used to deal with wicked problems – thus pursuing wicked problems in their systems context, not only to generate better solutions but also to identify better ways of finding solutions.

References

- Aicher, O. (2015). philosophy and design, in Aicher, O., *analogous and digital*, wilhelm ernst & sohn, pp.75–92. Please note the citations refer the original style of writing with only lower case.
- Arendt, H. (1998). *The human condition* (2nd ed). University of Chicago Press.
- Augé, M. (2008). *Non-places: Introduction to an anthropology of supermodernity* (2nd English language ed). Verso.
- Bauman, Z. (1993). *Postmodern ethics*. Blackwell.
- Beer, S. (1985). *Diagnosing the system for organizations*. Wiley.
- Beer, S. (1995). *Brain of the firm* (2. ed., reprinted). John Wiley & Sons.
- Blumer, H. (1969). *Symbolic Interactionism: Perspective and Method*. Prentice-Hall.
- Boarnet, M.G. & Crane R. (2001). *Travel by Design: The Influence of Urban Form on Travel*. Oxford: Oxford University Press.
- Böhme, Gernot (2006). *Architektur Und Atmosphäre: Gernot Böhme*. München: Fink (Wilhelm).
- Brock, B. (2008), On the parallelization of discourse and parcours. In Erlhoff, Michael, Philipp Heidkamp, and Iris Utikal. *Designing Public: Perspektiven für die Öffentlichkeit - Perspectives for the Public*. Basel: Birkhäuser, p.29.
- Casey, E. S. (2009). *Getting back into place. Toward a renewed understanding of the place-world*. 2. ed. Indiana University Press.
- Collier, J. and Collier, M. (2009). *Visual Anthropology: Photography as a Research Method*. University of New Mexico Press.
- Dourish, P. and Button. G. (1998). On 'Technomethodology': Foundational Relationships Between Ethnomethodology and System Design. *Human-Computer Interaction* 13, no. 4, pp.395-432. doi:10.1207/s15327051hci1304_2.
- Freire, P., Macedo, D. P., & Shor, I. (2018). *Pedagogy of the oppressed* (M. B. Ramos, Trans.; 50th anniversary edition). Bloomsbury Academic.
- Fry, T. (2009). *Design futuring: Sustainability, ethics, and new practice* (English ed). Berg.
- Gehl, J., & Svarre, B. (2013). *How to study public life*. Island Press.
- Gerhardt, V. (2016). Der Wert der Wahrheit wächst. In Nida-Rümelin, J. and Heilinger, J.-C. (ed. s), *Moral, Wissenschaft und Wahrheit*. De Gruyter, pp.131-144.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.
- Goffman, E. (1972). *Interaction ritual: Essays on face-to-face behaviour*. Allen Lane.
- Graham, S. (2011). *Cities under siege: The new military urbanism* (Pbk. ed). Verso.
- Heidegger, M. (2001). *Being and Time*. Transl. by John Macquarrie & Edward Robinson. Blackwell (reprint)
- Holmes A. (2013) Direct Observation. In: Volkmar F.R. (eds) *Encyclopedia of Autism Spectrum Disorders*. Springer, New York, NY
- Ingold, T. (2019). Art and anthropology for a sustainable world. *Journal of the Royal Anthropological Institute*, 25(4), 659–675. <https://doi.org/10.1111/1467-9655.13125>
- Kawulich, Barbara B. (2005). Participant Observation as a Data Collection Method [81 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 6(2), Art. 43, <http://nbn-resolving.de/urn:nbn:de:0114-fqs0502430>.
- Koffka, Kurt (2014). *Principles of Gestalt Psychology*. Place of publication not identified: Mimesis International.
- Le Corbusier. (1986). *Towards a new architecture*. Dover Publications.
- Lefebvre, H., Kofman, E., & Lebas, E. (1996). *Writings on cities*. Blackwell Publishers.
- Malinowski, B. (1977). *A Scientific Theory of Culture: and Other Essays*. With a Pref. by Huntington Cairns. University of North Carolina Press.
- Maturana, H. (1997). *Metadesign*. Instituto de Terapia Cognitiva INTECO, Santiago, Chile. https://www.pangaro.com/hciiseminar2019/Maturana_Metadesign.pdf
- Maudlin, T. (2015). *Philosophy of Physics: Space and time*. Princeton University Press.
- McGowan, C. (n.d.). *Chile protests: What prompted the unrest?* Retrieved 21 October 2020, from <https://www.aljazeera.com/news/2019/10/30/chile-protests-what-prompted-the-unrest>
- McGuirk, J. (n.d.). *Can cities make us better citizens?* The New Yorker. Retrieved 21 October 2020, from <https://www.newyorker.com/books/page-turner/can-cities-make-us-better-citizens>
- McGuirk, Justin (2018). "Can Cities Make Us Better Citizens?" The New Yorker. The New Yorker, April 26, 2018. <https://www.newyorker.com/books/page-turner/can-cities-make-us-better-citizens>.
- Merleau-Ponty, M. (2010). *Phenomenology of Perception*. Transl. by Smith, C. (Routledge classics reprint). Routledge, p.161.
- Mitchell, M., & Tang, B. (2018). *Loose fit city: The contribution of bottom-up architecture to urban design and planning*. Routledge.
- Mitchell, Maurice, and Bo Ming Tang. *Loose Fit City: the Contribution of Bottom-up Architecture to Urban Design and Planning*, n.d., pp.3-22.
- Newman, O. (1973). *Defensible space: People and design in the violent city*. Architectural Press.
- Norberg-Schulz, C. (1992). *Intentions in architecture* (9. print). M.I.T. Press.
- Norman, D. A. (2003). *Things that make us smart: Defending human attributes in the age of the machine* (16. print.). Perseus Books.
- Oldenburg, R. (1999). *The great good place: Cafés, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community*. Marlowe ; Distributed by Publishers Group West.
- Owen, G. (Ed.). (2009). *Architecture, ethics and globalization*. Routledge.
- Dubberly, H., & Pangaro, P. (2019). Cybernetics and design: Conversations for action. In T. Fischer & C. M. Herr (Eds.), *Design Cybernetics* (pp.85–99). Springer International Publishing. https://doi.org/10.1007/978-3-030-18557-2_4
- Pask, G. (1976). *Conversation theory: Applications in education and epistemology*. Elsevier.
- Pickering, A. (2010). *The cybernetic brain: Sketches of another future*. University of Chicago Press.
- Pink, S. (2007). *Doing visual ethnography: Images, media, and representation in research* (2nd ed). Sage Publications.
- Polanyi, M. and Sen, A. K. (2013). *The Tacit Dimension*. Chicago, Ill: The University of Chicago Press. Ruesch, J. and Kees, W. (1956). *Nonverbal Communication*. Berkeley: California University Press.
- Schütz, A. (1967). *The Phenomenology of the Social World*. Northwestern University.
- Sennett, R. (2018). *Building and Dwelling: Ethics for the City*. s.l.: Farrar.
- Polanyi, M., & Sen, A. (2009). *The tacit dimension*. University of Chicago Press.
- Pucci, P., & Colleoni, M. (Eds.). (2016). *Understanding mobilities for designing contemporary cities*. Springer.
- Rittel, H. W. J., & Reuter, W. D. (1992). *Planen, entwerfen, design: Ausgewählte Schriften zu Theorie und Methodik*. Kohlhammer.
- Robinson, S., & Pallasmaa, J. (Eds.). (2015). *Mind in architecture: Neuroscience, embodiment, and the future of design*. The MIT Press.
- Ruesch, J., & Kees, W. (1974). *Nonverbal communication: Notes in the visual perception of human relations* (2. print). Univ. of California Press.
- Sahoo, S., and Schmidt, S. (2020) The method of Immersive Behavioural Observation (IBO) - a conversation between theory and practice, in Boess, S., Cheung, M. and Cain, R. (eds.), *Synergy - DRS International Conference 2020*, 11-14 August, Held online.

- Schmidt, S. W. (2020). Body and place as the noetic-noematic structure of geographical experience. *Research in Phenomenology*, 50(2), 261–281. <https://doi.org/10.1163/15691640-12341450>
- Schuler, D., & Namioka, A. (Eds.). (1993). *Participatory design: Principles and practices*. L. Erlbaum Associates.
- Seidman, I. (2019). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (Fifth edition). Teachers College Press.
- Sennett, R. (2018). *Building and dwelling: Ethics for the city*. Farrar, Straus and Giroux.
- Sharr, A. (2007). *Heidegger for architects*. Routledge.
- Skinner, B. F. (1965). *Science and human behavior* (First Free Press Paperback edition). The Free Press.
- Spencer-Brown, G. (1994). *Laws of form* (Repr., limited ed). Cognizer Co.
- Third place policy*. (n.d.). Starbucks Coffee Company. Retrieved 21 October 2020, from <https://www.starbucks.com/responsibility/learn-more/policies/third-place>
- Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other*. Basic Books.
- UN-Habitat, SDG Goal 11 Monitoring Framework: sustainable cities and communities, Sustainable Development Goals. . (2016). Cities. *United Nations Sustainable Development*. <https://www.un.org/sustainabledevelopment/cities/>
- Verbeek, P.-P. (2011). *Moralizing technology: Understanding and designing the morality of things*. The University of Chicago Press.
- von Glasersfeld, E. (2007). *Key works in radical constructivism: (Edited by marie laroche)*. Brill | Sense. <https://doi.org/10.1163/9789087903480>
- Whyte, W. H. (2010). *The social life of small urban spaces* (7. print). Project for Public Spaces.
- Whyte, W. H., & Underhill, P. (2009). *City: Rediscovering the center*. University of Pennsylvania Press.
- Wiener, N. (1988). *The human use of human beings: Cybernetics and society*. Da Capo Press.
- Wittgenstein, L., & Granger, G.-G. (2002). *Tractatus logico-philosophicus*. Gallimard.
- Wittgenstein, L., & Schulte, J. (2008). *Philosophische untersuchungen* (4. [Aufl.]). Suhrkamp.
- Zeisel, J. (2009). *Inquiry by Design: Environment, Behaviour, Neuroscience in Architecture, Interiors, Landscape, and Planning*. New York, NY: Norton.

Future Scenarios for Crisis and Resilience

**From Fact to Artifact: a New Approach
to Ethical Responsibility in Discursive
and Speculative Design Practices
for Public Engagement in Science**

Lynn Harles,
Dr. Marie Lena Heidingsfelder

**A Research through Design Practice
to Envision Home Scenarios
in the Post-Covid-19 Future**

Xue Pei, Daniela Maurer, Carla Sadini,
Francesco Zurlo

**Speculative Citizen Design –
Design for Resilience through
Low-Threshold and Community-Based
Speculative Design**

Aïcha Abbadi, Luisa Hilmer

From Fact to Artifact: a New Approach to Ethical Responsibility in Discursive and Speculative Design Practices for Public Engagement in Science

Keywords: Science Communication,
Public Engagement in Science,
Discursive and Speculative Design,
Design for Debate, Interdisciplinary
Scenario-Building, Emerging
Technologies.

Lynn Harles^{a*},
Marie Lena
Heidingsfelder^a

^aCenter for Responsible Research
and Innovation by Fraunhofer IAO
^{*}lynn.harles@iao.fraunhofer.de

Many new design approaches that can nowadays be summarised under the term of *discursive and speculative design practices* arose from *Critical Design* in the past decades. They form a proper design discipline that is uncoupled from commercial demands and makes use of design practices to create tangible imaginaries of probable futures for stimulating public debates. Thus, these approaches find increasing application in technological agenda-settings. Furthermore, they offer an unexplored potential for science communication and public engagement in science. But this potential is accompanied by questions on the ethical responsibility of the designer and the efficiency of the debate: How can speculative imaginaries of the future be more credible and prevent misleading debates? Against this background, this paper presents a newly developed method “From fact to Artifact” aiming to identify a schematic process to develop fact-based scenarios.

1 Introduction

Many new design approaches that can nowadays be summarised under the term of *discursive and speculative design practices* arose from *Critical Design* in the past decades. Their common feature is the use of demands and the use of design languages and practices to focus on “how things *could be*”, rather than “how things *are*” (Dunne&Raby 2013; Tharp&Tharp 2018; DiSalvo 2012; Malpass 2017).

These approaches are aiming at making use of design practices to create tangible imaginaries of probable and possible futures for stimulating public debates. Thus, these approaches finding increasing use, are commonly applied in technological innovation processes. Furthermore, they offer an unexplored potential for science communication and public engagement in science. But this potential is accompanied by questions on the ethical responsibility of the designer and the efficiency of the debate: How can speculative imaginaries of the future be more credible and prevent misleading debates? Or: How can we create fact-based narratives but still leave space for ambivalent speculations?

Against this background, this paper presents the ongoing design research project “Food Fictions” that aims at investigating discursive and speculative practices as systems of knowledge for engaging science communication. It questions the potential of these practices for fact-based public debates and pursues the thesis that they require systematic approaches and methods to improve ethical responsibility.

Thus, the project is led by a newly developed method “From fact to Artifact” (FFA), which is based on literature review and aims to identify such a systematic process that supports designers to develop fact-based scenarios and artifacts.

2 Project Description

The project “Food Fictions” was conducted by the authors of this paper in terms of the “Wissenschaftsjahr 2020|21”, an initiative funded by the German Federal Ministry of Education and Research aiming at raising public engagement in science.

The main goals of the project were (1) to explore food as an “object of investigation” that enables public debates on bioeconomic futures (2) to develop new formats of engaging science communication based on discursive and speculative design practices (3) to create a systematic approach to enable interdisciplinary and fact-based scenario-building.

Within the project, we defined an interdisciplinary design process in which tandems of design researchers and scientists develop scenarios aiming at speculating on bioeconomic food systems and sustainable food behaviours. Against this background the central research goal of the project was to examine a strategic process for

scenario-development that allows designers to stay close to the scientific input from the collaborating scientists.

The process resulted in five object- and narrative-based scenarios, which were transferred into a public pop-up exhibition. The exhibition was shown in the in the Museum of Natural History in Berlin and was accompanied by a digital workshop with edible toolkits.

3 The Potential and Challenges of Speculative Design Practices in Science Communication

As a design research project, "Food Fictions" aims to explore the potential of discursive and speculative design practices (DSDP) as a form of engaging science communication (SciCom). In order to explain the benefits of these approaches, we present the underlying understanding of DSDP and science communication in the following and then present two arguments for the use of speculative design artefacts.

3.1 Understanding of Speculative Design Practices

In this paper, DSDP represents a common "genus" of design approaches evolving from Critical Design such as: Speculative Design (e.g. Dunne&Raby 2013), Design Fiction (e.g. Bleecker 2009), Adversarial Design (e.g. DiSalvo 2012), Associative Design (e.g. Malpass 2017), Discursive Design (e.g. Tharp & Tharp 2018) or the Critical Artifact Methodology (e.g. Bowen 2009). Although some of these methods follow different intentions, they all have a common functionality that offers a great potential for SciCom: They are separating the design discipline from commercial purposes focusing on "how things are" and make use of the design language to visualize and explore "how things could be". They pose questions and foster public debates rather than offer ready-made solutions (Dunne&Raby 2013). In this paper we focus mainly on the capability of these approaches to question how novel technologies and scientific findings are affecting our social life.

3.2 Speculative Design in Science Communication

The project "Food Fictions" follows a modern understanding of SciCom as "public engagement in science" (PES) (McCallie et al. 2009; Schäfer 2009; Siune et al. 2009; Sturgis 2014). This approach differs from the "public understanding of science (PUS)" approach, which sees science communication as a unidirectional task in which the aim is to create understanding and acceptance among "the" public by conveying and translating scientific findings and knowledge (Schäfer 2009: 476). In contrast to PUS, PES describes a "democratic turn" and understands SciCom as a mutual exchange between science and society. If SciCom is increasingly realised as public engagement in inclusive and participatory processes, social groups can make informed decisions on the one hand and communicate their perspectives and needs to researchers on the other. This exchange provides the basis for shaping socially robust socio-technical futures (Heidingsfelder 2018, Heidingsfelder et al. 2019).

Against this background, there are two arguments for the use of DSDP when it comes to SciCom for public debates:

- Speculative design artifacts and scenarios offer a format that is interesting for the public. New rights and responsibilities for scientists and citizens are derived from the PUS model: "Science communication has become a 'duty' for scientists and a right for the public, a right to know and a right to engage" (Sivune et al. 2009, p.62). At the same time, the right to knowledge and public participation requires a certain degree of "scientific literacy". This level is relatively high for the reading of specialist literature and scientific journalistic texts, especially since scientific literacy is low at national and European level (EC 2005; Süerdem & Çağliyor 2016). In this context, the use of DSDP enables a format that is interesting and accessible for people with little scientific literacy. Several factors must be considered to achieve this goal (see 4.6).
- Speculative artifacts and scenarios are particularly well suited for science communication on future technologies because they promote debate and help shape research agendas: they show possible development paths as well as ethical and social implications (Bleecker 2009; Sterling 2009, 2010; Grand & Wiedmer 2010; Wakkary et al. 2016; Heidingsfelder et al. 2019). Especially in the context of new technologies, broad debates are necessary to find accepted and demand-oriented development paths and solutions. The more people can be involved in such a discussion and the better these people reflect the diversity prevailing in society, the more successful such an approach will be (van der Helm 2007). In contrast to very optimistic and idealistic ideas about the social benefits of design and co-creation, design-fiction prototypes promise neither harmonious cooperation, nor consensus: On the contrary, they are intended to provoke and make dissent visible in order to trigger social debates in which different actors negotiate their concrete ideas and needs and find common solutions or compromises. At the same time, the debates, which are conducted on the basis of speculative objects and scenarios, also offer an insight into attitudes towards current technologies: The analysis of the debates thus not only provides information on future developments, but also enables statements about society in terms of a diagnosis of the present (Grunwald 2015).

Both arguments illustrate the benefits and potential of DSDP in science communication, but they also raise questions about the ethical responsibility of the designer, the credibility of the scenario and the efficiency of the debate (Tharp&Tharp 2019).

In "Food Fictions" we were confronted with exactly these questions and identified a need for a systemic approach that maps the path from a fact to the speculative scenario and artifact. How can a

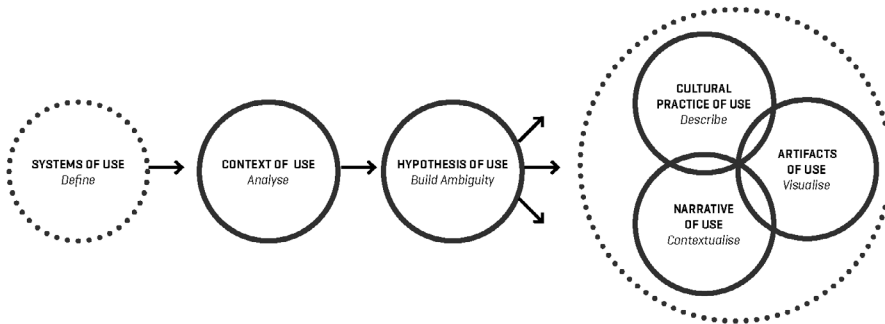
speculative scenario remain close enough to scientific facts while opening up spaces of possibilities and highlight ethical and social implications?

In design research literature, different forms of expressions and intentions of speculative design are identified and partly systematised (Tharp & Tharp 2018; Malpass 2017). This helps designers to classify different approaches and to give orientation in the field. However, there are only a few attempts that support the designer through the actual speculative design creation process. This is exactly where the “From Fact to Artifact” (FFA) method comes in.

4 From Fact to Artifact

The following paragraphs demonstrate the FFA-methodology, which consists of six consecutive steps, that are guiding designers systematically through a fact-based speculative design process (see illustration below): Starting from (1) the systems of use, which define the scope of application and the realm of the possible; (2) to the context of use, which narrows down the thematic background to specific facts; (3) to hypothesis of use, that frames the speculation based on the “context of use”; to the (4) “cultural practice of use”, that reflects cultural behaviours; and to the (5) “narrative of use”, that describes the environment that puts the “artifact of use” (6) in context.

Fig. 1: *The FFA Process.*



Each section gives a short summary of the goals, the theoretical background and provides guiding questions that help navigating through the steps. In paragraph number 5, we show how the method was applied in practice in the “Food Fictions” project.

4.1 System of Use: Defining Intentions, Impacts and the Realm of the Possible

The system of use is the first step in the process that defines the intentions, the desired impact and the time horizon, that build the fundamental basis of the scenario on a meta-level. They form the framework for the analytical and creative part of the process.

- Intention and impact.

DSDP can be applied in different contexts, depending on the intention (e.g. discourse, engagement, criticism) and the aspired impact (e.g. to spark debates, to create or engage the public in research agendas, to raise awareness etc.). Thus, as “system” we define the scope of application of DSDP such as the exploration of mutual influences of technological and societal trends, the development of application scenarios based on user needs or the identification of societal needs and acceptance of novel technologies.

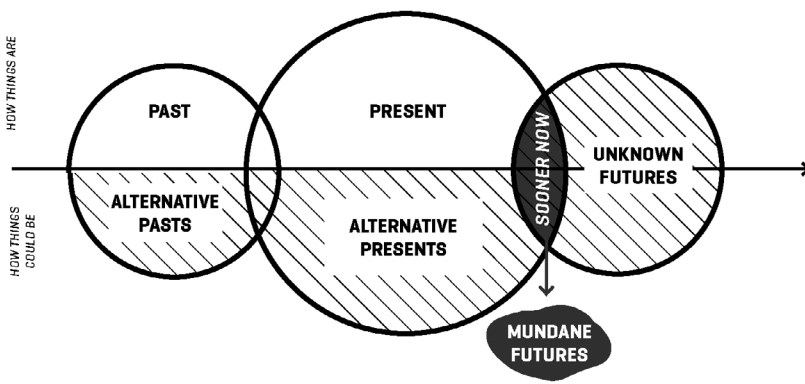
Several examples of different intentions can be found in literature and practice. They can be summarised as the following, according to Tharp & Tharp (2018):

“We are encouraging designers to give careful attention to the span of project domains - Social Engagement, Practical Application, Applied Research and Basic Research – as a way to explore a broader range of possible discursive design impact and how they may best contribute.”

- Time Horizon: mundane futures in the sooner now

The time span plays an important role in DSDP as it frames the realm of the possible and the degree of alienation. In literature there is no limit to the temporal possibilities in speculative scenarios: from alternative pasts, presents and mundane futures to unlimited extrapolations. Since the FFA-method aims at staying close to scientific facts, we recommend to focus on the mundane futures (Kjærsgaard & Boer 2015) or what we define as “the sooner now”. Mundane futures have the advantage that they include familiar elements from our everyday life, what makes the scenario more accessible to the audience.

Fig. 2: The positioning of the sooner now and mundane futures.



4.2 Context of Use: Analysing the Thematic Context

The context of use defines the thematic background of the scenario and highlights different aspects that derive from interdisciplinary innovation models and are relevant for comprehensive narrative of use: from society, academics, R&D as well as economy, politics and ecology.

Within this step, relevant facts are firstly gathered and mapped according to the aspects mentioned above. To create a holistic factual basis, different fact- and opinion-based sources should be analysed (e.g. literature research, expert interviews, citizen surveys, market research). The goal is to identify blind spots, open questions, contradictions and controversies within the thematic background.

The result of this analytical step is to narrow down the thematic background to specific aspects that create the starting point for the hypothesis of use and the necessary ambiguity of the scenario, that leaves room for unbiased reflection.

The guiding questions in this step are:

- What are the main aspects of the focussed (technological) thematic background from a political, scientific, societal, economic, ecological point of view?
- Are there any contradictions between theoretical facts and the practicable feasibility of a technology?
- What are the current main arguments for or against a certain technology? How could it be used for good or for bad?
- Is there a tension between the technological possibilities and societal needs?

- What are the controversies between different stakeholders or user groups?

4.3 Hypothesis of Use: Building Ambiguity

DSDP never aims at predicting the future, so each speculative scenario be considered as a hypothesis.

Within the previously defined context of use, the hypothesis of use builds the narrative frame and has the function of a "what if" statement: What if a specific socio-technical practice exists or is newly established in the given thematic background? Thus, the hypothesis of use has a central meaning as a hinge between the meta-level and the concrete scenario: it directs the focus to a certain aspect of the previously described context and forms a framework for the following steps of the method. The hypothesis of use thus enables the recipients of speculative design to "think in the conditionalis". With Knutz et al (2014), what if scenarios are the basic constructional principle of design fiction. Because of this high significance within the FFA method, the hypothesis of use must be chosen with care. The decisive question is not only which aspect is put into focus, but also which aspects are excluded by the decision and remain in the "diegetic off" of the scenario.

The guiding questions for this step are:

- How can the hypothesis of use make central technological, ecological, economic, political and social aspects of the chosen context visible?
- What are key parameters in terms of place, time, people involved and technologies used?
- How close or far from the current reality should the scenario be located? How strongly does it tie in with existing social and technological practices?
- How can the "what if scenario" make ambiguous developments and perspectives visible?

4.4 Narrative of Use: Setting the Stage

Starting from the "What if" statement in the previous step, the narrative of use can be understood as the screenplay that describes the environment in which the cultural practices of use and artifacts of use will be situated. Thus, the narrative of use gives a possible answer to the "what if"- question and links technological possibilities to economic, political, scientific, ecological and social outcomes into a coherent storytelling.

It describes the functions and the interactions of the artifact and points out how it transforms and impacts our life.

“In establishing narratives of use, the designer takes on the role of a storyteller and author, where fictional scenarios are developed to position the object, but also where the imagined or rhetorical interaction with the object itself works to make the fictional scenarios believable.” (Malpass 2017).

The technical structure and the implications of a written narrative and storytelling can be derived from (fictional and non-fictional) writing studies, future studies and design research (Card 1990, Gottschall 2012, Sterling 2006, Candy 2010), which are summarized here using some guiding questions:

- With regard to the different aspects, what is the focus of the scenario?
- From which perspective is the scenario told?
- Who or what is the main protagonist in the scenario? What does a normal day in the life of this protagonist look like?
- Which of the aspects are connected and how?
- Which aspect remains open in the narrative in order to create ambiguity?

4.5 Cultural Practice of Use: Defining Behaviours, Beliefs and Traditions

Technology and culture influence each other mutually. To create fact-based scenarios that are reliable to the audience, it is crucial to reflect about the cultural practices resulting from the hypothesis of use. On the narrative level, these practices make the scenarios more tangible by showing the impact of technology on our daily lives through our behaviour and social interactions to which the audience can relate (Bleecker 2009). As culture we define in this context “the way of life, especially the general customs and beliefs, of a particular group of people at a particular time.”^[1] Thus, the cultural practice of use asks whose future is actually addressed in the scenario and questions how emerging cultural practices of these specific groups of people are co-evolving among scientific and technological innovations.

To define a cultural practice of use, we are borrowing approaches from design anthropology (Otto & Smith 2013; Smith 2016; Gunn & Donovan 2012; Gunn et al 2013; Halse 2008). Design anthropology converges the field of anthropology and design, by introducing anthropological approaches and methods in the design process. The convergence of both disciplines offers a great potential for fact-based scenarios as they entangle the past, the present and the future and combine the mundane with the realm of the possible (Smith & Otto 2013; Kjærsgaard & Boer 2016).

In this context, the designer takes over the role of the “speculative observer” and describes the cultural practices, such as behav-

[1] Definition from Cambridge Dictionary: <https://dictionary.cambridge.org/de/worterbuch/englisch/culture>

our, social interactions, traditions and values that derive from the hypothesis. This observation can both be embodied in the narrative of use as well as in the artifact of use.

Furthermore, this step supports the designer to act outside its subjective perception of the scenario and step out of cultural hegemonies, to reflect the hypothesis from different (non-western) points of views. (Fry 2017; Tunstall 2013).

Guiding Questions:

- Does the scenario address a specific cultural group: e.g. cultural geographies, nationalities, religious beliefs, age groups, vulnerable groups, learned values (e.g. vegetarians, technic-optimist)?
- What cultural practices are addressed: everyday behaviours, traditional events, specific rituals.?
- What ancestral traditions and customs persist in the future? Which will be lost?
- What behaviour is considered as „normal“ or „unusual“ in this scenario?
- Are the cultural practices influenced by a technology or vice versa?

4.6 Artifact of Use: Embody the Speculation

The artifact of use translates the scenario into one or several visual artifacts and defines the medial environment. In a cultural anthropological sense, they are understood as an object of use and as a form of expression and have the function of a “diegetic prototype” (Kirby 2010) - the element that is propelling the story and makes it tangible to the audience. The speculative artifact is not only reduced to a product design of a three-dimensional artifact: it can also be embodied by an interface, a service, a customer journey, a marketing campaign or even biological organisms by using different media and materials (digital mock-ups, prototypes, movies, biological tissues).

To achieve the desired impact (defined in 4.1), it is crucial to define how the embodied artifacts are curated in order to enter into a dialogue with the audience. In this context several factors must also be considered (Tharp & Tharp 2018; Heidingsfelder et al. 2019; Heidingsfelder 2018, Gaver et al 2003):

- The media environment of the artifact: Will the artifacts be presented to an external audience: e.g. in a museum setting, as street art or in a virtual space; or to an internal audience e.g. in a participatory workshop?
- The interaction between audience and artifact: Is the artifact a static object or does it require interaction of the audience to achieve its functionality?

- The duration and frequency of the interaction: How long or how many times should the public be engaged in order to achieve the desired impact?
- The nature of the artifact: Is it experience as an unfamiliar technology or is it part of the human nature (see pyramid of technology by Mensvoort 2020)?
- The ambiguity of the artifact: Does the artifact underlies a specific bias? How familiar or strange should the artifact be designed to generate friction for public debates?

5 From Fact to Artifact in Practice

In this paragraph, we illustrate the application of the FFA method using the example of the Food Fictions scenario "Responsible Meat", which aims to question consumer behaviour and meat production.

In the case of "Food Fictions", the overall intention and impact of the scenarios was to create PES concerning bioeconomic topics to foster public debates on future food systems (1). The thematic background of "Responsible Meat" is based on the social and ecological consequences of excessive meat consumption and possible alternatives. After analysing reports, stats and existing speculative scenarios on the future of meat and conducting an expert interview with guiding questions, we identified contradictory user statements between willingness to pay, the desired quality of meat and transparency on livestock farming. As the intention was to initiate debate on food systems in the "sooner now" and as the majority of the population in Germany is still consuming meat, we reduced the thematic context from possible alternative meat products (eg. Invitro-meat) or eating behaviours (eg. entomophagy) to the single aspect of the current "consumer behaviour" and "consumer control in meat production" (2).

The resulting hypothesis of use questions: what if meat products disappear from the supermarket but meat itself still remains accessible? (3).

This hypothesis was translated into a narrative in which the final meat product (eg. steak), disappears from the supermarkets. Instead, the consumer is forced to buy the whole animal. This narrative was explained by presenting a fictive business model, in which the consumer "subscribes" to a local farmer's animal via the platform "Farmbuddy" and can decide for himself via a monthly financial contribution how the animal will live (4).

In the narrative, this subscription lasts as long as the natural life span of a farm animal. In case of the cow, the subscription runs 3-4 years. During this time, the consumer remains connected to the cow through empathic technology: The "Farmbuddy Smart Home" device is connected to the subscribed animal by means of biosensors and provides information about the health and mood of the

animal by communicating via light sensors. In the end the animal is completely processed "from nose to tail" and all products are sent to the customer (6). At this point, the scenario also speculates on community and sharing models, as well as cultural acts of appreciation (5). The Farmbuddy-device is the main artifact which is accompanied by a "Farmbuddy Configurator" interface and the illustrative presentation of the customer journey.

Fig. 3: *The Farmbuddy Customer Journey.*

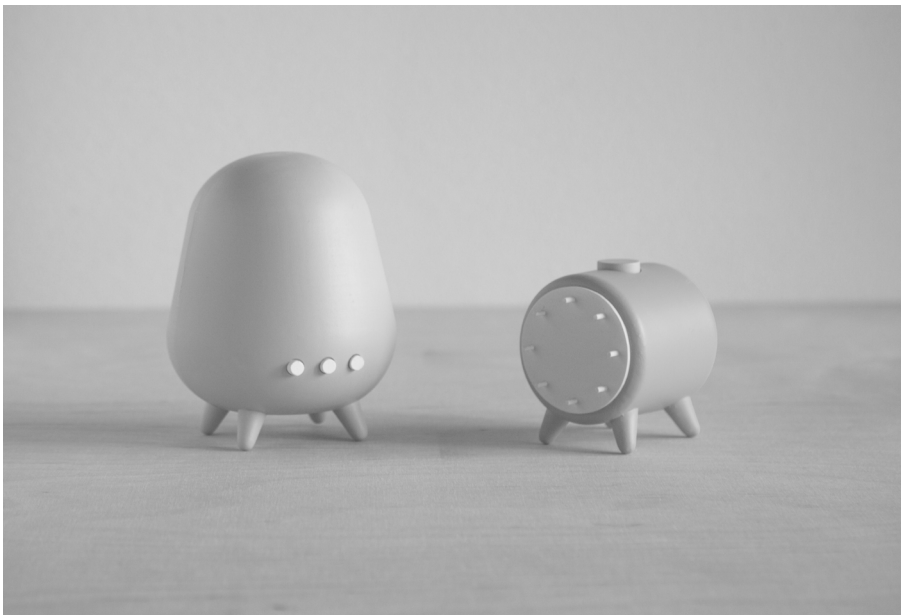
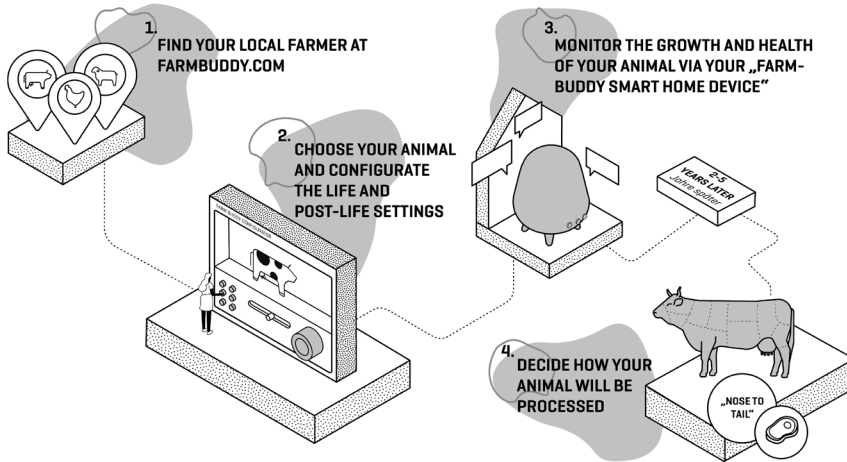


Fig. 4: *The "Farmbuddy Smarthome device" and the "Egg 'o' clock (for subscribed chickens).*

6 Conclusion

The method attempts to identify common steps in the design process for speculative scenarios that aim to stay close to the facts. Thus, it has not been developed with the intention of providing a standardized and generally valid process for the application of speculative design practices. For this reason, it is to be understood rather as a tool for reflection and orientation guideline.

Nevertheless, we can state that some aspects are fundamental to the speculative design process. The method shows that the intention and the impact are crucial for the creative process and the outcome of the scenario. The thematic context of this process results from a profound analysis of given fact- and opinion-based sources, as well as their impact on cross-cutting aspects of our everyday-life such as economy, politics, social life or ecology. They are decisive for a hypothesis that enables ambivalent scenarios, which allow an unbiased evaluation in public debates. In order for these scenarios to be understood by broad audience and to create personal touch points, the narrative of use should take cultural practices into account. Therefore, it should contain familiar elements from the present to create a vision of a sooner-now to which the audience can refer. Furthermore, the representation and embodiment of speculative scenarios as artifacts offers completely new possibilities compared to the origins of critical design in the 1980s. New media technologies and formats offer potentials to expand the static environment of the speculative artifact in museum spaces and to enable new forms of participation. To conclude, the process results in scenarios that are close to scientific facts, but offer a space for speculation and reflection by integrating our everyday life as well as our cultural behaviours. By keeping this balance, they reach a broad audience that can respond to the scenarios through different channels. Especially in the field of science communication, proximity to facts is an ethical requirement for designers. Our paper is intended as a methodological proposal and invitation, to reflect on the ethical responsibility of the designer and to investigate applied speculative design practices as a developing design discipline

References

- Bleecker, J. (2009). Design fiction. A short essay on design, science, fact and fiction. *Near Future Laboratory*.
- Bleecker, J. (2010). Design fiction: From props to prototypes. *Negotiating Futures-Design Fiction*, 58-67.
- Bowen, S. (2009). A Critical Artefact Methodology: Using Provocative Conceptual Designs to Foster Human-centred Innovation. PHD Dissertation at Sheffield Hallam University.
- DiSalvo, C. (2018). *Adversarial Design*. MIT Press.
- Card, O. S. (1990). How to write science fiction and fantasy. *Genre Writing Series*.
- Dunne, A. & Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming*.
- Escobar, A. (2018). *Design for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Duke University Press.
- European Commission (EC) (2005). Eurobarometer. Europeans, Science and Technology. European Commission. Retrieved from: http://ec.europa.eu/comfrontoffice/publicopinion/archives/ebs/ebs_224_report_en.pdf
- Fry, T., & Willis, A.-M. (2017). Design and the Global South. *Design Philosophy Papers*.
- Gaver, W. W., Beaver, J., & Benford, S. (2003). Ambiguity as a resource for design. Conference on Human Factors in Computing Systems - Proceedings.
- Ginsberg, A. D. (2015). Design Evolution. In *Synthetic aesthetics: Investigating synthetic biology's designs on nature. History and Philosophy of the Life Sciences*, (pp.101-137)
- Gottschall, J. (2012). The storytelling animal: How stories make us human. Houghton Mifflin Harcourt.
- Gräber, Grand, S.; Wiedmer, M. (2010): Design Fiction: A method toolbox for design research in a complex world. *University of Applied Sciences Northwestern Switzerland (Hrsg.)*.
- Gunn, W., & Donovan, J. (2012). Design anthropology: An introduction. In Gunn, W., & Donovan, J., *Design and Anthropology*, (pp. 1-19).
- Gunn, W., Otto, T. & Smith, R., (2013). *Design Anthropology: Theory and Practice*. Bloomsbury Academic.
- Halse, J. (2008) *Design Anthropology: Borderline Experiments with Participation, Performance and Situated Intervention*. PHD Dissertation at
- Halse, J. (2013). Ethnographies of the Possible. In W. Gunn, T. Otto, & R. C. Smith (Eds.), *Design Anthropology – Theory and Practice* (pp. 180-198).
- Heidingsfelder, M.L. (2018). *Zukunft gestalten Design Fiction als Methode für partizipative Foresight-Prozesse und bidirektionale Wissenschaftskommunikation*. PHD Dissertation, UdK Berlin.
- Heidingsfelder, M. L., Bitter, F., & Ullrich, R. (2019). Debate through design. Incorporating contrary views on new and emerging technologies. *The Design Journal*, 22(sup1), 723-735.
- van der Helm, R. (2007). Ten insolvable dilemmas of participation and why foresight has to deal with them. *Foresight*, 9(3), 3-17.
- Kirby, David. (2010). The Future Is Now: Diegetic Prototypes and the Role of Popular Films in Generating Real-World Technological Development. *Social Studies of Science* 5.40.
- Kjærsgaard, M. G. (2011). Between the Actual and the Potential. The challenges of design anthropology.
- Kjærsgaard, M., Otto, T. (2012) Anthropological fieldwork and designing potentials. In Gunn, W., & Donovan, J., *Design and Anthropology*, (pp.177-192).
- Kjærsgaard, M. G., & Boer, L. (2015). The speculative and the mundane in practices of future-making – Exploring relations between design anthropology and critical design. In Research Network for Design Anthropology Seminar, *Collaborative Formation of Issues*.
- Malpass, M. (2016). Critical Design Practice: Theoretical Perspectives and Methods of Engagement. *Design Journal*, 19(3), 473-489.
- Malpass, M. (2017). *Critical Design in Context: History, Theory, and Practice*. Bloomsbury Academic.
- McCallie, E., Bell, L., Lohwater, T., Falk, J. H., Lehr, J. L., Lewenstein, B. V., Needham, C. & Wiehe, B. (2009). Many experts, many audiences: Public engagement with science and informal science education. *A CAISE Inquiry Group Report*, 1-83.
- Mensvoort, K. (2020) Next Nature: Why technology is our natural future? Next Nature Network.
- Schäfer, M. S. (2009). From public understanding to public engagement: An empirical assessment of changes in science coverage. *Science Communication*, 30(4), 475-505.
- Siune, K., Markus, E., Calloni, M., Felt, U., Gorski, A., Grunwald, A., Rip, A.; de Semir, V. & Wyatt, S. (2009). Challenging Futures of Science in Society. Emerging Trends and cutting-edge issues. *Report of the MASIS Expert Group. Brussels: European Commission*.
- Smith, R. et al. (2016). *Design Anthropological Futures*. Bloomsbury Academic.
- Sterling, B. (2005). *Shaping Things*. MIT Press.
- Sterling, B. (2009). Design fiction. *Interactions*.
- Sturgis, P. (2014). On the limits of public engagement for the governance of emerging technologies. *Public Understanding of Science*, 23(1), 38-42.
- Süerdem, A., & Çağliyor, S. (2016). The effects of scientific literacy on participation to political decision making. In: *SHS Web of Conferences* 26, 01064.
- Tharp, B. M., & Tharp, S. M. (2013). Discursive Design Basics: Mode and Audience. *Nordic Design Research Conference*.
- Tharp, B. M., & Tharp, S. (2018). *Discursive Design: Critical, Speculative, and Alternative Things*.
- Tunstall, E. (Dori). (2013). Decolonizing Design Innovation: Design Anthropology, Critical Anthropology, and Indigenous Knowledge. In Gunn, W., Otto, T., & Smith, R., *Design Anthropology* (pp.232-250). Bloomsbury Academic.
- Otto, T., & Smith, R. (2013). Design Anthropology: A Distinct Style of Knowing (p.29). In Gunn, W., Otto, T., & Smith, R., *Design Anthropology* (pp.1-29). Bloomsbury Academic.
- Wakkary, R., Odom, W., Hauser, S., Hertz, G., & Lin, H. (2016). A short guide to material speculation: Actual artifacts for critical inquiry. *Interactions*, 23(2), 44-48.

Acknowledgements

We would like to express our sincere thanks to the German Federal Ministry of Education and Research and “Wissenschaft im Dialog” for funding this project in terms of the “Wissenschaftsjahr” - and to our collaborating scientific experts for supporting us voluntarily in the co-creative scenario building process and for their curiosity on explorative formats of science communication. Furthermore, we would like to thank our colleges and students from the “Design-based strategies team” at Fraunhofer CeRRI, who supported us in the creative implementation of the scenarios and to our extern project staff, Gesine Last (written narratives) and Inés Lauber (edible workshopkit) for supporting us during the concept phase with their professional knowledge and creative spirit.

Further Information about the project, upcoming exhibitions and the digital presentation of the scenarios can be retrieved from: www.foodfiction.de

A Research through Design Practice to Envision Home Scenarios in the Post-Covid-19 Future

Keywords: Research through Design, Design Scenario, Covid-19 Pandemic, Home Visions.

Xue Pei^{a*},
Daniela Maurer^a,
Carla Sadini^a,
Francesco Zurlo^a

^aPolitecnico di Milano
*xue.pei@polimi.it

This research is born in response to the Covid-19 pandemic breakout worldwide and aims at shaping new domestic scenarios, which could better answer to the emerging needs at home. This research has followed a designerly way to build understanding and knowledge on unexpected emergency through integrating both qualitative and quantitative methods to collect data, moreover, a strategic design method, scenario building, has been carried out to transfer these initial themes/topics into 7 visionary scenarios, which could involve different actors, designers, experts, companies and also the public, in diving their opinions and taking actions to implement certain ideas and possible solutions to the ground. This research eventually provides an initial strategy and methodology for studies that aim at exploring visionary directions and proposals on social issues relevant to everyone and the common good.

1 Introduction

The Covid-19 pandemic which has struck the world in 2020 asked us, both as citizens and researchers, to deal with uncertainty, change our previous lifestyles, habits and research priorities. To contain the spreading of the virus, everyone was suddenly forced to stay at home, carrying out daily lives totally within the four walls of a domestic setting. This has already been considered one of the most challenging social experiments in human history. It is obvious that the life could not go back to “normal”, and a new definition of what a normal life will look like could be formulated from diverse perspectives. With the growing conviction that “creativity” is an inescapable keyword for the restart that involves and builds together solutions for a sustainable and responsible world for the post-pandemic (Zurlo, Maurer and Pei, 2020). In particular, designers - by definition - thank to a project attitude (from the Latin *pro-jacere*) often adopt a future perspective (Celi and Rudkin, 2016). Designers are not only focused on the understanding of challenges but also on the identifications of possible solutions, trying therefore to overcome anxieties generally connected with survival and adaptation (Schein & Schein, 2019; O'Hara and Leicester, 2019). This paper is going to present the preliminary results of a research-through-design work born during the outbreak of Covid-19 pandemic.

The research has followed a designerly way to explore visionary home scenarios that could better respond to the emerging needs of staying at home. The paper starts with a review on the essential traits and advantages of design and designers when dealing with uncertainty towards a possible future. Two design methods, speculative design and scenario building, have been discussed by design researchers as promising ways to visually present a desired future. The methodology part has illustrated the entire research process and applied methods in detail. During the research data collection phase, authors have integrated both quantitative and qualitative methods to obtain different information for better understanding the phenomena. Then, scenario building has played a crucial role in interpreting collected data and transferring it into the first research finding - 7 visionary domestic scenarios, which has visually presented how the “preferred” home looks like, as well as fostered conversations and collaboration among different actors. Eventually, the paper has reflected on designers' approach to face unexpected crisis and to explore desired possibilities, role of design-orienting scenarios in the inquiry of uncertainty, as well as the practical contributions of this research to current situation and similar studies.

2 Uncertain Times and Design

The present moment that we are all experiencing has not been the first period of uncertainty in history. The globalization process has been analysed and its definition partially changed. Risk has to do with something that has not happened yet, but that might happen; therefore, actions are more oriented towards preventing it (Reith, 2004). However, also due to time-space compression, the

future becomes an extension of the presence (Nowotny, 1985) and in this sense, risk is already there. Beck (1992, 2009) talked about World Risk Society, characterized by different typologies of risks, which are no longer exclusively local but distributed on the planet. Indeed, viruses, pollution, terrorism do not have borders even if they can be more or less successfully overcome thanks to local economic, technological, and political benefits. The emergence of the concept of risk has been strictly connected with the future notion and has had a central explanatory role in the indeterminate world of late modernity (Reith, 2004). Therefore, the globalized world influenced an interpretation of the future as unknown and “not amenable to human intervention” (Reith, 2004: 393), creating a dilemma where, notwithstanding the impossibility to predict it, individuals need to “still engage with it. The problem that now faces them is – how to act” (Reith, 2004: 393).

The most creative societies occurred in periods of redefinition and understanding of current difficult situations (Koestler, 1964). Koestler (1964) uses the concept of “ripeness,” which has to do with maturity and development of solutions at the right time in the right place. Sill (2001), for example, refers to Classical Greece or the Renaissance; in general, periods of crisis, such as the one we are going through right now - the Covid-19 emergency, have potentialities for being creative in responding to critical situations and events. These uncertain periods have been called post-normal times (Sardar, 2010; Montuori, 2011). In particular, the concept of post-traumatic growth has been used to address periods of recovering from difficult times both at an individual and collective level (Tedeschi and Park, 1998; Fuentes, 2017; Fredrickson, et al., 2003). Other very relevant insights can be taken from Hannah Arendt’s reflection on dark-times that she developed, referring to the Second World War atrocities. Arendt sees dark-times “as also [...] precious moments for developing an “activity of thought” where the thinking and action are deeply intertwined” (Staszowski and Tassinari, 2020: 14).

Design, because of its proactive nature, can act in the “space of possibility” shaped by dark times, as Arendt defined. Referring to Cross (1982), design problems are generally defined as “wicked” because they are both ill-defined and ill-structured, and this is typical in the case of societal issues (Sedini, 2020). The so-defined “wicked” problems do not provide all the necessary information to the problem-solver. In general, “The problems which human society faces (...) are, by definition, complex, multifaceted and systemic. And, inasmuch as we are coping with open, dynamic, and unpredictable events, many of these problems are unknowable at this stage” (Schein in O’Hara and Leicester, 2019: 1). Since design involves creating something new or transforming a less desirable situation into a preferred one, building a more humane world (Simon, 1998; Margolin, 2007), it is particularly important to make desirable rep-

representations of the world and find possible answers to face uncertain and crisis periods.

3 Design Research on the Possible Futures

Because of the nature of problems that designers face, they use abductive thinking logic to explore potential answers and solutions. The “designerly way of knowing”, which Cross (2001; 2007) has explained, is based on reflections on practices. Kumar (2004) defined a typical design process as constituted by research/exploration, analysis, synthesis, and realization phases, which are iteratively repeated. Focusing on the first phase, design exploration is mainly based on the question “What if?” (Schön, 1983), trying to address the problem-setting (Fallman, 2008), and, in particular, exploring possibilities outside current paradigms. This process could also be understood as giving shape to new potentiality and push the generation of potential solutions (Boland and Collopy, 2004).

In the domain of Speculative and Critical Design, for example, Ehn (2006) proposes the idea of ‘transcendence’, that has to do with the “exploration of possibilities outside of the current paradigms of style, use, technology or economics” (Fuad-Luke, 2013: 84). In order to define possible “what if?” answers and to envision possible and alternative futures, both past and present have to be taken into consideration. This requires the capability to build a bridge to link existing or emerging needs and aspirations with possible conceptual future (Auger, 2013). The exploratory process is different from the anticipatory one, which instead tends to be built on the basis of different visions of the future, which can be desirable or not (Godet and Roubelat, 1996). However, not all actors are alike designers or have a design mindset, who are good at playing with and balancing of being totally “out-of-box” and showing familiar aspects of current contexts and situations.

“Synthesis is an abductive sensemaking process” (Kolko, 2010: 17), where sensemaking is defined as an effort to identify and understand connections among the different elements which compose a system, such as people, places, and events, to identify or even anticipate their trajectories (Klein, Moon, and Hoffman, 2006; Kolko, 2010). One of the ways to present these trajectories is to create scenarios. A scenario is “a description of a future situation and the course of events which allows one to move forward from the original situation to the future situation” (Godet and Roubelat, 1996: 8). Manzini and Jégou (1999) have propose to use scenario as a way to present imaginations and potentialities of a preferred future. Scenarios are stories about the future that cannot be clearly foreseen; however, their purpose is to make decisions today. Scenarios are not based on probability but on qualitative data and analysis. Uncertainty is part of this method, which builds different pathways to the near future through storytelling. Their creation depends on data collection (research and exploration) and analysis; these two phases lead to the data’s organization into patterns that represent more plausible and pragmatic futures.

4 Research Methodology

Home Bridges the World is an on-going research project conducted by Creative Industries Lab^[1] of Politecnico di Milano starting from the first lock-down period in Europe. It aimed at exploring and inquiring how our homes have changed following the outbreak of the Covid-19 pandemic, and how this worldwide crisis could leverage home to play different roles in our daily life. The research followed a designerly way to create new knowledge and to define promising opportunities through a defined research process. One of the main objectives is to provide access and means to involve different actors and roles in the co-creation and co-definition of “what is the new normal as a common good”.

4.1 A Research-through-Design (RTD) Approach

This work has used design practices as the research process through collecting, interpreting and visualizing data, translating the design and research theories into practical design methods and process. Applying what we called a Research-Through-Design (RTD) approach. The researchers background determined also the human-centered focus, confirming the designer attitude to start from user’s need and desires, usually through the use of qualitative research tools to empathize with them. In this specific case, the restrictions imposed by the lock-down made it difficult to carry out field research through interviews and direct observation, therefore a methodology that integrates both quantitative and qualitative tools aimed at collecting first and second-hand data has been planned, exploiting the possibilities offered by the digital tools and devices: therefore, the research has been conducted completely online.

4.2 Research Process

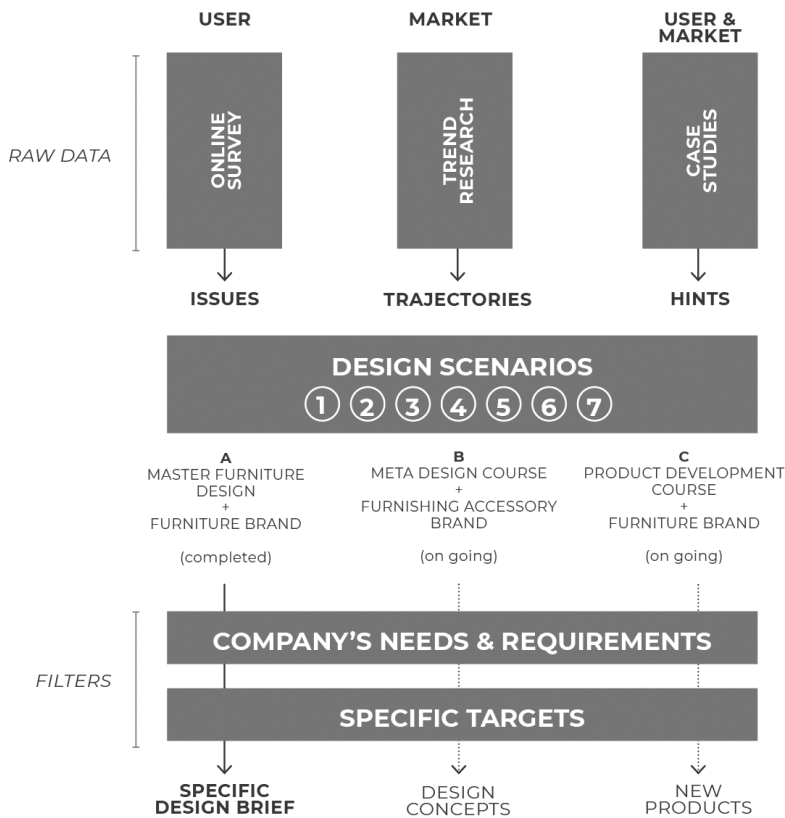
The Research Process was planned started from the collection of data, that, from an empirical perspective, looked at:

- User’s behaviors through an online survey, to understand the issues people were facing;
- Market directions and trajectories through trend research and analysis;
- Both market and user through case studies, to get hints about how individuals and companies spontaneously reacted to the situation.

[1] Website of Creative Industries lab: <http://www.cilab.polimi.it/>

Then, the collected raw data has been categorized in different themes and topics that guided in the definition of Design Scenarios for “visualizing” the possible future that answers the emerging needs. Those have been later used to “design” solutions in collaboration with design companies and students from the Academic field, aligning research and corporate values of social/common good.

Fig. 1: *The Research Methods and Process (elaborated by authors).*



4.3 Data Collection

Both quantitative and qualitative research methods have been conducted to collect first and second-hand data.

4.3.1 Online Survey

The online survey aimed at collecting as much data as possible from a miscellaneous population in terms of age and profession.

The survey was designed with 42 questions, divided into 6 sections:

- Basic information: to understand age, gender, occupation, nation of origin and if the people were experiencing the lockdown alone or with someone else;
- Life during quarantine: to comprehend how people coped with being restricted at home during the lockdown;

- Typology of domestic living spaces: to know where in the house people conducted their 24-hour activities;
- Work and study situation: to get information about the remote working/studying experience of workers and students;
- Necessary activities: to realize how people managed issues related to maintaining/ cleaning the house, keeping the house virus-free and purchasing food;
- Free Time: to know how people were coping with free time activities, alone and/or with the people they were living with and how they were maintaining social relationships, to identify emerging domestic entertainment activities.

Two researchers analysed the data, looking for commonalities and differences in the answers, to identify emerging needs and hints from the users and synthesize them in main issues, supported by case studies and trends observed in desk research.

4.3.2 Cases Studies and Trend Analysis

Second-hand data about case studies and trends have been collected through desk research, looking at trend report from trend research agencies, following webinars organized by universities and organizations, reading articles on economical and design websites and newspapers.

Case studies have been collected looking mainly at what has been published on the social networks by people and companies that, due to the lockdown, have become the privileged channel of communication and relationship and therefore the means to have a look to what was happening in the houses of all world.

4.4 Design Scenario Building

Each Scenario has been defined through the following factors:

- issues identified from users' NEEDS & WANTS: issues that are created and clustered from studying and analysing survey results;
- HMW question: using the How Might We question to frame a design challenge and therefore define a clear explorative direction for each Scenario;
- key features: defining essential and unique features the scenario must have in order to reply to the challenge posed by the HMW question;
- relevant social trends: presenting emerging socio-technological trends that confirm the scenario's directions;
- inspiring initiatives: presenting initial ideas, concepts, initiatives from the users and business that could be seen as first attempts to answer the scenario challenge and therefore can be of inspiration to build a possible concrete solution;
- impacted sectors: identifying sectors and industries that could be impacted by this scenario;
- design opportunities: identifying possible directions to follow to propose new design or business solutions;

- digitization and technology: highlighting the role of digitalization as enabler of new behaviours and facilitator in the application of solutions.

4.5 Testing Design Scenarios (for Creating Project Proposals)

The following step was testing the design scenarios with students of design academic programs coming from different parts of the world and attending different programs (specialized master courses, undergraduate and postgraduate courses), challenging them to use the design scenarios as part of their brief.

We ran three tests, all of them in partnership with Italian design companies, in order to interpret and concretize the Scenarios through the constraints of a company and the request of the market:

- with students of specialized master in Furniture Design of POLI.design in partnership with an Italian furniture company, with a workshop aims at defining detailed design brief for the design of a post-COVID furniture collection. During the workshop, the visionary scenarios have been transformed into practical design briefs for the company;
- with students of the Meta-design course (undergraduate level) of the School of Design_Politecnico di Milano, in partnership with an Italian furnishing accessory company, with the aim of deepening the research of three Scenarios (selected for affinity with the company's market objectives) and consequently developing concepts that take into consideration the client's target, poetics and production technologies; *(on going)*
- with students of the Product Development course (postgraduate level) of the School of Design_Politecnico di Milano, in partnership with an Italian furniture company, with the aim to develop furniture products to be eventually prototyped and produced. *(on going)*

4.6 Preliminary Research Results

4.6.1 Survey Result

We collect data for 12 days over the period 23 April-4 May 2020, then the data analysis lasted 2 weeks and the results were synthesized through graphs. We acquired answers from 337 people (290 living in Italy, and 47 from countries all over the world). The 68,5% were women, the majority of them between 19 and 35 years old. The 85,8% of them lived with someone (family, relatives, roommates or friends) during the lockdown period, while the 14,2% went through it alone. The 85,4% lived in a house (flat, detached house, single house) with outdoor space (balcony, terrace, garden, rooftop) where half of the people, 45.3%, declared to have spent most of their time. The main difficulties that emerged regarding the domestic spaces were to make the same space/ furniture meet the requirements of different needs/activities (24,9%); to organize and

to share the space with other people they lived with (16,5%) and to guarantee privacy (7,5%). Therefore, around 25% of the people bought new furniture, devices or accessories to adjust/change the home environment to better meet the new needs.

4.6.2 Design Scenarios

The following 7 Scenarios have been created:

- Working from home as normal: underlining the role of the house as enabler of an adaptive working experience that mix tangible and intangible needs;
- Back to Hands: enhancing the house as a laboratory used to make things, experiments and to learn with hands;
- Collective entertainment at home: where the house becomes a platform for collective digital and physical entertainment, enhancing the relationships among people;
- Personal wellbeing at home: the house as the place where everyone can fully take care of themselves and spend time on personal wellbeing (mentally and physically);
- Keep virus outside home: the house intended as the safe shelter in an easy and reassuring way;
- Outdoor space is a must-have: enhance the possibilities to benefit more of outdoor experiences even with very limited outdoor spaces;
- Cooperativism from home: the house as facilitator of stronger relationship in the neighborhood.

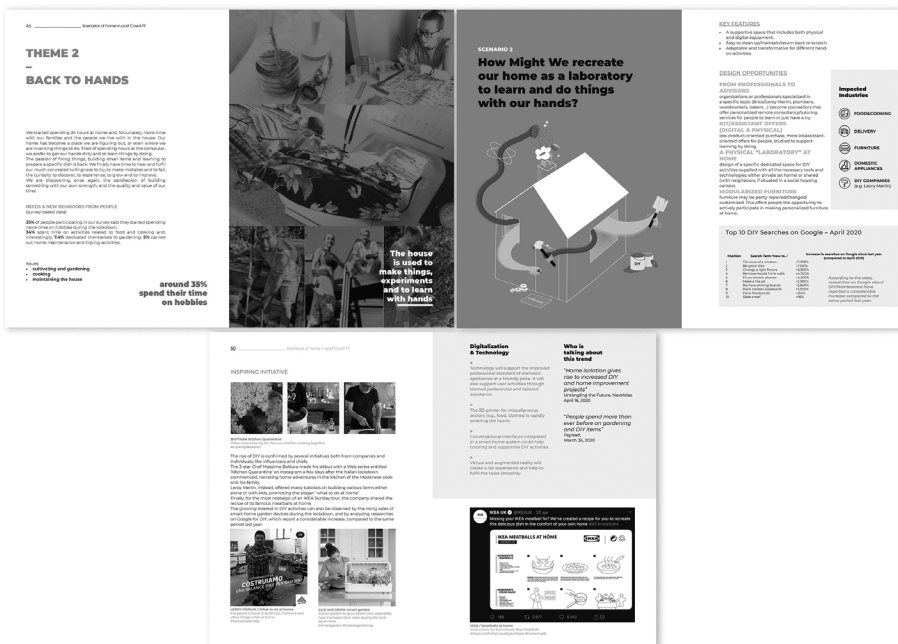


Fig. 2: Example of how each design scenario has been presented, through the factors explained in chapter 4.3 (elaborated by authors).

Two of three collaborations ran to test the Scenarios are currently ongoing experience (B-C), while one is fully completed (A). It lasted 2 weeks as a full-time activity and thanks to this collaboration, the following 6 Design Brief have been designed:

- Brief 1: aimed at defining partition systems solutions for people that share the same working space at home (Working from Home as Normal Scenario)
- Brief 2: aimed at defining solutions for indoor cultivation of vegetables (Back to Hands Scenario);
- Brief 3: aimed at defining solution for socially active teenagers in need of privacy while playing/talking with friends (Collective Entertainment at Home Scenario);
- Brief 4: aimed at defining solution for a modular desk that can adjust to the different needs of each family members and to the activities dedicated to relieve the stress and improve the wellbeing (Personal Wellbeing at Home Scenario);
- Brief 5: aimed at defining solutions for a modular multipurpose storage unit with an added feature of UV sterilization (Keep Virus Outside Home Scenario);
- Brief 6: aimed at defining solutions for a versatile support for space saving in small balconies (Outdoor Space is a must-have Scenario).

Each brief has been defined and described taking into consideration the coherence with the Brand values, market, production technologies and target users.

5 Findings and Discussions

The contribution of design and design research to science, society and culture is different from other disciplines. This inquiring process has provided some vital evidences to make reflections on the notion of design research practices for facing unexpected crisis, as well as the role to guide for a common good.

5.1 Nurturing Visions through Problems and Opportunities Co-Definition

As discussed in the beginning of this paper, designers are working on how things could be instead of how they are done. With the capability to image and give shape of possible futures, their cognitive process is not fully based on evidences. The designer's notion is to critically anticipate possible situations to seek for the reason-why behind evidences and to make sense of why could be the new meanings. The design process is co-evolving problem space and solution space together (Dorst & Cross, 2001).

Design process starts always with the understanding of users' needs. When the situations and the issues are becoming more and more complex, in which there are no specific users but the whole society should be taken into consideration, it is essential for designers and design researchers to create effective methods and tools to collect, interpret, understand and synthesize information and resources rapidly. These activities are aiming at helping the public

and the society to “see” how the society is changing and how they could act accordingly. In this research, there is not a defined problem to solve or a question to answer, oppositely, the very first objective is to understand what is the problem and what questions to ask. All the activities are parts of the journey to shape a way to “observe” the complexity and then to nurture shared visions. Collecting data both directly from the public and from other resources is to build up a dataset which is meaningful for designers to better understand the situation. The difference between designers and many other professionals to deal with the dataset is what they could transform it to. Visible and understandable visions with concrete examples and well-defined features is an effective way to present what the future could be like. On one hand, designers have the responsibility to push the boundary of imagining “what the future could be like” through critically presenting their point of views; on the other hand, a common recognition and acknowledgement is necessary to be shared with the public, decision makers, experts from different backgrounds in order to involve them in collaboration and co-creation. This research process is a co-evolution of defining problems, opportunities and visions.

5.2 Design Scenarios as Open-Platforms to Users, Industries and the Society

One of the most important preliminary research outputs are the seven scenarios explained in the chapter 3.6. They have been used to present the visions on how domestic environments might change to better answer the emerging needs and wants. More importantly, they are essential to act as a “visible” platform for provoking conversations with other actors and triggering co-creation of possible solutions with companies, public sectors and the citizens. Since these scenarios were intentionally designed to remain at a strategic level (not aiming at defining specific projects), the received experience and feedbacks have proved the importance and strategic role in involving different stakeholder in the society in discussing, collaborating, contributing to some common visions and how to implement.

It is very difficult for people to participate in a co-creation action without seeing visible or visualized elements. Designers are good at imagining the possibilities but not everyone is able to do it. When talking about co-creation, especially when the objective to create is less materialized and includes diverse layers, dimensions and elements, it is often that designers overlook the capabilities of other involved actors, whose contributions might be limited by the difficulty of not being able to “see” and to “interact” with it. A design scenario is composed by elements, evidences, information, resources that are created and visualized with a vision at the core. Even though it doesn’t have a tangible shape, but all the ingredients have helped to make it able to perceived. The design scenario is, on the one hand, quite open, since it is not a proposal for project, either a solution to solve problems; on the other hand, it is also very

solid to work on, and different actors are able to perceive opportunities to make their own contributions as well as benefits to them.

5.3 An Initial Strategy to Face Similar Crisis and Social Issues

The experience from this research makes the research team to reflect on the scalability and duplicability of the research methodology and process. The research was born to create a positive contribution to face the unexpected pandemic that are still threatening the whole world. From the preliminary research outputs, it is able to see that the process and the methods have successfully leveraged actors (e.g., the public, industries, businesses) to take part in a conversation towards shared goals and common good. The industries are changing their mind of doing business and integrating the social dimension and common good for the public as part of daily activities. Therefore, when facing “wicked and complex problem”, this design research approach could be used to define problems and opportunities, then to co-create desired visions towards a common good. The research team will continue to test and redefine these methods and tools in similar research projects and on relevant research topics.

References

- Auger, J. (2013). Speculative design: crafting the speculation. *Digital Creativity*, 24(1), 11-35.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: Sage
- Beck, U. (2009). *World at Risk*. Cambridge: Polity Press.
- Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Stanford University Press.
- Boland, R., & Collopy, F. (Eds.). (2004). Managing as designing (pp. 3-18). Stanford, CA: Stanford business books.
- Celi, M., & Rudkin, J. (2016). Drawing food trends: Design potential in shaping food future. *Futures*, 83, 112-121.
- Zurlo, F., Maurer, D., Pei, X. (2020). Home Bridges the World. Promising domestic scenarios in response to the covid crisis. Creative Industries lab, Politecnico di Milano. <http://www.cilab.polimi.it/publications/>
- Cross, N. (1982). Designerly ways of knowing. *Design studies*, 3(4), 221-227.
- Cross, N. (2001). Designerly ways of knowing: Design discipline versus design science. *Design issues*, 17(3), 49-55.
- Cross, N. (2007). From a design science to a design discipline: Understanding designerly ways of knowing and thinking. In *Design research now* (pp.41-54). Birkhäuser Basel.
- Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem-solution. *Design studies*, 22(5), 425-437.
- Ehn, P. (2006). Participation in interaction design: Actors and artifacts in interaction. In S. Bagnara, G. Crampton Smith (eds), *Theories and Practices in Interaction Design* (pp.137-154). Taylor & Francis Group
- Fallman, D. (2008). The interaction design research triangle of design practice, design studies, and design exploration. *Design issues*, 24(3), 4-18.
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of personality and social psychology*, 84(2), 365.
- Fuad-Luke, A. (2013). *Design activism: beautiful strangeness for a sustainable world*. Routledge.
- Fuentes, A. (2017). *The creative spark: How imagination made humans exceptional*. Penguin.
- Godet, M., & Roubelat, F. (1996). Creating the future: the use and misuse of scenarios. *Long range planning*, 29(2), 164-171.
- Klein, G., Moon, B., & Hoffman, R. R. (2006). Making sense of sense-making 1: Alternative perspectives. *IEEE intelligent systems*, 21(4), 70-73.
- Koestler, A. (1975). *The Act of Creation*. London: Picador.
- Kolko, J. (2010). Abductive thinking and sensemaking: The drivers of design synthesis. *Design issues*, 26(1), 15-28.
- Kumar, V. (2004). Innovation planning toolkit. In *Proceedings of the FutureGround Design Research Society International Conference*, Melbourne, Australia.
- Margolin, V. (2007). Design, the future and the human spirit. *Design Issues*, 23(3), 4-15.
- Manzini, E., & Jégou, F. (1999). Design Orienting Scenario: Building Format, internal document. SusHouse project.
- Montuori, A. (2011). Beyond postnormal times: The future of creativity and the creativity of the future. *Futures*, 43(2), 221-227.
- Nowotny, H. (1985). From the future to the extended present: time in social systems. Time preferences in interdisciplinary, theoretical and empirical approaches, 1-21.
- O'Hara, M., & Leicester, G. (2019). *Dancing at the Edge. Competence, Culture and Organization in the 21st Century*. Second edition. Axminster, UK: Triarchy Press.
- Reith, G. (2004). Uncertain times: the notion of 'risk'and the development of modernity. *Time & Society*, 13(2-3), 383-402.
- Sardar, Z. (2010). Welcome to postnormal times. *Futures*, 42(5), 435-444.
- Schein, E. H., & Schein, P. A (2019). *The Corporate Culture Survival Guide*, 3rd ed, Wiley.
- Sedini, C. (2020). *Collectively Designing Social Worlds. History and Potential of Social Innovation*. Milano: FrancoAngeli
- Sill, D. J. (2001). Integrative thinking, synthesis, and creativity in interdisciplinary studies. *The Journal of General Education*, 50(4), 288-311.
- Simon, H. A. (1998). What we know about learning. *Journal of Engineering Education*, 87(4), 343-348.
- Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (eds.) (1998). *Post-traumatic growth: Positive changes in the aftermath of crisis*. Routledge

Acknowledgements

We would like to acknowledge all the colleagues at Cilab, people who have participated in our survey, as well as students from school of design, Politecnico di Milano and POLI.design who have used the design scenarios to develop their projects.

Speculative Citizen Design – Design for Resilience through Low-Threshold and Community-Based Speculative Design

Keywords: Speculative Design, DIY,
Creative Contestation, Resilience,
Citizen Participation.

Aïcha Abbadi^a,
Luisa Hilmer^{b*}

^aMA Design, University of the Arts,
Berlin (2018)

^bMA History of Design,
Royal College of Art, London (2019)

*luisa.hilmer@network.rca.ac.uk

The onset of the Covid-19 pandemic constituted a wicked problem requiring the joint collaborative effort of governments, industries, academia and civil society. Concepts pushing design practice towards design for the common good became accelerated by the crisis. In early 2020, the paper's authors participated in an online hackathon destined to respond to the pandemic. Since digital formats quickly revealed creative limitations, they launched the on-going research project Speculative Citizen Design exploring offline design proposals developed in response to the Covid-19 pandemic. The project aims to collect and evaluate these propositions, as a real-time archive documenting the transitional period. Ranging from projects building on or preserving existing systems to more speculative and contestatory approaches, this paper applies design theories to grassroots proposals and reflects a development to design as a common good moving away from authorial design. Non-commercial projects are especially valuable as contributions, becoming a tool for social innovation.

1 Introduction

1.1 Wicked Problems and Citizen Participation

A starting point for this paper was our attempt to respond to the unfolding pandemic starting March 2020, from a designers' but also a citizen's perspective. The following study focuses on participatory processes and experimental, speculative proposals as contributions to crisis response.

As listed in the *Encyclopedia of World Problems and Human Potential* (Coronavirus disease 2019), the Covid-19 pandemic would soon intensify already existing issues (poverty, unequal distribution of resources) or cause new ones (food shortages, isolation), affecting people globally. It required joint collaborative effort of governments, industries, academia and civil society. The term 'wicked problem' was coined in 1973 by Horst Rittel and Melvin M. Webber (1973, p.155-169) to describe complex, unstructured problems with no apparent right or wrong answers that cannot be solved once and for all, since they are in constant change.

Rittel and Webber describe wicked problems in contrast to 'tame' problems that can be solved through professionalisation. Theorists have devised different approaches in response. Design researcher Nancy Roberts (2001) identifies three strategies:

- Authoritative or 'taming' strategies, with a strong reliance on experts who do not receive outside feedback. This top-down decision-making can lead to impatient, costly responses. They often ignore the complexity of the problem and can be an obstacle to the problem solving process.
- Competitive strategies driven by the pursuit of power, always with the risk of tipping into totalitarian approaches.
- Collaborative, trans-disciplinary strategies focussing on joined forces rather than competing. They can be lengthy and unsatisfactory to goal-oriented participants, yet their open-ended process provides room for experimentation.

A fourth category would be speculative strategies that acknowledge the 'wickedness' and present the problem from a different angle via alternate, near future scenarios (Dunne & Raby, 2014).

All of these strategies can be seen in pandemic design responses. Many proposals built on previous eco-technological innovations, open source and sharing formats. At the intersection of efficiency, sustainability and societal compatibility, they were tested on a larger scale. Nevertheless, some responses resulted in follow-up problems. Competitive strategies, such as open calls for industry solutions, often led to inefficient products manufactured in haste under poor labour condition^[1].

Roberts underlines the importance of open-ended processes for collaborative work in crisis conditions. Revealing parallels to the design process, she emphasizes ample room for experimentation, in order to avoid premature decision-making and costly strategies of public stakeholders. The *UN Sustainable Development Goals* seek to tackle wicked problems, yet they must remain conscious of the 'taming strategies' they employ to reach these goals, as they are all interdependent. In order to create sustainable innovation, designers need to clearly define problems and promote participatory processes and equal participation instead of reproducing inequalities.

Moving beyond over-reliance on experts and competitive models, *Speculative Citizen Design* documents proposals from the public that prototype new forms of social interactions. Alongside established strategies, an open design understanding would look for knowledge emerging from decentralised practices and include them in future crisis responses.

1.2 Design as Crisis Response

The following seeks to examine the contribution of design knowledge in crisis response, using the example of the Covid-19 pandemic. It will outline approaches towards design for the common good that emerge from settings beyond academia and industry. Decentralised grassroots approaches and those at the edges of design as commonly understood, are observed from a theory and practice standpoint, to be integrated into the discipline while expanding its knowledge.

Underlying approaches of designs developed during the pandemic range from those building on or preserving existing systems to more speculative and contestatory ones. Times of exception provide an opening for alternative practices functioning as a rehearsal space for new modes of interaction and co-creation of the common space. Non-commercial projects often support local activities, in-

[1] One example related to the pandemic would be the excessive acquisition of face masks by the German government, which later led to unusable surplus. This example illustrates one of Roberts' criticisms of top-down decision-making when faced with a wicked problem: "If we are truly dealing with wicked problems when no one is "in control," then it is unlikely that the experts and leaders will be able to act unilaterally to define the problems and their solutions. In fact, their insistence in doing so may impede the problem solving process." (Roberts, 2001, p.16).

creasing community engagement. In a more vivid exchange, professionals could take into consideration varied suggestions from the public, rather than proposing solutions based primarily on their own individual assumptions.

Rather than seeing professionals building on anonymous DIY designs with the aim of innovation, designers are now reorienting towards participatory methods of knowledge production. Engagement in a productive dialogue with the public, cooperation and flexibility of outcome are the base for a continuous exchange where collaborative proposals can be tested in real time. Disruption of industry and everyday behaviours due to crisis prevention measures has meant that new formats and processes finally have more space and time to be applied, evaluated and negotiated.

Beyond providing an overview of practices, the paper seeks to uncover methods of exchange between designers and the civil society, contributing to social innovation and design for the common good. Instead of reinventing design, or trying to respond to design's inefficiencies with more design, the paper argues essentially for a reorientation of the spotlight towards already existing autonomous practices.

An exchange between academic, professional and non-academic practitioners would expand the design 'knowledge pool', not into a toolbox with premade 'solutions' but rather into modes of design mindsets and practices that connect academic design theories with concrete, independently developed proposals. This transdisciplinary approach would be a step away from design as on-demand service-work by the 'creative class' such as in government-initiated hackathons, and give them space to act as equal participants in the *Quadruple Helix* (Carayannis & Campbell, 2009).

To this end, we initiated the research project 'Speculative Citizen Design' collecting offline creative proposals that acted as design interventions during the pandemic. Often stemming from non-professionals, these proposals questioned over-reliance on specialists, seeking instead for a more inclusive and direct design practice which actively shaped social interactions. Uninfluenced by academic theories, many of the proposals nevertheless reflected discussions and critique by design theorists and practitioners. *Speculative Citizen Design* represents a move away from authorial design and a new design understanding which becomes a tool for dialogue and social innovation, as a decentralised form of citizen design research.

2 First Response: Design and Citizen Participation

2.1 Hackathons as Method in Response to Wicked Problems

As the global Covid-19 pandemic in early 2020 continued to affect social interactions, media speculations pointed towards two possible responses. Some predicted a return to conservative social structures, while others saw times of crisis as an opportunity for social innovation. Online hackathons enlisted participation from programmers, designers, cultural actors, problem solvers and other socially committed citizens to find early solutions to the pandemic.

They emerged from pro-active grassroots initiatives as well as in the shape of government supported formats. The first state-run hackathon was initiated by Estonia^[2], with further hackathons kicked off by Germany, India, Switzerland, Belgium, Canada, Argentina, Colombia and Brazil. They seized the opportunity to use this period of uncertainty productively and sought to provide an equal opportunity to anyone interested in shaping how the crisis would be approached.

Over the course of the German government's hackathon titled #WirVsVirus, which took place in March 2020 and focused on digital innovation, many proposals were developed as a response to immediate consequences of the pandemic. It provided a framework in which participants could exchange ideas online over the course of two days and develop initial prototypes.

Most proposals were focused on new ways of handling everyday situations and on professional sectors affected by virus prevention measures. They ranged from the immediately affected healthcare services to grocery shopping, mobility, home-schooling and the cultural sector.

2.2 Potentials and Limits of Hackathons as an Approach to Design for the Common Good

We met during the #WirVsVirus online hackathon, after a merging of our initial teams working on similar tasks concerning the cultural realm.

The online-focused formats which were developed, such as information platforms and medical supply distribution tools, were more suited to some fields than others and quickly revealed their limitations. In the creative and cultural sectors especially, digital one-size-fits-all solutions proposed by many hackathon teams were often inadequate as a replacement for artistic contributions and sensory experiences. For cultural workers who provided feedback in the hackathon, digital tools intended as translations for interactions in real life often disappointed the aims of practitioners and

[2] The first European hackathons which sought to tackle the pandemic were initiated by two Estonian companies dedicated to the support of local start-ups: Accelerate Estonia and Garage48, in close cooperation with the Estonian government. (Republic of Estonia, 2020).

expectations of the public. Online platforms often isolate creative propositions within yet another digital tool, while creative contributions develop a greater potential when integrated into daily life.

In addition, initiators promoted the hackathon to be a platform for direct problem solving. They did not consider the digital complexity of the project's infrastructure. The collaborative online platform which was used (Slack) included complex channels, subgroups and chats. These proved overwhelming during the registration process, causing many participants to drop out early. The hackathon's claim to being a low-threshold participation opportunity for all citizens thus proved to be inaccurate. Organisers did not anticipate the advanced skill-level or familiarity with similar platforms needed to participate equally, as intended. This meant that some voices were left excluded, perhaps put off from future participatory models.

Hackathons could be described as projects of 'mass collaboration' and 'user-innovation' that traditionally emerged from independent online communities (Fuad-Luke, 2009).

Government-organised hackathons, such as the one we participated in, cannot be considered to generate user-innovation, even if they are co-organised with digital communities. Their top-down organisation and solutionist bias restrict openness to outcome needed for bottom-up 'user-innovation' and rather conceive of citizens as workers enlisted to provide large-scale solutions.

Participants had different motivations for participation. Some saw it as an opportunity for citizen co-authorship, while others sought to use their role in the hackathon to advance their careers, with the help of volunteers' expertise. Participation was thus unequal, as some expected to profit from free labour of others, veering into hidden exploitation (Costanza-Chock, 2020, p.151-152).

While 'hackathons for good' appear as exemplary models for collaboration, they camouflage lack of diversity and limited actual participation. They appear to be a non-inclusive, highly educated middle class phenomenon, not typically representative of the addressed audience (Costanza-Chock, 2020) and more likely to seek out universal, globalised answers.

Referring to smaller infrastructures and groups of collaborators, design theorist John Thackara investigates the relationship between technology and the agency of design. He urges to design 'with people' rather than 'for people' (2005). The standard approach to design 'for people' could be observed in the great number of Covid-19 hackathons, where designers were quick to scale

'solutions' that did not always correspond to the realities of target groups[3].

Hackathons are positioned as innovative, yet they are primarily a new tool for old systems. Social anthropologist Arturo Escobar argues to move beyond the "One World World (OWW)" and to remain open to different strategies and ways of perceiving the world. Instead of problem-solving, he envisions design as "equipping communities with toolkits for their own transition designs." (Escobar, 2015, p.21).

Developing one solution for all can be limiting, yet there are also experiments with viable (open source) systems that can be implemented as local, individual variants. Nevertheless, hackathon outcomes are rarely as open as stated. Ideas that have a chance for quick implementation are clearly favoured over those targeting systemic change. In the case of the German hackathon, quick successes were promoted, while projects that might be slower to implement but promised lasting change were largely left undiscussed. Hackathons would have to develop towards a different kind of collaboration to become relevant to the common good.

Our observations were the impulse behind the project *Speculative Citizen Design*, where we seek to focus on offline strategies and creative propositions created in response to the pandemic, creating a rehearsal space for design approaches imagining a world yet to come.

From visual strategies for public mass communication and physical distancing architecture to DIY inventions, creative expressions during the Covid-19 pandemic were not restricted to the digital stage. Participatory formats, online and offline, provided an alternative to restrictive panic prevention measures and opened up modes of increased collaboration between cultural actors and government.

Pandemic designs can be categorised into different sets of theories and approaches. One useful categorisation was suggested by design theorist Tony Fry, who outlines four design ontologies (2017): mainliners, political romantics, liberal reformers, insider-outsiders. They can be connected to immediate pandemic design proposals.

[3] As, for instance, in the case of apps to book a time-window for shopping at the local grocery store.

3 Towards Speculative Citizen Design

	Approach	Proposals
Mainliner designers	universal solutions, continuous progress, security design, preserving the status quo	<ul style="list-style-type: none"> - plexiglass shields - physical distancing systems: floor markers, barrier tapes
Political romantics	belief in changing the world with design solutions	<ul style="list-style-type: none"> - care robots - cultural online platforms
Liberal reformers	seeking (short-term) sustainable solutions	<ul style="list-style-type: none"> - inner-city bicycle lanes
Insider-outsiders	contestatory, no claims to universality	<ul style="list-style-type: none"> - schoolchildrens' distancer hats - Chennai Coronavirus police helmets

Table 1: *Pandemic Design categorisation after Tony Fry.*

These categories can be seen as progressing from one another, corresponding to different stages in the pandemic. Design theorist Friedrich von Borries describes 'survival design' and 'security design' as design that aims to preserve the status quo in times of uncertainty (2016, p.51, 57), yet crises have also produced contestatory design in circumstances when mainliner design was inaccessible. According to Borries, optimistic approaches are essential to escape an imagined permanent state of emergency while changing the focus from a deficit towards a potential. Previous crises (e.g. wars and recessions) revealed resourcefulness with DIY products and systems without having to rely on large-scale industrial structures. Crises reveal their emancipatory potential when designers move beyond conservative approaches.

Covid-19 hackathons primarily produced mainliner and liberal reformer designs. Beyond often similar proposals, there were still untapped areas for design during the crisis. Expanding from interfaces and products, a crisis also calls for re-designed structures. However, such proposals rarely emerged via planned formats but from grassroots initiatives. Self-initiated proposals provided more possibilities for 'creative contestation' than designs commissioned 'from above'.

Pandemic designs either take on immediate challenges or revolve around worries and concerns about future developments. Temporary challenges may call for mainliner and reformer solutions but durable concerns may require more speculative and contestatory approaches in order to avoid repeating former, unsuccessful strategies.

While Fry's political romantics may have sparked movements of eco-design, upcycling, circular design, in parallel to social and participatory design practices, they also rely on design to provide solutions. Contestatory practices understand design as a way of

imagining alternatives, instead of improving already existing models. Their main role lies in design as liberation. In times of crisis, creative participation represents a way out of temporary restrictions working with and around imposed limitations. It is more effective when applied outside of the online realm, to re-evaluate systems previously taken for granted and test new modes of interaction.

Contestatory approaches bear resemblance to the 'academic' *Speculative Design* proposed by Anthony Dunne and Fiona Raby in the 1990s. Their practice functions as critical commentary and their design objects are prompts for more discursivity among design professionals and with the public. Fry's inside-outsiders could be considered as its citizen counterpart, which creates ad-hoc mock-ups that reinvent ways of being in the world with DIY proposals.

What we here describe as *Speculative Citizen Design* stands for a design practice where citizens participate in designing cityscapes, beyond being mere recipients. Instead of designing for a separate public, *Speculative Citizen Design* operates directly in the everyday contexts and lives of its practitioners.

The role of the 'citizen designer' does not serve to replace the 'professional designer', but envisions them as co-producers (Manzini, 2015). This would not dilute the design profession, but expand it avoiding many of the issues as encountered in hackathons. Valuing citizen designer proposals and unlikely alliances opens up new approaches where traditional design approaches reach their limits.

As stated above, design responds to crises from multiple angles. Most pandemic designs sought to maintain 'business as usual' or tackled more immediate everyday problems, from a gadget level to more long term proposals. According to John Thackara, cultural rather than technological transformation is the base for social change, stating that designers should "imagine some situation or condition that does not yet exist but describe it in sufficient detail that it appears to be a desirable new version of the real world." [4](2005, p.26)

[4] According to John Thackara, cultural rather than technological transformation is the base for social change.

4 Design for Resilience: Pandemic Designs in the Real World

The pandemic reveals limits of technological, mainliner solutions. With their abrupt interruption of established processes, crises can take on a regulatory function, helping to distinguish between either useful or ill-advised systems. Immediate reception at the mock-up stage opens up a dialogue before wider implementation. Crises serve to negotiate where individual contribution is needed and where a society is willing to be guided by experts (Manzini, 2015)[5].

According to Terry Irwin, a key figure in the development of transition design, sustainable solutions call for a “willingness to collaborate” (Irwin, 2015, p.232). Forming a sustainable society demands collaboration between disciplines, briefing designers developing their ‘visions for transition’. Especially in times of crisis, designers are required to self-reflect and foster projects for the common good. This focus on a common concern and public sharing of information is an opportunity to strengthen social cohesion. Greater transparency of stakeholders provides more possibilities for taking action. It further helps re-evaluate hidden agendas behind expertise branded as politically neutral.

The onset of the pandemic was characterised by increased desire for participation to develop prevention strategies. A cooperative understanding of design positioned designers as accompanying processes of ‘innovation’ and supporting non-experts. Instead of providing top-down solutions, an increased dialogue would enable design that further develops non-designers’ ideas. This approach reframes design as a collective responsibility, rather than a personal responsibility of designers.

We started collecting examples of pandemic designs corresponding to different approaches already established in existing design theories in order to better illustrate them with proposals in the real world[6]. Contestatory, speculative citizen approaches are developed simultaneously to more traditional strategies. These parallel approaches must be considered together in order for the theoretical ‘state of design’ to contribute to the further development of the practice.

[5] Manzini questions what happens to our society/world, if everyone designs and proposes a distinction between diffuse design (performed by everybody) and expert design (performed by those who have been trained as designers).

[6] This undertaking is being translated into the website speculativecitizendesign.info, in its initial stages at the time of writing.

4.1 Technological Proposals

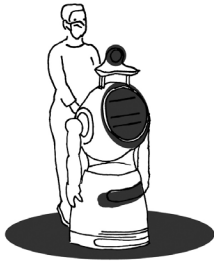


Fig. 1: Care Robot presented by Rwandan government officials in summer 2020.

In order to maintain business as usual, high-tech solutions were tested as well. The travel industry was one of the first to offer them to their customers, such as isolating seat elements for planes. Since high-transit areas are associated with a high risk of infection, dividing panels and staggered seats were among the suggestions. In addition, digital distancing devices were developed, for instance emitting an alarm signal if people came too close (Beeply, 2020).

During the pandemic, the health sector was constantly challenged. In Rwanda, care robots were tested for the care of elderly people in care homes, taking on measurement and communication tasks. At first sight, caretakers were relieved, but this solution ignored the underlying problem: a lack of capacity. While seemingly providing an additional taskforce, robots cannot replace direct human interaction and represent a further devaluation of care professions instead of responding to their grievances.

4.2 Mainliner, Liberal Reformer Approaches

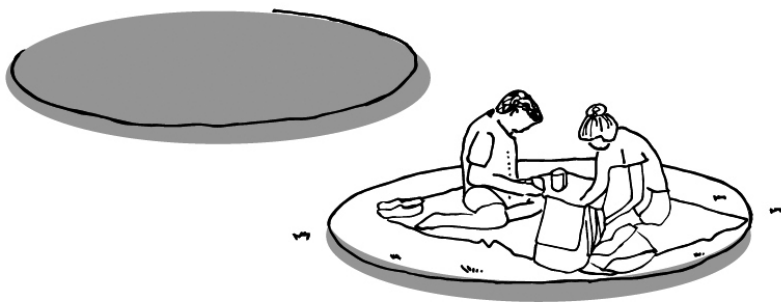
Most design proposals that emerged during the pandemic were concerned with tools for 'social distancing' and physical barriers to prevent contagion. Design studios, research laboratories and tinkerers from the general public presented tools that ranged from complex and labor-intensive mechanisms to simple DIY solutions. Most of them focused on short-term consequences of the pandemic and aimed to produce 'add-ons' to keep the established system running. As such, they were conservative in nature, nonetheless essential in the immediate period of lockdown regulations. Due to a decrease of commutes, cars were used less and public transport was avoided. Cities around the world responded by taking action and experimenting with temporary infrastructure such as pop-up bike lanes or pop-up walkways (Oltermann, 2020), thus strengthening ecological mobility.

Fig. 2: Pop-Up bicycle lane initiated in spring 2020 by ADFC in Hamburg.



An early response to physical distancing guidelines was the installation of DIY guiding systems. They often took the shape of taped lines or squares intended to mark isolating areas. Circular versions organised queues and limited visitor numbers in public parks and festivals[7]. Simple, intuitive and quickly executed, this system facilitated adaptation to the 'new normal'. Distancing circles were a catalyst to rethink modes of interaction, anonymity and exposure and rethink the public space. These have also been adopted as a digital version by security companies visualising areas around warehouse workers on screens and issuing warnings when they overlap; however, they appear to be more concerned with efficiency than public health.

Fig. 3: Chalk circles to designate physical distancing areas in Domino Park in Brooklyn, New York.



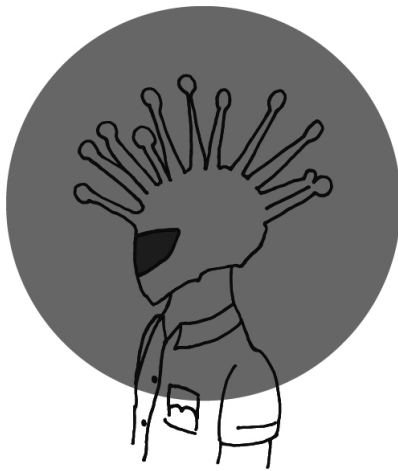
4.3 Speculative and Contestatory Approaches

On the other side of the spectrum of pandemic design proposals lie contestatory approaches, arising from professional practitioners but more often from the general public. As a form of community-based speculative design, they differ from academic critical and speculative approaches, sometimes regarded as elitist and hard to access. Nonetheless, their contestatory potential is on par with academic proposals, interjecting their approaches into the self-preservatory mainstream. Preferring DIY methods, contestatory approaches are initiated as playful proposals. They reveal resourcefulness even when working with limited means, quickly implementing ideas still at mockup level.

[7] These circles became individually inhabited for the duration of the visit and became a free space within a rigid system that was interpreted in various ways by single visitors, couples, families or small groups of friends. A circle could become a picnic spot, a workspace, a reading space, a personal gym, a phone booth or public stage.

Illustrative of such contestatory approaches are the widely mediated Chennai 'Corona helmets' proposed by artist B. Gowtham who collaborated with local police authorities. During public announcements and lockdown controls, police wore the artist's painted papermaché helmets and shields, three-dimensional renderings of the virus. Intended to raise awareness, the helmets proved to be a nonviolent alternative for mass communication during crisis. The artist insists on his intention to intervene in the public perception of authority, rather than producing the helmets merely as an artistic expression (Koushik, 2020, March). Incorporating an unfamiliar element into the uniforms meant that learned, negative perceptions of police authorities were replaced by a blank slate and helped re-negotiate public interactions.

Fig. 4: *Coronavirus helmets and shields by a Chennai artist in cooperation with local police authorities.*

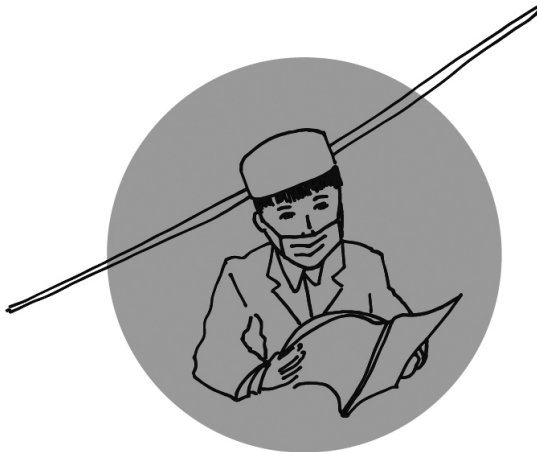


Similarly, since schools mainly remained open throughout the pandemic, teachers sought creative solutions to the social distancing imperative, designed collectively with their students. Originating in Chinese classrooms, students produced cardboard physical distancer hats based on historical depictions of Emperor's hats from the Song Dynasty[8].

[8] The hats were initially intended to keep people in the Emperor's court from whispering and conspiring.

Another contestatory approach was proposed by Romanian cobbler Grigore Lup, who designed artisan physical distancing shoes, as a humorous response to the pandemic. Two people wearing the shoes and facing each other would keep the mandated 1.5 m distance. Presenting and testing his speculative proposal in the real world, it was an instant provocation embedded in the workshop's day-to-day business operations. The distancer shoes provoke debate by their sheer existence becoming a relevant case study for Speculative Citizen Design.

Fig. 5: Distancer hats in a primary school in Southern China.



5 Outlook: Design Knowledge and Wicked Problems

In order to develop design strategies for the common good, it is not sufficient to create platforms which establish designers as professional service providers. Synergies intended by the *Quadruple Helix* are limited by individual interests of stakeholders and may limit the role of designers. Hackathons, with teams of similar design professionals, reproduce mainliner design approaches and are less suited to other modes of designing. They tend to be non-inclusive and neglect grassroots proposals outside of such networks.

Instead of recruiting designers as specialists to tackle acute wicked problems, we propose a durable, decentralised design resource. This resource would contextualise, critically evaluate and generate ideas for future crises and wicked problems, better integrating design knowledge into crisis response. Envisioned as a growing and accessible archive, it would constitute a design knowledge cluster representing a diversity of practitioners, theories and design philosophies leading to novel approaches.

Speculative Citizen Design, instead of positioning design as a top-down system, acts below the disciplines (Yoldas, 2018, p.196). Smaller initiatives can reshape social interactions by providing low-threshold formats for collective experimentation. Disparate strategies may all contribute knowledge towards a design practice for the common good.

According to Papanek, designers need to consider their high social and environmental responsibility (2019). Design for its own sake results in often wasteful products and processes, while a slowed down mode of exchange could include a wider range of considerations prior to their implementation. Drawing from participation of individuals from diverse backgrounds, design becomes a collective learning process. Instead of focusing on successive but unnecessary innovations, *Speculative Citizen Design* is an expression of egalitarian participation and free expression. Discussions of intermediate ideas establish design as a discursive practice instead of a definitive solution. With more people empowered to design, proposals would be more reflective of society at large and not simply of a small group of specialists.

References

- Beeply. (2020). *Social Distance Alert*. Beeply. Retrieved June 29, 2020, from https://www.beeply.nl/?gclid=CjwKCAjw_qb-3BRAVEiwAvwq6Vu0bXrnuqP8hhIGkrSVNYGvxlqMeZwboVkJZK-1pIPtQhrY3FV9_EktRoCNOYQAvD_BwE.
- Brown, W. (2020, May). *Rwanda deploys robots to fight Covid-19*. The Telegraph. Retrieved June 29, 2020, from <https://www.telegraph.co.uk/global-health/science-and-disease/rwanda-deploys-robots-fight-covid-19/>.
- Carayannis, Elias G., & Campbell, D. F. J. (2009). 'Mode 3' and 'Quadruple Helix': Toward a 21st Century Fractal Innovation Ecosystem. *International Journal of Technology Management* 46 (3/4): 201.
- Coronavirus disease 2019 (n.d.). Retrieved December 5, 2020, from <http://encyclopedia.uia.org/en/problem/240440>.
- Costanza-Chock, S. (2020). *Design Sites: Hackerspaces, Fablabs, Hackathons, and DiscoTechs*. In *Design Justice: Community-Led Practices to Build the Worlds We Need*. Cambridge, Massachusetts: The MIT Press.
- Dunne, A., & Raby, F. (2014). *Speculative everything: design, fiction and social dreaming*. Cambridge, Massachusetts: The MIT Press.
- Escobar, A. (2015). Transiciones: a space for research and design for transitions to the pluriverse. *Design Philosophy Papers*, 13:1, 13-23, DOI: 10.1080/14487136.2015.1085690
- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. New Ecologies for the Twenty-First Century. Durham: Duke University Press.
- Fuad-Luke, A. (2009). *Design activism: beautiful strangeness for a sustainable world*. London: Earthscan
- Fry, T. (2017). Design after design. *Design Philosophy Papers*, 15(2): 99-102, DOI: 10.1080/14487136.2017.1392093.
- Hackathon der Bundesregierung [Hackathon of the Federal Government]. Accessed June 28, 2020. <https://www.bundesregierung.de/breg-de/themen/coronavirus/hackathon-der-bundesregierung-1733632>.
- Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture*, 7:2, 229-246, DOI: 10.1080/17547075.2015.1051829
- Koushik, J. (2020, March). *This Chennai cop's Corona Helmet is quite scary, but helps in raising awareness*. The Indian Express. Retrieved June 29, 2020, from <https://indianexpress.com/article/cities/chennai/this-chennai-cops-corona-helmet-is-quite-scary-helps-raising-awareness-6336213/>.
- Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge, Massachusetts: The MIT Press.
- Papanek, V. (2019). *Design For The Real World*, Third edition. London: Thames & Hudson.
- Oltermann, P. (2020, April). *Pop-up bike lanes help with coronavirus physical distancing in Germany*. The Guardian. Retrieved June 29, 2020, from <https://www.theguardian.com/world/2020/apr/13/pop-up-bike-lanes-help-with-coronavirus-social-distancing-in-germany>.
- Republic of Estonia. (2020, April). *An Estonian hackathon transformed into a global movement*. Retrieved June 29, 2020, from <https://vm.ee/en/news/estonian-hackathon-transformed-global-movement>.
- Ricci, G. (2020, May). *Post-lockdown urban policies as an opportunity for radical transformations*. Domus. Retrieved June 29, 2020, from https://www.domusweb.it/en/architecture/gallery/2020/05/14/post-lockdown-urban-policies-an-opportunity-for-radical-transformations-tactical-urbanism-mobility-bicycles.html?utm_term=Autofeed&utm_medium=Social&utm_source=Facebook&fbclid=IwAR11Fy7bpXVrIC9pkWxtUkuioXS0dLzi3PKJgg_dD5phfy_CVnBj_KfjhEQ#Echobox=1590272416.
- Rittel, H.W., & Webber, M.M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences* 4: 155-169.
- Ritschel, C. (2020, June). *Romanian shoemaker makes size 75 shoes for social distancing*. The Independent. Retrieved June 29, 2020, from: <https://www.independent.co.uk/life-style/giant-shoes-social-distancing-size-75-romania-grigore-lup-coronavirus-a9546971.html>
- Roberts, N. (2001). *Wicked Problems and Network Approaches to Resolution*. *International Public Management Review*. 1.
- Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*, 4 (1): 5-18. Retrieved December 5, 2020, from DOI: 10.1080/15710880701875068.
- Thackara, J. (2005). *In the Bubble: Designing for a Complex World*. Cambridge, Massachusetts: MIT Press.
- UN Sustainable Development Goals: Sustainable Development Knowledge Platform. Accessed December 05, 2020. <https://sdgs.un.org/goals>.
- Van Kesteren, A. (2017). *Changemakers*. Rotterdam: Museum Boijmans van Beuningen.
- Von Borries, F. (2016). *Weltentwerfen – Eine politische Designtheorie [To Project the World - Towards a Political Theory of Design]*. Berlin: Suhrkamp.
- Ward, M. (2019). *Thoughts on critics of Critical and Speculative Design at the intersection of critical reflection and pedagogic practice*. *Speculative Edu*. Retrieved May 20, 2020, from <https://speculativeedu.eu/critical-about-critical-and-speculative-design/>.
- Yoldas, P. (2018). *Interview*. In: Sacchetti, Vera (Ed.). (2018). *Design as Learning*. Amsterdam: Valiz.

Figures 1-5: author's own illustrations.

Acknowledgements

Our special thanks are extended to the initiators and community around the German Hackathon #WirVsVirus in March 2020 that was a starting point for our research project 'Speculative Citizen Design' and this paper. Furthermore, we would like to thank design historian Eve Allen for providing feedback and proofreading our paper.

As Strong as the Weakest Link: A Global Blueprint for Sustainable Practice

**Quantum Thinking – Sustainability
in and through Visuality**
Benedetta Crippa

Can Plastic Be 'Green'?
Geoff Isaac

**The Impact of Sustainable Eco-Tourism
by the #Khomani San Community:
An Ethnographic Study**
Celeste McKenzie

**Design as a Catalyst for Sustainability –
An Approach to the Common Good
and the Oceans**
Dilia Nunes, Joana Lessa

Quantum Thinking – Sustainability in and through Visuality

Keywords: Visual Sustainability, Post-Colonialism, Feminism, Sustainability, Norm-Criticality, Social Equity, Environment, Climate Change, Graphic Design, Visual Communication, Design, Visual Culture.

Benedetta Crippa^{a*}

^aStockholm Environment Institute
^{*}info@studiobenedettacrippa.com

Sustainability is an urgent question for the visual field, where the discourse around it remains blurry and often limited to questions of production. Visual work is expected to speak *of*, or do storytelling *about* sustainability, however what kind of contribution that very same form can bring to the table through its *inherent qualities and methods* is something we have yet to articulate a language for. This paper introduces the concept of visual sustainability as a *co-existence-focused* approach to form. Grounded in artistic research, it discusses sustainability as a matter of delicate interdependencies, and visuality as an agent of change in and of itself. The research uncovers the multi-layered impact(s) of visuality through feminist and post-colonial perspectives on form. In advocating for a *quantum* thinking around sustainability (rather than a binary one), it also introduces relevant strategies and methodologies for bringing responsibility as integrated approach to visual practice, with a focus on *structural* changes through the final form.

Sustainability is discussed through an expanded, holistic lens and at multiple scales, acknowledging it requires a diverse co-presence of interventions for structural change. The research encourages to position form as a generator of counter-narratives, by implementing holistic sustainability as primary outcome of visual practice.

Through the past few decades we have learnt to associate the term sustainability to questions of environmental ecology. We think about recycling, pollution, and the climate; but we also find this word in our everyday language. We have all heard the expression “this is not sustainable!”, perhaps when a colleague feels over-worked, or a situation is stretching us. So what does 'sustainable' mean?



Fig. 1: Graph showing a “sustainable” state as a relational matter of time and scale.

Figure 1. By definition, sustainability is about *bearing the weight* of something: to uphold, to carry and to maintain. From this definition we see how sustainability is very much linked with time. Since life is adaptable and resilient, something is unsustainable not necessarily by nature, but according to its duration and scale. It may be ok for a minute, but unsustainable for an hour. It could be ok for a decade, but not for a hundred years. It might be sustainable in certain numbers, but not more than that. Our bodies compensate for most things and situations; and so does our planet. When we must compensate over our capacity, our system gradually crumbles, then eventually arrives to a state of emergency; and if it is forced into this state any further, it shuts down.

It has become clear that our planet cannot really bear us anymore, but we can also not bear ourselves anymore. We face every day the humanitarian crisis that our economic and social structures are causing, both far away from us, and in our own homes. We have built a world based on fast-paced consumption of time and things, on growth and exploitation at the expenses of the other, where our planet is only one of many victims. If we are committed to a future of greater balance, the exploitation needs to end – exploitation of the environment, but also of our fellow humans and our own minds. Here my question as a designer is: how can I possibly contribute to re-establish harmony?

Across the past century, the value of design (and of designers) has been questioned recursively, and positioned across the full spectrum between crucial and irrelevant – still today. When looking at the relation between visual craft and sustainability, it is urgent to establish visibility as central to the way we perceive and understand the world, as well as one another. The visual literacy that we create collectively impacts how we understand the world and the assumptions of value we make about one another, the hierarchies we create between people, traditions, and ideas of quality. Its impact is environmental as much as it is cultural, social and emotional, and it is re-negotiated all the time. “Everyday, someone is killed just for looking like me” (Garbutt, 2020) were the words of designer Schessa Garbutt in response to the events leading to the Black Lives Matter demonstrations in June 2020. The inequity we witness today is also the result of the promotion of visual whiteness as the norm, the standard, and the beautiful, to give one example.

The climate crisis has taught us that it is necessary we learn to address sustainability as a matter of complexity, and remember its *intersectional* nature; meaning that it is composed of many aspects that are naturally interdependent.

However, sustainability is often approached through a *binary* way of thinking: an “on and off” approach. When we think binary, we divide for example ‘people’ from ‘the planet’. For some time, sustainability has been understood as being ‘good for the planet’ for the most part. This has also impacted our relationship with visibility, focusing the discussion on visual production and visual communication on questions of materialization. Within such a framework, a discussion on what kind of contribution visual craft may put forward through its inherent aesthetic qualities and methods cannot find legitimacy for itself.

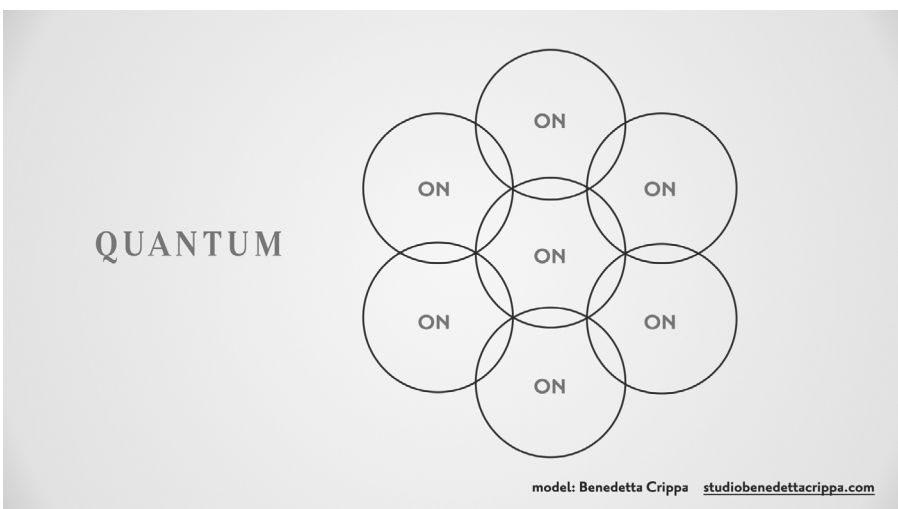


Fig. 2: Graph showing a “quantum” approach to sustainability, in the form of many intersecting circles with the text “on”.

Figure 2. On the contrary, a quantum approach considers many aspects at the same time and acknowledges sustainability as a matter of delicate interconnections. So it looks more like this: Figure 3.

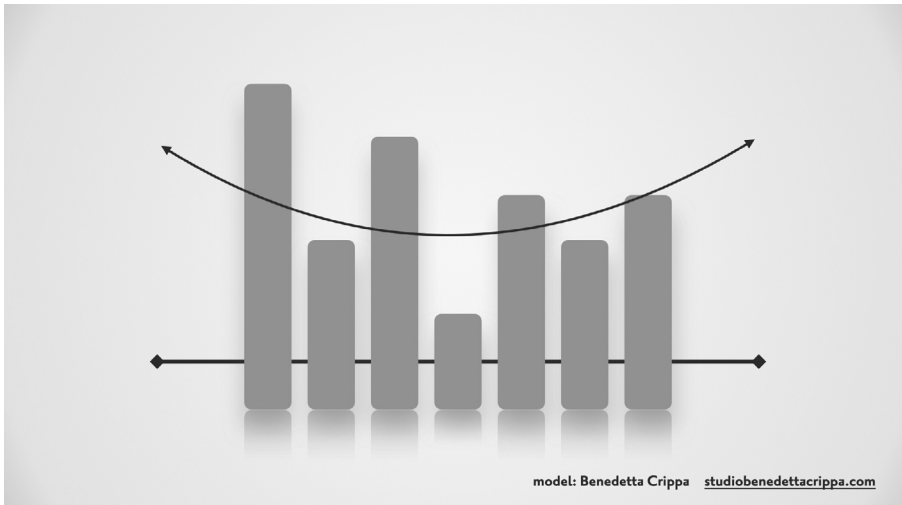


Fig. 3: Chart with bars with different heights, showing the interconnection between them.

Whenever I pull somewhere, I must deal with how everything else will be affected too. I must consider the environmental impact of my work, as well as its social and plural impacts. We can say that designing sustainably is a way of operating that makes coexistence possible, and approaches action *holistically*: a co-existence-focused approach.

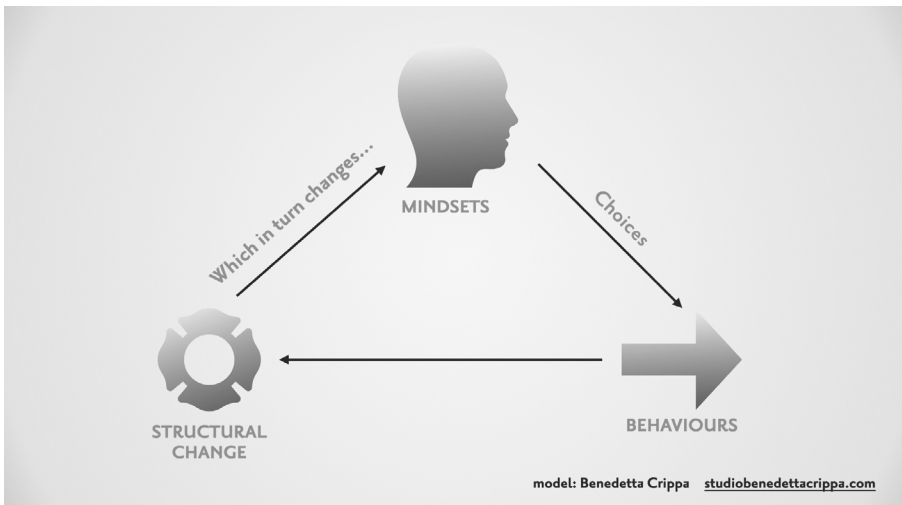


Fig. 4: Diagram showing the relation between changing mindsets, behaviors, and the creation of structural change as a circular system.

Figure 4. For meaningful change to be achieved, we need to go through a few steps. One needs first to change mindsets, which in turn affects choices, which in turn changes behaviors, which in turn brings structural change, which in turn will also change mindsets. It is a circular system. But if we skip changing mindsets, and we skip changing behaviors, what we end up with is only *the illusion of change* Figure 5.

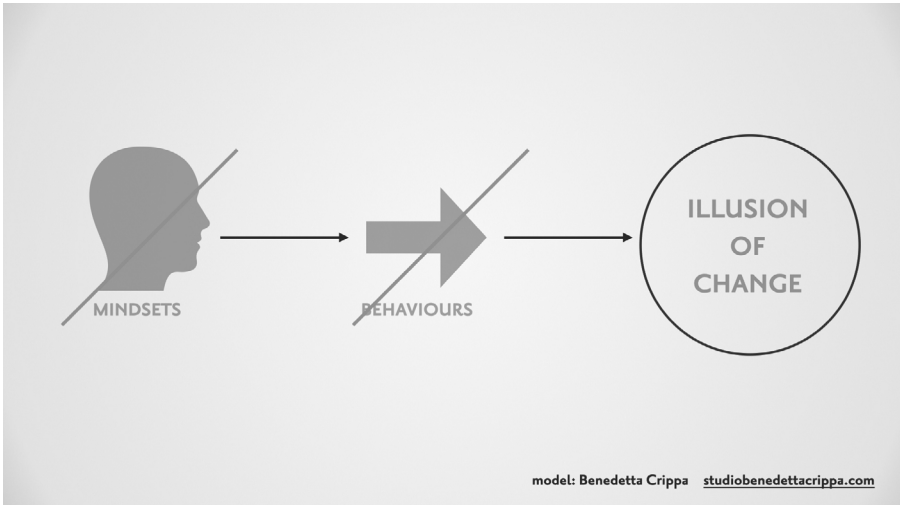


Fig. 5: Diagram showing that not changing mindsets nor behaviors leads to the illusion of change.

3

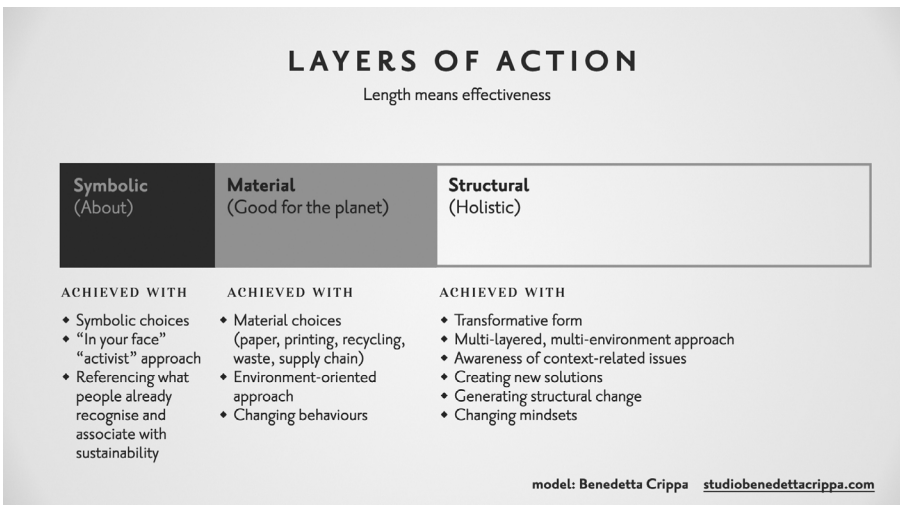


Fig. 6: Diagram showing the layers of action for sustainability through visual work. It distinguishes between the Symbolic, Material and Structural level, with an indication of increasing effectiveness for each.

Figure 6. As visual designers, there are a few layers of action that we can engage with when it comes to sustainability. The first and most obvious one is the symbolic level. At this level, my work speaks “about” sustainability, is meant to make a statement, to increase awareness about it, but does not achieve any structural change. It speaks through what people *already recognize* as connect-

ed with sustainability, like the light bulb made of grass or the poster made from emissions, but it does not go further than that. The second level is the material one. Here I make choices in terms of what is good for the planet. I care about production and material aspects, for example paper and printing. And I can affect behaviors through that, although this might remain invisible to who *experiences* the design. The third layer is the structural one. Here I act holistically. I do not just make a statement, but I take decisions so that each part of the design challenges existing structures, and *makes a counter-proposal*. This includes working with transformative, new form. I have a multi-environment, intersectional approach, and I generate structural change. Of these layers, this last is the most effective one.

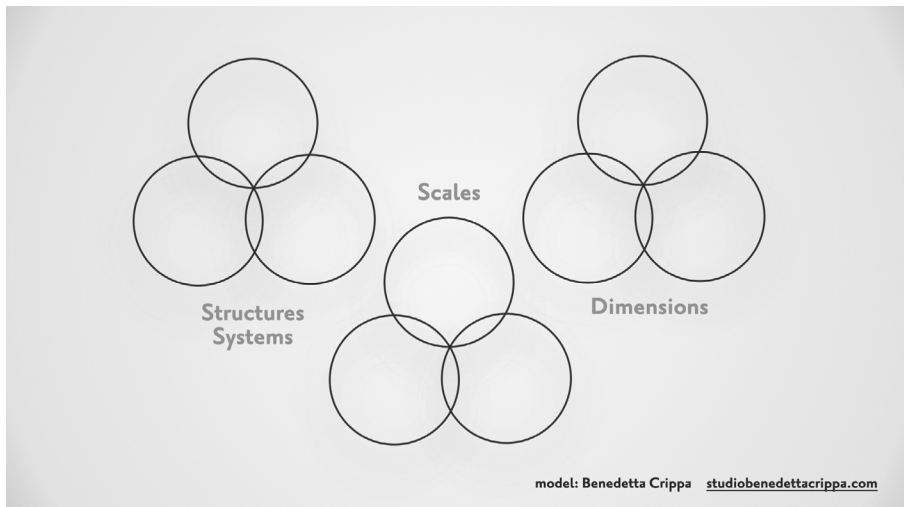


Fig. 7: Diagram showing sustainability as a matter of structures, scales and dimensions.

Figure 7. To achieve structural change, we need to address sustainability as a matter of *structures* (or systems), *dimensions* and *scales*. If we consider for example some of the structures that are foundational to the crisis we are facing today – primarily, capitalism, patriarchy and white supremacy – my question as designer is, how do I address these *through form*? Or to put it differently, how can visibility, at different and many levels, in more or less subtle ways, respond to our concerns?

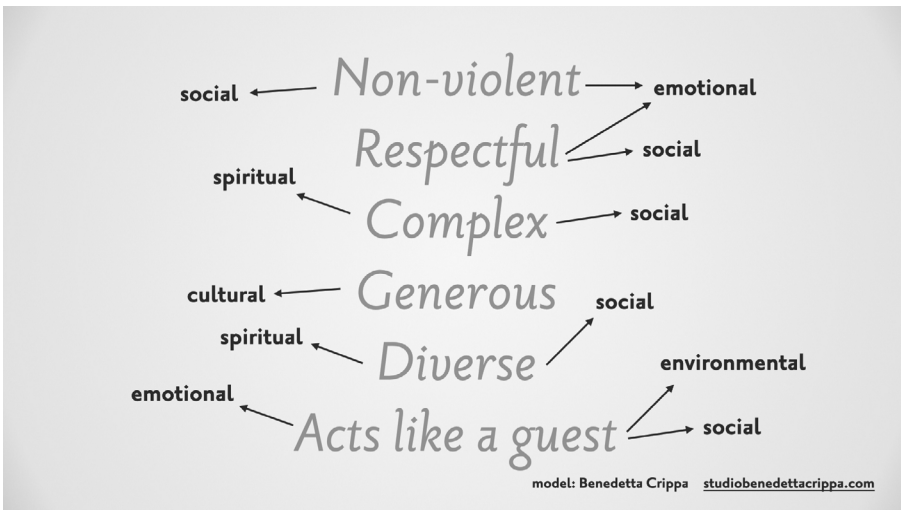


Fig. 8: A manifesto for sustainable visuality as a list of words, with connection to relevant dimensions of sustainability.

Figure 8. To investigate what visual sustainability may “look like”, I have written a manifesto where I asked myself what a relational visuality would look like and what intentions would guide it. The very first point for me is that visuality should be non-violent. Storytelling can be done in two ways, either violently or not – either to establish *dialogue*, or to *persuade*. This also happens to be the most important point in the theory of non-violent communication, that says that if you enter a conversation already knowing what the outcome will be, you are not there to be in dialogue but to persuade. Advertising, for example, always wishes to persuade, infallibly; to colonize and exploit is its very reason for existing. It never looks for dialogue but only for persuasion, that is its goal.

On the contrary, to me graphic design should be about dialogue, about telling a story and relating to who listens as *equal*, as someone worth respect and integrity, including the freedom to walk away. My list includes other characteristics, like being generous, diverse, and complex. And this does not point to one form in particular, it can take many shapes. To discuss with design students how visual sustainability translates in practice, I bring a series of examples that can show them different ways to answer the same question. I do not believe we can or should seek a form or a practitioner that “embodies” sustainability, but rather seek those forms and practices that embody aspects of it.

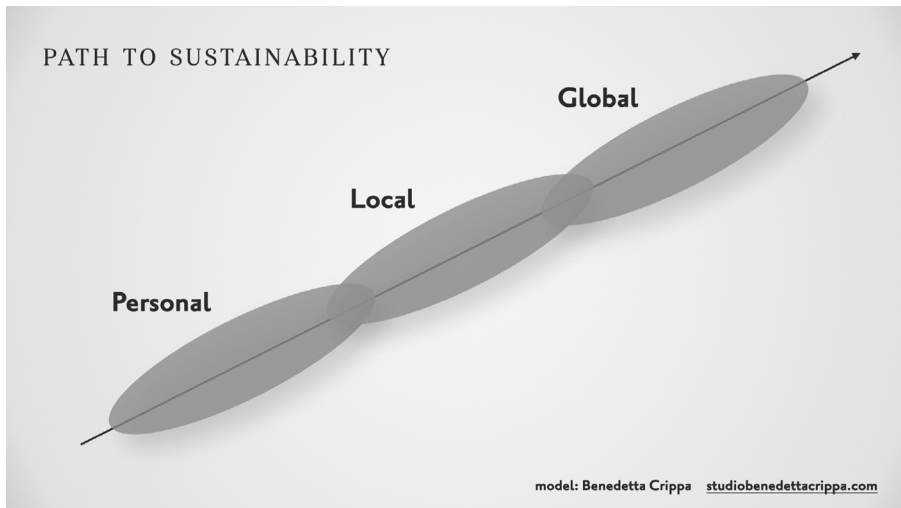


Fig. 9: Graph showing the path to sustainability as a correlation between the personal, the local and the global scales.

Figure 9. To act sustainability, we also need to think about scales – the personal, the local and the global – that are affected by our choices, and how they are connected. The personal is about practices in relation to ourselves, our professions, our families, our colleagues and those closest to us. It is about applying strategies for a sustainable personal life; this can mean to reflect around how we organize our work and how much we work; but also what kind of relations we establish with those who work with us; what kind of rhythm, and culture of urgency we allow in our working lives; and what ethical standards we keep in our daily interactions. How we give space, support, how we credit and compensate others for their work. It can be about how much we pay attention to, and talk about our physical and mental health. And how much we contribute in breaking taboos around self-care.

The local is about our field, and our communities. This includes strategies to build a sustainable field, and sustainable communities as a result of our work. It can mean to approach knowledge as something that is meant to be shared and co-created, to implement an environment of cooperation over competition, of dialogue rather than confrontation, of support and generosity rather than isolation.

The global is about society at large, the environment, and the planet – and soon, *other planets*. It means considering questions of supply chain, of production, of innovation. It can mean to look at cross cultural exchange and dialogue as a necessity, and an opportunity to learn from one another. It ultimately means to consider the impact of our work as far-reaching beyond our control, and to develop strategies to take responsibility for it.

Should not sustainable visuality also be beautiful? I think it is vital that it is. But 'beautiful' is a tricky word, since so much of our understanding of it is attached to taste and varies with time, cultures, and norms. At the same time, it is a word that is increasingly banned from the discourse around visual craft. Architecture writer Lance Hosey (Hosey, 2014) highlights how sustainability has traditionally been put in antithesis to beauty: in the bigger picture of sustainable action, beauty becomes a luxury, an egoistic excess we must learn to drop in favour of 'the greater good'. Any aesthetic consideration that does not directly and measurably contribute to a greener effect tends to be dropped altogether. But I am convinced that if we work to build a world that is sustainable, that world will also be beautiful, made of a full beauty that responds to the many layers in and outside of us. As a designer, I feel this is the kind of beauty I must pursue.

Decades of normative design historiography have built the myth that design is a neutral actor. Thanks to the analysis brought on by feminist and post-colonial design theory, we know today that it is most crucial to dismantle such myth, and acknowledge that no form is neutral. Since every form takes a position and not another, form always makes a proposition, and is therefore political. Then the question becomes, what *is* our proposition – what kind of world do we contribute to, through our form? That is our most urgent question.

References

- AIGA. The Living Principles for Design. Retrieved December 14, 2020, from <https://www.aiga.org/the-living-principles-for-design>
- Bateson, G. (1972). Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology. Chicago: University of Chicago Press.
- Crippa, B. (2020, Spring). A for Anything. Retrieved December 14, 2020, from <https://depatriarchisedesign.com/2020/04/25/a-for-anything/>
- Crippa, B., & Miller, M. (2020, Winter). What Is "Visual Sustainability," and How Can Designers Challenge Power Through Form?. Retrieved December 14, 2020, from <https://eyeondesign.aiga.org/what-is-visual-sustainability-and-how-can-designers-challenge-power-through-form/>
- Dritz, A. (2014). Closing the Sustainability Gap: The Emerging Role of Sustainable Graphic Designer. Minneapolis College of Art and Design.
- Falagara, A. (2014, Summer). Normkritisk formgivning - vad är det? [Norm-critical form: what is that?]. Retrieved 14 December, 2020, from <https://www.adasweden.se/artikel/normkritisk-formgivning-vad-ar-det/>
- Garbutt, S. (2020, Spring). Black Lives Matter is Not a Design Challenge. Retrieved December 14, 2020, from <https://medium.com/design-toast/black-lives-matter-is-not-a-design-challenge-f6e452ff7821>
- Guattari, F. (2000). The Three Ecologies. London: Athlone Press.
- Hemmati, M. (2016). Aesthetics of Sustainability: The Relation of Aesthetics and Environmental Sustainability. Manzar the Scientific Journal of Landscape.
- Hosey, L. (2014, Spring). One Great Idea: Sustaining Beauty with Lance Hosey. Accessed December 14, 2020. <https://www.youtube.com/watch?v=aklhPwVUbSk>
- Hosey, L. (2012). The Shape of Green: Aesthetics, Ecology, and Design. Washington, D.C.: Island Press.
- Lindqvist, S. (1957). Reklamen är livsfarlig [Advertising is Lethal]. Stockholm: Bonniers.
- MacGregor, S. (2017). Routledge Handbook of Gender and Environment. London: Routledge.
- Poynor, R. (2013). The Takeaway Effect. On Print Magazine, February 2013, New York.
- Vinthagen, R., & Zavalía, L. (2014). Normkreativ [Norm-creative]. Stockholm: Premiss Förlag.
- Ober, M. (2017). Is Female to Male as Nature is to Culture? Some thoughts on gender and technology. Retrieved 6 June, 2020, from Depatriarchise Design: <https://depatriarchisedesign.com/2017/10/11/is-female-to-male-as-nature-is-to-culture-some-thoughts-on-gender-and-technology/>
- Resurrección, B.P. (2018, Spring). Gender, climate and power: vibrant ideas for true change. Retrieved 04 November, 2019, from SEI: <https://www.sei.org/perspectives/gender-climate-power-change-ideas/>

Acknowledgements

Thank you to Sara Kaaman, Catherine Anyango Grünewald, Sara Teleman, Brita Lindvall Leitmann, Lisa Baumgarten, Anja Neidhardt, Inna Zrajaeva, Meg Miller, AIGA, AIGA Eye on Design and the Stockholm Environment Institute for their support of the research.

Can Plastic Be 'Green'?

Keywords: Plastic, Bioplastic, Polymer, Recycled Plastic, Sustainable Design, Transition Design, Multi-Level Perspective, MLP.

Geoff Isaac^{a*}

^aUniversity of Technology Sydney

*Geoffrey.Isaac@student.uts.edu.au

Through case studies of plastic chairs, this paper examines if product designers can successfully reduce the environmental impact of their work by embracing recent innovations in plastics. The 21st Century has seen growing interest, from both designers and manufacturers, in experimenting with alternatives to virgin fossil-based plastics, including recyclates and bioplastics. A simplified eco-audit tool has been developed to enable comparison of the environment impact of 32 chairs made from renewable carbon-based ('green') plastics. Preliminary findings suggest that designers experimenting with recycled materials are more likely to succeed in reducing the environmental impact of their work, compared with those working with bioplastics or natural fibres. Hybridisation is identified as a key common strategy among those working with 'green' plastics. This research is of particular interest for designers seeking to reduce our dependence on fossil-based plastics, supporting their central role in the systems-level change required to address the climate emergency.

1 Introduction

In December 2020, the UN Secretary General called on every country to declare a climate emergency, highlighting the importance of sustainability as the ultimate goal that designers can strive toward for the common good. During the past decade, designers have begun experimenting with 'green' plastics in an attempt to develop products with lower environmental impacts[1]. Focusing on case studies of 32 chairs made from renewable carbon-based plastics, an eco-audit tool (ERPR tool) has been developed to evaluate their environmental impacts[2]. Case studies include designs made from recycled plastics (pre-consumer, post-consumer and ocean plastics), natural fibre plastics and bioplastics. Many existing eco-audit tools can only be used if highly detailed information from production activities is made available. ERPR tool has been developed not only to enable a comparison of existing products, but also to assist designers as they work, guiding them toward more sustainable choices. Importantly, ERPR tool was developed using only information commonly available from manufacturers' websites. While the tool has been specifically developed with reference to plastic chairs the methodology is designed to be adaptable for other plastic product categories.

Many products are promoted as 'sustainable' or 'environmentally friendly' but few marketers define these terms or provide evidence to support their claims. Data was collected from manufacturers' websites to enable comparison of 32 'eco-designed' chairs. Few manufacturers provided detailed information about their sustainability commitments at the organisation level. Less information was available at the product level[3]. Without the necessary data to compare these chairs a search was undertaken to locate existing tools that might allow for comparative analysis of the environmental impact of these designs.

The waste hierarchy (fig.1) is a tool developed to evaluate waste management by ranking the environmental impact of processes from most favourable to least favourable (NSW EPA, 2019). This simple tool was adapted to assess the environmental impact of the chairs, a technique which was popular in the 1980s, the early years of green design[4]. In the 1990s, it became fashionable for manu-

[1] "Designers" has been used to all those involved with product design regardless of their professional titles.

[2] The Nova Institute defines renewable carbon as carbon from alternative sources: biomass, direct CO2 utilisation and recycling.

[3] Only 21 websites were included in this review as Emeco and Vondom manufactured multiple products included in this analysis. Studio makers were excluded from this analysis.

[4] (Mackenzie, 1997; Madge, 1997, pp.44–54) The accuracy of the rankings within this hierarchy, when applied specifically to plastic waste, were confirmed by a 2014 review of 222 LCA studies of solid waste management systems which consistently confirmed that recycling and thermal processes (energy recovery) as having a lower environmental impact than landfilling (disposal) (Laurent et al., 2014, p.579).

factures (in many sectors) to start using and identifying recyclable plastics. Plastic chairs were no exception and many designs continue to be promoted as 'recyclable'. This claim makes no guarantee concerning the end-of-life prospects for the chair, rather it indicates recyclability is potential rather than actual.

Waste Hierarchy

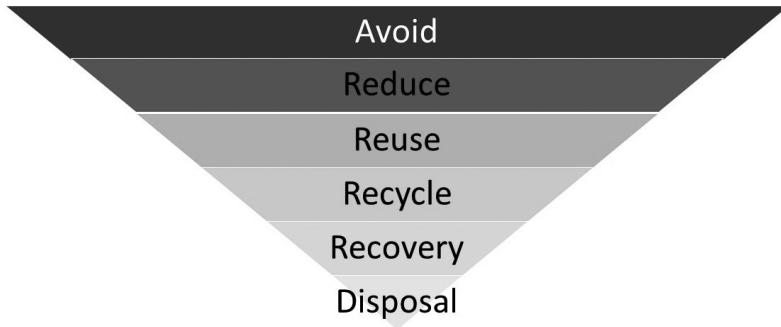
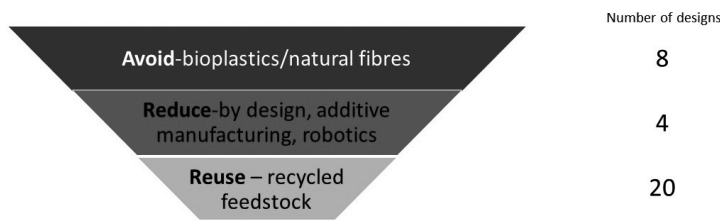


Fig. 1: *The waste hierarchy – Avoiding waste altogether is the preferred option with disposal (usually to landfill) the least preferred option.*

This century (and particularly the last decade), has seen a growing number of innovations aimed higher up the waste hierarchy pyramid, with designs featuring 'green' plastics beginning to appear on the market. The waste hierarchy was modified to reflect these innovations (fig.2). The most significant difference is in the definition of 'avoid'. In the waste hierarchy, 'avoid' is defined as avoiding waste all together by encouraging society to, 'reduce the amount of virgin materials extracted and used' (NSW EPA, 2019). In this adaptation, 'avoid' is redefined as, 'avoiding the use of fossil-based plastics'. While 'reuse' includes all activities aimed at avoiding the use of virgin fossil-based plastics (i.e. using recycled plastics), 'reduce' includes all efforts to minimise the use of resources included in the design or consumed during production.

32 chairs – which are most sustainable?

Fig. 2: Preferred solutions from the top of the waste hierarchy showing the number of chairs in each category.



While the waste hierarchy is useful to guide the selection of materials toward more sustainable outcomes, it is not sufficiently detailed to evaluate and compare designs against all the dimensions of environmental impact or to differentiate between designs within the same category. Ideally, a full life cycle assessment (LCA) of each chair would provide the detailed data required to complete such an analysis but that level of detail is not available^[5]. Thomas Graedel developed a streamlined LCA, requiring users to enter key data for a project into a matrix summarising the five main life cycle phases (Graedel, 1998). In addition to material selection, the manufacturing process, transportation, use and disposal were identified as the key life cycle stages. For each stage five key environmental impacts were identified (material resources, energy use, global warming, human health, biosphere). Scores were awarded on a scale of one (highest impact) to four (lowest impact). The overall Environmentally Responsible Product Rating (ERPR) was then derived as the sum of the scores. While simpler than the full LCA, this model still requires highly detailed data, relies on experienced practitioners and can only be completed after a product has entered production (Ashby, 2012, p.64).

2 Simplified Eco-Audit Tool

Inspired by this approach, I sought to develop a simplified tool to enable comparisons between designs within the same product category but restricted to information that is publically available (ERPR tool). Importantly, the designer can be expected to have some degree of agency across all the dimensions selected for inclusion in the ERPR tool. Michael Ashby, a metallurgical engineer, suggests the first step in understanding a product's environmental impact is to consider the total life-energy demands of a product and apportion it across the life cycle of a product (Ashby, 2012, p. 67). For a plastic chair the energy requirements to manufacture

[5] None of the 21 websites reviewed in October 2020 published LCA results for any of their products.

the plastic will dominate the impact (fig.3):

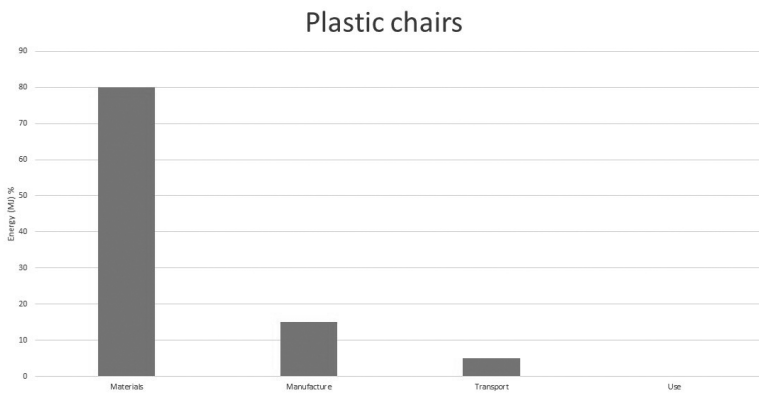
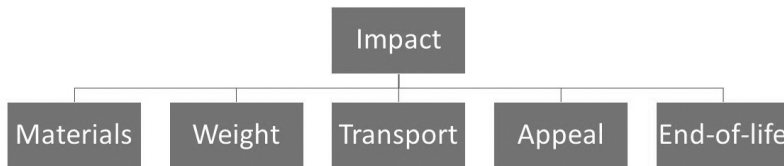


Fig. 3: Estimated lifetime energy demands of a plastic chair. Note: Energy consumption is used as a proxy for CO2 emissions as recommended by Ashby. The disposal phase is not shown as the final destination of a chair is unknown.

Selecting plastics with lower embodied energies and minimising the amount of material being used are the best approaches to reduce environmental impact[6]. Designing chairs that are made to last delivers further benefits, as no significant energy demands are generated while using the product and end-of-life (disposal) is delayed. How efficiently products are transported is also a consideration. In a departure from traditional eco-audit approaches, the ERPR tool also attempts to evaluate the appeal of a design (fig.4).

Fig. 4: Proposed ERPR tool for plastic chairs. Note: Use phase has been excluded from this analysis as care, maintenance and associated energy consumption are negligible for plastic chairs.



[6] Recycled polymers contain between about 35% and 65% less embodied energy than their virgin equivalents, depending on the type of plastic (Ashby, 2012, pp.490–525).

The results for one design, Summa (2019), which achieved an ERPR of 18/20 (compared with an average rating of 10 points), are used to illustrate how the ERPR tool might be applied. The Summa range consists of two chairs (Sissi and Diana) designed by Brazilian manufacturer/retailer Tramontina, working in partnership with the petrochemical company, Braskem. The modest looking range was introduced to demonstrate the potential of a new range of post-consumer recycled polypropylene developed for injection-moulding applications by Braskem.

2.1 Materials

Material	Score
90%+ single material (recycled or organic)	4
90%+ recycled materials (mixed e.g. legs different material)	3
75%+ recycled materials mixed together	2
>50%<75% recycled materials mixed together OR legs not made from recycled material	1
<50% recycled or organic content	0

Table 1: *Material score definitions.*

The Summa chairs are monobloc designs, made from a single recycled material that is also recyclable, achieving a top score of four points for the range. Monoblocs offer the advantage that they eliminate the need to join elements and avoid use of screws, adhesives, and welding, thereby simplifying the manufacturing process and minimising requirements for manual labour. Ideally, this analysis would include consideration of where and how both the product and material were manufactured. Without knowing the precise content and source of energy for every component (often supplied by third parties) it is not possible to accurately assess the manufacturing impacts generated during the production of a chair. Similarly, production processes have not been compared as details of the precise amount of resources consumed during manufacture, and the relative efficiency of processes are unknown. Products within the same category and produced using the same process(es) are assumed to generate similar impacts.

2.2 Weight

Weight provides an indication of the embodied energy contained within the product and also directly effects the energy consumed during transportation. The chairs were grouped into quintiles. With both chairs in the range weighing in at just 2.8kg, the Summa was awarded a top score in this category.

Weight (Kg)	Score
<3	4
3-4.99	3
5 - 6.99	2
7 - 9.99	1
10+	0

Table 2: *Weight score definitions.*

2.3 Transport

The efficiency with which chairs can be transported for distribution is a function of their volume and weight. A designer is unlikely to be in a position to influence the distribution logistics undertaken by a manufacturer, however, they can develop products that can be shipped efficiently. Designing chairs that can be stacked during transportation reduces their volume and minimises the need for packaging. Monoblocs score well for this attribute, and the Summa was no exception, achieving four points, as it can be stacked eight high.

Transportation efficiency	Score
Stacks 8+	4
Stacks 4 - 7	3
Stacks 2 - 3	2
Legs and shell separate for shipping	1
Shipped in carton containing 1 or 2	0

Table 3: *Transport score definitions*
(Note: Most manufacturers state their use of recyclable/renewable material for packaging so this is assumed to have become the standard and has not been included in the analysis).

2.4 Appeal

Price	Colours	Configurations	Score
<\$200	9+	5+	4
\$200-\$399	7 - 8	4	3
\$400-\$599	4 - 6	3	2
\$600-\$999	2 - 3	2	1
\$1,000+	1	1	0

Table 4: *Appeal score definitions.*
Note: Local retail prices (based on place of manufacture) converted to AUD as at September 2020.

Aesthetics are crucial to both sales and sustainability. Existing eco-audit tools do not attempt to quantify the appeal of a product and include this in an assessment environmental impacts. This ignores the fact that for many sustainable products to effectively reduce environmental impacts they must displace sales of existing (less sustainable) products. If an environmentally friendly product fails to appeal to the market it will, most likely, be substituted with a less sustainable product. In the case of a chair, once the need for a chair has been identified that need will be satisfied by making a purchase. If environmentally friendly designs are deemed unappealing, by a prospective purchaser, a more traditional solution will be sought. Purchasers therefore hold the most power in determining the ultimate success of any design and, by extension, the environmental impact. To achieve the best chance of success a design must appeal to a wide cross-section of potential purchasers.

Despite the difficulty in quantifying the aesthetic appeal of any product, an attempt has been made to consider this criteria. Three (easily measurable and widely available) dimensions were identified as crucial to creating broad appeal for of a chair; price, variety of colours and the number of configurations available. (By offering a variety of bases or by adding arms, a design can be adapted for the corporate, residential and contract market segments, hence broadening the market for potential sales). Increasing colour choice will broaden the appeal of a design and is likely to result in increased sales^[7]. Many other factors might influence the aesthetic appeal of any design (e.g. texture) but objective comparative data is unavailable for many of these attributes. The appeal score has been derived simply by calculating the arithmetic mean of the three scores achieved for each dimension as shown in the table above. A perfect score of four points indicates a design offered at a comparatively low price (<AU\$200), available with a wide choice of colours (9+) and in a variety of configurations (5+). This was the only category where the Summa range failed to achieve a top score; although inexpensive it is only available in two colours and two configurations, earning two points. The Summa was not alone in failing to achieve a high score in this category. In fact, only three designs achieved a score of three points and no designs were awarded a top score for appeal. Delivering an inexpensive chair, with good sustainability credentials, in a wide choice of colours and with a range of interchangeable bases and shells, remains an elusive goal for designers working in this field.

[7] Conversely, limiting the colour choice delivers greater economies of scale (and associated environmental benefits), as moulding machines can potentially be run more efficiently with reduced needs for colour changes.

2.5 End-of-Life Prospects

Most chairs are designed to survive years of use, therefore, consideration of end-of-life prospects might seem irrelevant. Furniture does, however, get discarded due to changing tastes or needs or as a result of damage. While some manufacturers acknowledge their producer responsibilities and offer take-back schemes, the economic and environmental costs of transporting unwanted furniture back to the manufacturer, are likely to be prohibitive for many customers. Chairs made from natural fibres or bioplastics performed badly against this criteria as most organic-based materials will only compost when processed at an industrial composting facility, which remain rare. Made from recycled polypropylene the Summa range can easily be recycled again, achieving a top score. The actual end-of-life destination of a plastic chair will, of course, primarily depend on the location of the end-user and their commitment to appropriate disposal.

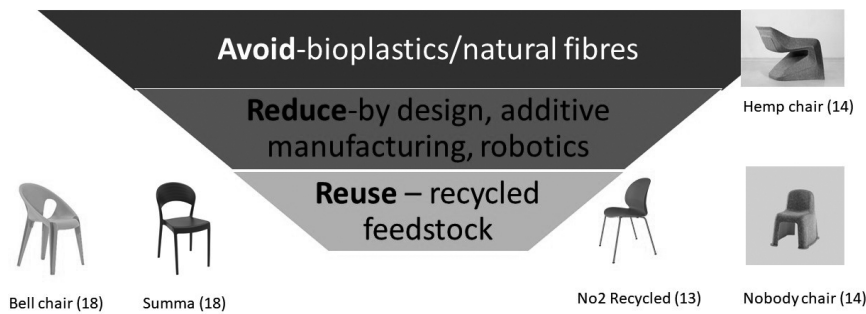
End-of-life prospects	Score
Fully recyclable (using existing infrastructure)	4
Fully recyclable (requires disassembly)	3
Recyclable/compostable (requires specialist facilities)	2
Recyclable through EPR scheme (or equivalent)	1
OR partially recyclable (e.g. legs)	
Not recyclable OR insufficient information available	0

Table 5: *End-of-life prospects score definitions.*

3 Results

Applying this methodology to all 32 chairs resulted in five designs achieving ERPRs of 13 or higher. Only one of the chairs made from bioplastics or natural fibres achieved a high score (Hemp chair, ERPR 14). While the waste hierarch analysis suggests that avoiding the use of fossil-based plastics is the best way to achieve better environmental outcomes this analysis resulted in four designs made from recycled plastics being ranked among the top five performers (Figure 5).

Designs with the highest ERPRs



Flax and hemp chairs generally failed to achieve high scores, as they were not monoblocs and not designed to stack, increasing their transport footprint. Additionally, the natural fibre designs were usually offered with only one colour choice, in a single configuration, and at a relatively high price. Surprisingly, the bioplastic chairs failed to achieve high scores for a variety of reasons, with low scores typically awarded across the weight, transport and appeal dimensions.

4 Transition

Global increases in population will contribute to increasing demand for virgin polymers, forecast to quadruple from 2014 to 2050 (Ellen McArthur Foundation, 2017, p.18). By that time, the amount of plastic in the ocean will outweigh all the fish (Ellen McArthur Foundation, 2017, p.12). Plastic production accounts for 4% of greenhouse gas emissions today and is expected to account for 10-13% of the remaining carbon budget by 2050, making it virtually impossible to reach global emissions reduction targets, a disaster for the common good (Center for International Environmental Law, 2019a, p.11). These facts led a spokesperson from the *Center for International Environmental Law* to declare, "At the top level, dealing with the climate crisis requires dealing with the plastics crisis" (Storror, 2020). We must reduce our dependence on fossil-fuels and their bi-products, including plastics. Fundamental change in the chemical industry is necessary for chemicals and plastics to become sustainable.

Designers, and others with agency in the design process, have a responsibility to drive demand for more sustainable alternatives. This analysis suggests that a possible pathway toward this goal is already being developed; with some designers already progressing from making chairs from plastic with the potential to be recycled to using recycled plastics. Despite claims to the contrary, nearly all recycling activities result in some level of down-cycling, as the chemical bonds forming polymers are weakened during the

process (Yin et al., 2015). Virgin material must be added to recyclates to maintain the mechanical properties of the material (and yet more virgin material will be demanded as the global population grows). Further, the quality of recyclates is often compromised by the challenges of accurately sorting plastics by type and by the fillers and additives used to enhance their mechanical performance (OECD, 2018, p.32). Therefore, a closed loop circular economy is not technically achievable with plastics.

Many of the pioneering designers that have attempted to jump ahead on the path toward sustainability, by experiment with activities further up the waste hierarchy (avoid - by using bioplastics), have often not delivered designs with significantly improved environmental performance. It would be a mistake to dismiss these experiments as failures. The transition management literature places significant emphasis on the role of 'guiding visions' (Smith et al., 2005, p.1502). Visions about future system innovations identify plausible future alternatives and map the path toward achieving them, highlighting the technical, institutional and behavioural problems that need to be resolved. Recycling alone cannot solve our plastic crisis. The experimental work by these designers will be invaluable in guiding the transition path toward more sustainable alternatives to fossil-plastics. As Adrian Smith and his colleagues observed:

"The art of governing transitions becomes one of recognising which context for transformation prevails, and which drivers offer the best leverage for guiding change in a desirable direction." (Smith et al., 2005, p.1498)

The multi-level perspective (MLP) was developed by Arie Rip and René Kemp and refined by Frank Geels and Johan Schot as a model to understand the diffusion of technology (Kemp & Rip, 1988; Schot & Geels, 2007). I am currently evaluating MLP as a predictive tool to assist those interested in driving the take of 'green' plastics by recognising and creating market conditions that favour their acceptance. The model recognises that technological transitions do not result from technological innovations alone but require changes in, 'user practices, regulations, industrial networks, infrastructure, and symbolic meaning or culture' (Frank W. Geels, 2002, p.1257).

The key strategy of MLP is to encourage and protect 'niche incubation,' to generate novelty by encouraging new initiatives and techniques (Kossoff et al., 2015). Successful experiments are replicated or adapted for additional market segments (F. W. Geels, 2005, p.691). A growing network of actors develop skills to collectively direct activities to the enhancement of the new technology, which gradually improves (F. W. Geels, 2005, p.685). Change then depends on a coalition of actors working together to adapt the incumbent regime or create alternatives (Smith, 2007, p.447; Smith

et al., 2005, p.1508). First a clear vision is needed to direct change and the designers include in this analysis are contributing toward that vision.

The model recognises that technological transitions do not result from technological innovations alone but require changes in, "user practices, regulations, industrial networks, infrastructure, and symbolic meaning or culture" (Frank W. Geels, 2002, p.1257). MLP consists of a nested hierarchy of three concepts; landscape (macro-level), socio-technical regime (meso-level) and niches (microlevel) level. The landscape level refers to the external socio-economic environment, which is beyond the influence of individual actors. Globalisation, climate change, population growth, changes in lifestyle, environmental concerns and global pandemics can exert pressure on the current regime. Landscapes do change over time, but change is slow. Individual actors cannot affect change at the landscape level in the short-term. Entrenched systems are slow to react and, in fact, exert top down pressure on the middle regime level to maintain the status quo (F. Geels, 2007, p.406). Landscapes can shift dramatically, for example, the introduction of a carbon tax or regulations to limit the use of virgin-fossil-based plastics would directly impact the prospects for renewable carbon-based plastics^[8]. These shifts can create opportunities for niche innovations as they destabilise and pressure the regime to search for alternatives.

The MLP model provides a framework to consider the barriers and enablers confronting designers and manufactures as they explore niche alternatives to fossil-plastics. To date, I have interviewed over 20 designers and manufactures involved with producing chairs with these new materials. I am currently analysing their feedback with the aim of empowering the design community by encouraging niche incubation, sharing the skills and expertise developed through the pioneering work of these participants.

I am exploring hybridisation as one of the specific mechanisms by which niche innovation with bioplastics could achieve breakthrough to displace the existing regime. Using this strategy enables old and new technologies can co-exist, avoiding head on competition by developing a symbiotic relationship. There are historic examples to demonstrate this; steam engines were added to sailing ships and used when winds failed (speeding up transport) (Frank W. Geels, 2002, p.1268). Gas turbines were introduced as an auxiliary device to improve the performance of steam turbines in power stations before gradually becoming the main component in combined cycle stations (reducing energy costs) (Frank W. Geels, 2002, p.1272). Similarly, hybridisation was the most common strategy used to incorporate recyclates into designs and is emerging as a common

[8] For example, the 'Single-Use Plastics Directive' puts in place more responsibility for plastic producers and new recycling targets for EU member States.

strategy to promote the adoption of bioplastics. Recycled plastic is often hybridised with virgin material and/or glass fibre to improve mechanical properties. The Kuskoa Bi (designed by Ander Lizaso) features a bioplastic shell attached to a solid, sustainably sourced, oak base. Although marketed as the world's first bioplastic chair (Howarth, 2015) the bioplastic shell is in fact hybridised with fossil-based plastic. Hybridisation of bioplastics does significantly diminish their end-of life prospects but, for long lasting products like, the benefit of reducing demand for fossil fuels in the short term needs to be highlighted.

In contrast to the sailing and energy examples, hybridising plastics typically offers no direct consumer benefit, which could present a challenge to the potential success of this mechanism for breakthrough. Hybridising bioplastics in particular is appealing to manufactures as it minimizes the adjustments (and associated investment) required to alter existing production facilities. Chairs made from 'green' plastics are often only available in a limited range of (often muted) colours, potentially limiting their appeal. At least one design has used hybridisation to tackle this barrier. DesignByThem sourced a material consisting of a recycled HDPE core with an outer skin of virgin material to make their Butter chair and stool (Figure 6). As both the core and the outer skin are made from HDPE end-of-life prospects remain unchanged, while the designs can be offered in a wide variety of vibrant colours, delivering a hybridised product with a real consumer benefit.

Fig. 6: *Butter seat designed by Nicholas Karlovasitis & Sarah Gibson for DesignByThem (2011).*



5 Conclusion

Transitioning from our dependence on fossil fuels is crucial in efforts to combat climate change. While plastics only consume about 6% of oil production, the environmental problems created by its inappropriate use and disposal place plastics at the centre of the environmental emergency (Center for International Environmental Law, 2019b; Ellen McArthur Foundation, 2017, p.12). Designers can, and already are, pioneering the use of 'green' plastic alternatives with mixed results. Hybridisation is emerging as a key mechanism by which the transition from virgin plastics can occur. Manufactures are likely to be supportive of this strategy as it minimises the investment required to modify or replace equipment and retrain staff. The challenge to designers is to ensure these benefits are not restricted to manufactures and are extended to consumers. In particular designers might investigate the potential for hybridisation to help overcome limits to the aesthetic appeal of 'green' plastics.

Hybridisation is not a perfect solution as it does not completely eliminate demand for virgin materials and often impacts the end-of-life prospects of a product. Some designers, particularly those wishing to work with bioplastics, are often understandably resistant to it. Lizaso explained his pragmatism in adopting the strategy:

"When we started looking for alternatives, we knew that we wouldn't arrive to a perfect [environmental] solution... otherwise everyone would be doing it. We knew that there would be some compromises and perfection was not [achievable]." (A. Lizaso, personal communication, October 26, 2019).

Weening society off fossil-based plastics will require a multi-pronged strategy involving many actors and many compromises. Increasing the supply of recycled materials is a priority, especially now China (and other Asian countries) have stopped processing everyone else's plastic waste. Designers, together with other actors involved with material specification, can and should play a crucial role in driving demand for renewable carbon-based plastics, helping to educate both manufacturers and the public to give preference to or insist on 'green' plastics.

References

- Ashby, M. F. (2012). *Materials and the Environment: Eco-Informed Material Choice*. Elsevier Science & Technology. <http://ebookcentral.proquest.com/lib/uts/detail.action?docID=900127>
- Center for International Environmental Law. (2019a, May). Plastic and climate—The hidden costs of a plastic planet. *Center for International Environmental Law*. <https://www.ciel.org/news/plastic-and-climate/>
- Center for International Environmental Law. (2019b). *Oil, Gas and the Climate: An Analysis of Oil and Gas Industry Plans for Expansion and Compatibility with Global Emission Limits*. <https://www.ciel.org/reports/oil-gas-and-climate-an-analysis-of-oil-and-gas-industry-plans-for-expansion-and-compatibility-with-global-emission-limits/>
- Ellen McArthur Foundation. (2017). *New Plastics Economy—The Future Of Plastics*. New Plastics Economy (En-GB). <https://www.newplasticseconomy.org/>
- Geels, F. (2007). Typology of sociotechnical transition pathways. *Research Policy*, 36(3), 399–417. <https://doi.org/10.1016/j.respol.2007.01.003>
- Geels, F. W. (2005). Processes and patterns in transitions and system innovations: Refining the co-evolutionary multi-level perspective. *Technological Forecasting and Social Change*, 72(6), 681–696. <https://doi.org/10.1016/j.techfore.2004.08.014>
- Geels, Frank W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, 31(8), 1257–1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)
- Graedel, T. E. (1998). *Streamlined life-cycle assessment*. Prentice Hall.
- Howarth, D. (2015, January 19). *Jean Louis Irtatzoki designs "first bioplastic chair."* Dezeen. <https://www.dezeen.com/2015/01/19/jean-louis-iratzoki-first-bioplastic-chair-alki-polymer/>
- Kemp, R., & Rip, A. (1988). *Technological change*. In *Technological Change, in Human Choice and Climate Change* (pp.327–399). Battelle Press. https://www.researchgate.net/profile/Rene_Kemp
- Kossoff, G., Tonkinwise, C., & Irwin, T. (2015). *Transition Design: The Importance of Everyday Life and Lifestyles as a Leverage Point for Sustainability Transitions*. 25.
- Laurent, A., Bakas, I., Clavreul, J., Bernstad, A., Niero, M., Gentil, E., Hauschild, M. Z., & Christensen, T. H. (2014). Review of LCA studies of solid waste management systems – Part I: Lessons learned and perspectives. *Waste Management*, 34(3), 573–588. <https://doi.org/10.1016/j.wasman.2013.10.045>
- Lizaso, A. (2019, October 26). *Interview by Geoff Isaac* [Personal communication].
- Mackenzie, D. (1997). *Green design: Design for the environment* (2nd ed). L. King.
- Madge, P. (1997). Ecological design: A new critique. *Design Issues*, 13(2), 44–54.
- NSW EPA. (2019). *The Waste Hierarchy*. NSW Environment Protection Authority. <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>
- OECD. (2018). *Improving Markets for Recycled Plastics: Trends, Prospects and Policy Responses* [Text]. http://www.oecd.ilibrary.org/environment/improving-markets-for-recycled-plastics_9789264301016-en
- Schot, J., & Geels, F. W. (2007). Niches in evolutionary theories of technical change. *Journal of Evolutionary Economics*, 17(5), 605–622. <https://doi.org/10.1007/s00191-007-0057-5>
- Smith, A. (2007). Translating Sustainabilities between Green Niches and Socio-Technical Regimes. *Technology Analysis & Strategic Management*, 19(4), 427–450. <https://doi.org/10.1080/09537320701403334>
- Smith, A., Stirling, A., & Berkhout, F. (2005). The governance of sustainable socio-technical transitions. *Research Policy*, 34(10), 1491–1510. <https://doi.org/10.1016/j.respol.2005.07.005>
- Storrow, B. (2020, January 24). *Plastics Plants Are Poised to Be the Next Big Carbon Superpolluters*. Scientific American. <https://www.scientificamerican.com/article/plastics-plants-are-poised-to-be-the-next-big-carbon-superpolluters/>
- Yin, S., Tuladhar, R., Shi, F., Shanks, R. A., Combe, M., & Collister, T. (2015). Mechanical reprocessing of polyolefin waste: A review. *Polymer Engineering & Science*, 55(12), 2899–2909. <https://doi.org/10.1002/pen.24182>

Acknowledgements

Thanks to Dr Stefan Lie for his contribution to developing the ERPR tool.

The Impact of Sustainable Eco-Tourism by the #Khomani San Community: An Ethnographic Study

Keywords: Community, Sustainability, Design, Visual narrative, Photography.

Celeste McKenzie^{a*}

^a*The Independent
Institute of Education (IIE)*
^{*}cmckenzie@vegaschool.com

The #Khomani San is the last surviving indigenous San community in South Africa and is under threat. Eco-tourism involves community involvement and partnerships to create a working and profitable relationship that can have both a positive and negative effect on the community. The purpose of this paper is firstly to theoretically explore the relationship between eco-tourism and sustainability. Secondly, this study reports on the ethnographic approaches used as foundation for the creative practices of design and photography. To create awareness through the creation of books, online presence, videos and exhibitions through the storytelling and traditions of this specific community. Through the processes of design and photography actively play a role in the contribution to ecotourism, to the benefit of the community and the common good^{[1][2]}.

[1] 'Bushman' in the Southern Kalahari they preferred to be called Bushman as in other regions that is not preferred and seen as derogatory. (Mr A. Steenkmap, 2016, Community Leader, personal interview 20 March)

[2] #Khomani San described as a group of Southern Kalahari Bushmen. (Mr A. Steenkmap, 2016, Community Leader, personal interview 20 March)

1 Introduction

Tourism and especially eco-tourism play an important role in the world and more importantly in Africa and South Africa and can become an incentive for positive economic change. Eco-tourism involves community involvement and partnerships to create a working and profitable relationship and can have both a positive and negative effect on the community. Practicing sustainable eco-tourism are two-fold for the #Khomani San. First it provides income for a community where unemployment is rife and secondly it provides opportunities to transfer their plant knowledge, storytelling, learning the old language and traditions to the younger generation. Flanagan (1997) defines eco-tourism or nature-orientated tourism as culturally sound tourism and conservation while the method incorporates and benefit the local community. Tourism has several major objectives according to Dorobantu & Nistoreanu (2012) and can contribute to sustainable development, economic growth, employment and economic and social harmony. Stronza (2010) points out that many rural and indigenous communities see eco-tourism as a stepping stone to economic freedom. Such developments can be hiking trails, lodges and activities for visitors that can benefit the community directly.

In 1999 the #Khomani San community under the leadership of Dawid Kruiper lodged a land claim and in 1999 they were awarded 58 000 hectares of land within the Kgalagadi National Park (old Gemsbok National Park). The community received a further six farms in the Askham area (34 728 hectares) to be run by a collective trust and to be used by the communities who have benefitted from land restitution. The Kalahari Gemsbok Park was proclaimed in 1931 and impacted the last remaining Bushmen's freedom of movement and hunting. They were disposed of their land and relocated into different settlements in the Mier district and some in Namibia (Khomani San, 2016).

This project was grounded in a copywrite agreement that the community will hold copyright of all images, that the community has an active part in the process and that the community should benefit from any proceeds of book sales. I was invited on a guided walk with an authentic Bushman on Erin game farm in 2015 and gained first-hand experience of plant knowledge, tracking and hunting skills. The project resulted in a social documentary book on the #Khomani San Bushmen in the Southern Kalahari, South Africa. This was sponsored by Academic and Non-Fiction Authors Association of South Africa (ANFASA) and the Norwegian Government. The first book was published in 2017 and a revised version in 2018. Current projects are the creation of a coffee table book, and preparation for an exhibition that uses Kallitype printing methods and a social documentary multimedia production. The exhibition was unfortunately postponed as result of Covid-19 restriction. Proceeds of the book sales directly benefit the community, as is the intention of the exhibition, when possible. The book is also available at the

community centre, where the local community can see the result of the project. The photos are used on their blog and website to further create awareness for this specific community and is run by the Bushman Council. It is in this light that this paper investigates the link between sustainability and ecotourism, framed in the context of the activities of narrative, documentation and communication of the cultural traditions of this small marginalised community. Visual ethnography, documentation, co-creation of visual narrative and awareness can be seen or framed within the broader context of design for the common good and mutual benefit. The ongoing ethnographic journey was the starting point for my contribution as visual communicator and photographer in the creation and design of products that actively contribute to ecotourism and benefit the community. Another dimension of the process was that interested graphic design and photography students from an accredited Private Institute of Higher Education accompanied me on two trips and could first-hand experience the culture, context and processes. With further encounters and basic conversations, it became apparent that the older generation of Bushman is actively trying to teach the younger generation the ancient traditions of 'veld' (field) knowledge, hunting, tracking, storytelling, dancing and learning the old language

The #Khomani San Cultural Landscape is located in the Kalahari at the border with Botswana and Namibia coinciding with the Kalahari Gemsbok National Park and received The United Nations Educational, Scientific and Cultural Organisation (UNESCO) world heritage status in 2017. See certain criteria: (UNESCO World Heritage Centre, 2016)

- (v) *"The Khorana Cultural Landscape is uniquely expressive of the hunting and gathering way of life practised by the ancestors of all modern human beings;"*
- (vi) *"The Khorana Cultural Landscape reflects and is associated with the ethnobotanical knowledge and memories embedded in the !Ui-Taa languages still spoken by a few people in the Khorana community, illustrating a virtually extinct way of life and beliefs."*

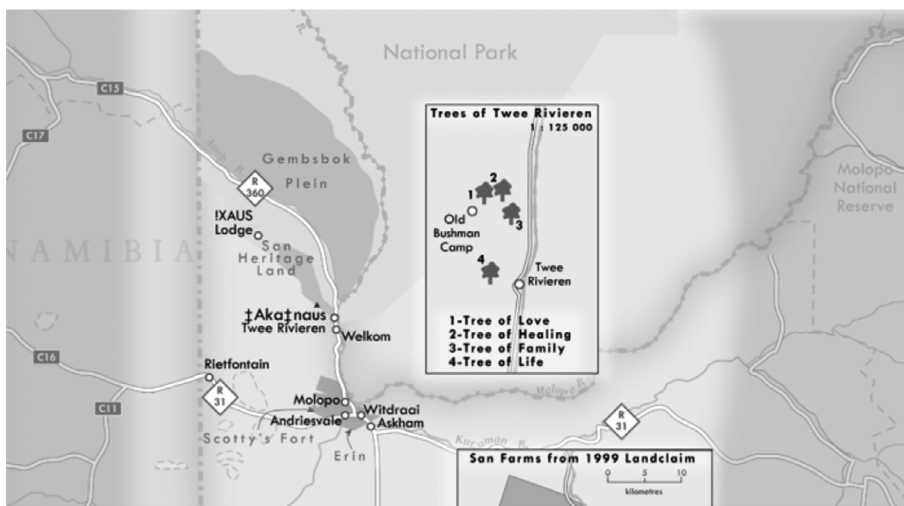


Fig. 1: Map from SANParks showing the researched area of Andriesvale, Witdraai and !Xaus Lodge.

For eco-tourism to be sustainable and to have a positive influence on the socio-economic environment there needs to be a balanced role of preservation of natural heritage, socio-cultural traditions with the demands of tourism and the local community (Dorobantu & Nistoreanu, 2012). The #Khomani San living and working on their six allocated farms reflect the cultural links they retained with their land. The original Bushman that are descendants from Dawid Kruiper have intricate ethnobotanical and 'veld' knowledge as well as the persistence of linguistic memory that is supported by Non-Governmental Organisations (NGO) and academics (UNESCO World Heritage Centre, 2016). Throughout the study two groups existed as identified by Mhiripiri (2008) the more traditionalist Bushman that wears a simple loin skin or !xai and resembles the look and built of the bushman. The more 'Westerners' (Steenkamp, 2016) as they are called by the more traditionalists have a San ancestral family tree that was recorded by researchers to help with the land claim. Kruiper (2016) reiterates the importance of teaching the young ones the importance of their culture and dance and language. This plays a vital role in starting projects for eco-tourism as the younger ones go to 'Veldskool' (field school) to learn tracking, the healing power of the region's plants and traditional dances (Mr I, Kruiper, 2016 personal interview 21 March).

Fig. 2: Book as a result of the research project, 2017 and revised edition 2018.



Fig. 3: Graphic Design and Photography students in 2015 on a field trip with Honeybooi the Bushman field guide.



Fig. 4: Exhibition test prints in Kallitype
Alternative processing methods.

2 Study Site and Methods

The region I concentrated on was in the Askham region (see Figure 1) of the Kalahari specific to the farms Witdraai, Andriesvale, The Living Museum, Bushmen's Rest, in the Mier district, Erin Game farm and !Xaus lodge in the Kgalagadi National Park. !Xaus lodge forms part of the !Ae!Hai Kalahari Heritage Park Agreement in 2002 are within the borders of Kgalagadi Transfrontier Park. You have to travel over 90 dunes and the lodge was built on dune no 91. The lodge is community owned but administered as a contract park with South African National Parks (SANParks) responsible for the environmental management and the community receiving an income from the lodge (Xaus Lodge, 2018).

It turned out that the more traditionalist Bushman is the guide for field walks, helping with tracking on Erin Game farm and attend 'veldskool' and work at the cultural village at !Xaus lodge. Bushman features include, hair, eyes, small built and the bulging bottom. These Bushman are also the only group that wears the traditional !xai loin cloth. Throughout the study two groups existed as identified by Mhiripiri (2012) the more traditionalist Bushman and the 'Westerners'. In a personal Interview with the community leader, Mr A. Steenkamp, (2016, Community leader, personal interview, 20 March) they are called by the more traditionalists and have a San ancestral family tree that was recorded by researchers to help with the land claim. As part of the study, I have stayed in the Askham region close to Witdraai and Andriesvale on and off over a five-year period (2015-2019). This has resulted in building a steady presence within the community and building relationships with community leaders and the bushman council. By gathering data through field notes, interviews, photographs and videos I have transferred this

into a book with use by the #Khomani San and all images are used by the community for publication, marketing and public relations. Interviews have lasted anything from 15 minutes to 35 minutes and focused on eco-tourism activities, income generation, upliftment of the community and the sustainability of such projects. I have gained a deeper insight over time. I have engaged with the same group of people over this period as to gain their trust and access to their homes and places of work. Everybody in this region speaks Afrikaans (my home language) as only a few can understand and speak the old languages (Mr A, Steenkamp, 2016. Community leader, personal interview, 20 March).

Findings in this study are based on various ethnographic field work from 2015 – 2019 with the last of the documentary fieldwork in 2019. The fieldwork consisted of interviews in and around Witdraai, Erin Game farm, Bushmen's Rest and !Xaus Lodge with videos and photography in conservation areas where eco-tourism activities were practised. This resulted in 21 interviews in and around the Askham allocated farms as well as !Xaus lodge. Interviews in the specific areas were arranged by the community leaders and the interviews had an informal characteristic at Witdraai, and Bushmen's rest.

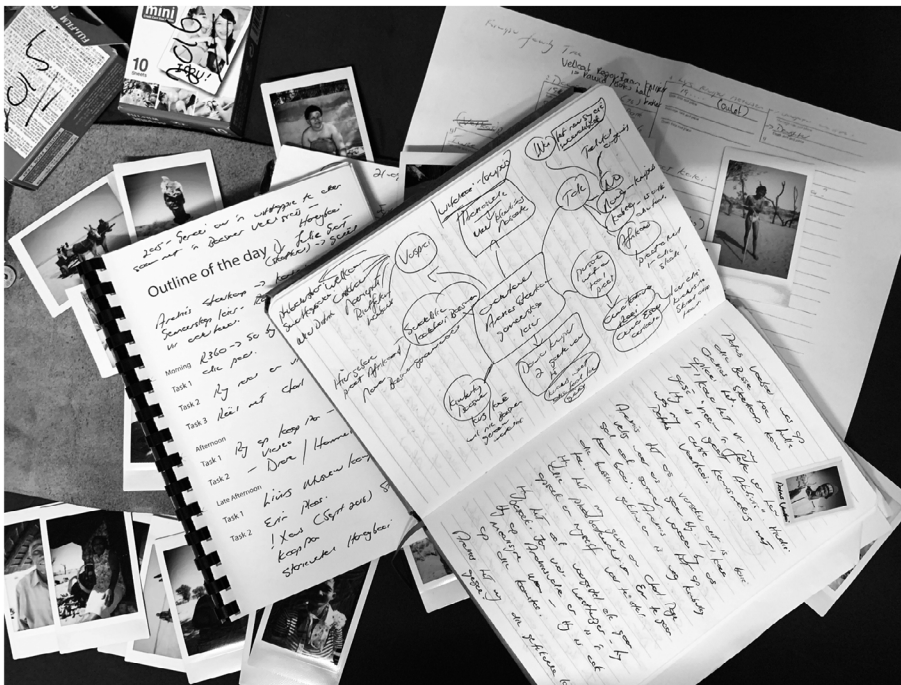


Fig. 5: Field notes, polaroids from interviewees.

2.1 Literature Review

Chernela & Zanotti (2014) state that community involvement might fail in conservation partnerships if the community morale is not taken into consideration. None of the members of the community has been educated in running these farms as a business. With growing social decay and disillusioned about what the future can hold the division within the community got bigger and the welfare of the people taking a step back. The Rotary clubs' and other stakeholder's involvement started turning the situation around and small projects got off the ground with the necessary capital investment and growing infrastructure.

Sustainable tourism meets both the needs of the community and tourism industry and can stimulate the development of other activities such as local production of food and crafts and help increase revenue for specific communities. There is, in South Africa, currently an increasing attention on community involvement in nature conservation and eco-tourism where historically racially discriminatory practices resulted in rural communities being displaced from certain areas to make way for conservation areas or parks (Nsukwini & Bob, 2016).

With the encouragement from NGO's and the San Council structure started to take place and slowly the community started to feel the positive energy flowing again with small projects such as the 'veldskool' where the younger generation are taught the skills of hunting with a bow and arrow as well as tracking and plan knowledge. The new generation thus learn how to identify tracks from animals and participate in guided field walks with tourist. There needs to be local participation and benefit for all the community (Chernela and Zanotti, 2014), the financial gain by the community needs to shape a better environment and spaces for children to grow and benefit from. Mr I, Kruiper. (2016. Personal Interview, 21 March) speaks to this in an interview that they do not see the benefit at first and that there was no cohesive decision making and agreement in moving forward with certain projects.

The community needs to sustain an eco-tourism project, meaning protecting the landscape and secondly the project should enhance the lives of the community both socially and economically (Chernela and Zanotti, 2014). Through various interviews in the Witdraai, Andriesvale and Bushmen's rest Mrs B Raats (2016, Personal Interview, 20 March) the community wants to use the resources of the land at will without applying for a permit says Raats (2016). Before the Rotary clubs' involvement, the lack of business knowledge and leadership attracted the people with wrong intentions and a lot of resources were lost. Robins (2001) talks about the tension between the traditionalist and the western Bushman about plant knowledge, traditions and speakers of the old languages. None of these traditional and western bushmen are indigenous and untouched by modern society.

Most of the community lived on farms and worked as farm labourers since the early 1930's. Those that still lived in the Kgalagadi before they were evicted lived a very poor life and were still modern and did not live a hunter-gatherer life. The wearing of bushman traditional clothing is seen as only for tourism to give an authentic appearance (Mr D, Gooi, 2016. Personal Interview 21 September 2015). Koot (2016) argues that indigenous people need to be seen as authentic to attract tourism, the name given to this is an "indigenous brand" to create income. Sustainability is a key point to help eliminate poverty. For eco-tourism in this region to be sustainable Stronza (2010) adds that it is essential for local conservationist to be trained and local initiatives need to be developed in order to be successful and sustainable. Community capacity and local governance must be taken into consideration to help the residents take control over their resources, wildlife and cultural traditions when they are altered for tourism attractions. Stronza (2010) further states that communities involved in eco-tourism use their knowledge, skills, land and labour to attract tourism and local leaders gain valuable insights into management capacity for sustainability of the resources.

The geographic space and location of these eco-tourism areas involve moral commitment due to obstacles and limitations that need to be overcome by the community therefore the commitment of them is essential for the projects to work, and as stated by Chernela and Zanotti (2014) Western practitioners take all of the physical obstacle and limitations into consideration but not the moral relationship. The tourism facility of !Xaus lodge is jointly owned by the communities, and the community receive a monthly rental from the operation of the lodge based on its turnover. The employees come from the local communities where unemployment is widespread. !Xaus Lodge assists in acquiring donor funding for health, agricultural, educational and job creation projects for the community (!Xaus, 2015).

In the next section, I provide a short description of the ethnography methods, ethics, procedures and participants. Finally, in my conclusion I conclude that through the processes of design and photography played an active a role in the contribution to ecotourism, to the benefit of the community and the common good.

3 Methods

3.1 Ethical Consideration

Ethical approval for the study was granted by WIMSA (Working Group of Indigenous Minorities in Southern Africa) and is a general media and research contract. The community leader in the area where the research took place was the organiser of the interviewees with certain groups on certain farms. The contract gave me permission to be on the farms and I had to discuss the outcome of the research and reason I am doing this with the head of the household or the Individual I am Interviewing. No written consent was necessary for every photograph or video I took or interview I did as this is covered by the contract and understanding between me and the Interviewee. If there was any non-agreement or suspicion about the research I needed to walk away. Each interviewee received a formal portrait photo and all photographs were shared royalty free with the Bushman council for their own marketing and online website usage. Each conversation started with introductions and some open-ended questions about tourism activities, income generation and transferral of knowledge from the elders. Each conversation was followed by a photographic session and in between relaxed conversations carried on. Interviews were recorded and permission was asked of each individual before recording started and for a photograph. Facts were checked and corrected by people employed by the Bushman Council If I had any doubt about dates and information.

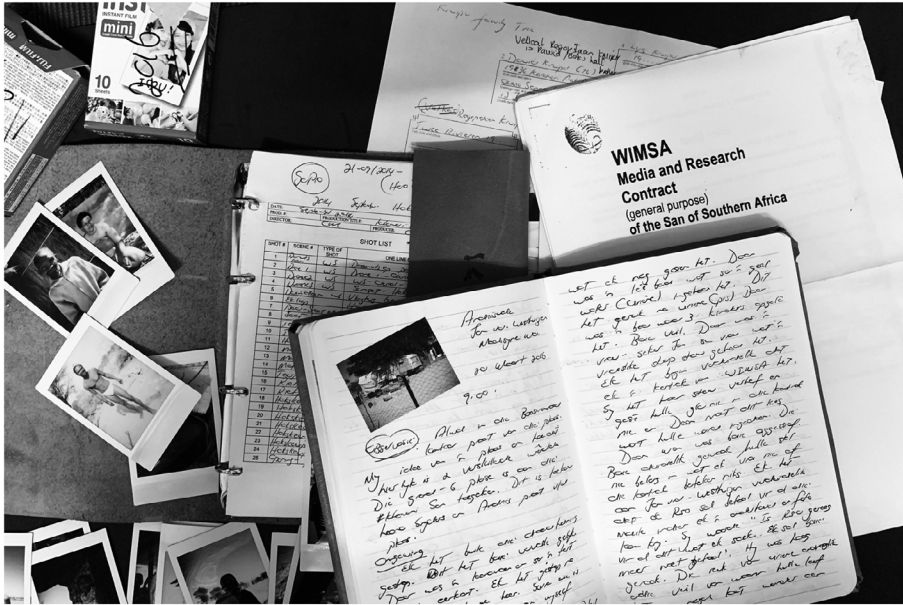


Fig. 6: Field notes, polaroids from interviewees, WIMSA contract and shot list for documentary.

3.2 Procedures

The research was conducted in four different locations and happened at various times from 2015-2019. The Askham area borders Botswana and Namibia in the north of South Africa in the Kalahari in the Northern Cape. (See fig.1 Map) A total of 21 Interviews with various participants from the neighbouring farms. Most of the interviews were with elder Bushman as they are the gate keepers of the cultural heritage of botanical knowledge, dances, language and storytellers. The Interviews are characterised as ethnographic inductive style as some interviewees used the session as a question-and-answer session, while others went into conversations about their culture, origin and how they ended up in a specific location. Ethnographic research has no formal structure or a specific procedure for conducting the research. The main methods that are associated with this kind of research are fieldwork, participant observation that includes a series of information gathering techniques such as interviews and different levels of participant observation. The researcher needs to become active within the community by interacting, observing, recording reflections on the encounters and experiences (Jaimangal-Jones, 2014). Field notes comprise of jotting down notes or words during the observations, what you see, hear, the weather the actual setting and when interviews are involved to try and find a common thread through the conversations.

Fig. 7: Interviews at !Xaus Lodge in the Kgalagadi Transfrontier Park.



3.3 Ethnographic Inductive style interview

The style of the informal inductive interviewing resembled more of a life-historic style as this related to the transfer of knowledge, generating income and activities for tourists and having no preconceived ideas. The ethnographic style interview was questions on general (conversational) and a part was answering a specific question: The impact of sustainable eco-tourism and if it uplifts the community. The Informal ethnographic style interview led to further exploration of issues that came out of the interview in

general conversation. Due to the relationship of trust with the interviewee the answers on certain issues of eco-tourism, project management and financial input were spontaneous and honest. The fact that I was seen a few times within the same region with one of the farm managers made for a bit more friendly conversation and greetings along the way. Certain interviewees were prompted more due to their plant knowledge of being a medicine man and involved in training the younger generation in tracking. In conversation It always came out that there are two groups of Bushman, the traditionalist and the western group and I always asked where were they born as this relates to ancestral heritage or born Bushman A copy of the final book with photos and the interviews were send to the various community leaders for everyone to see. Here is an outline of the most repeated and answered questions:

- Where were you born?
- How are you involved in eco-tourism?
- What activities do you participate in?
- Are you involved in the planning or management of an eco-tourism project?
- Are you involved in 'veldskool'?
- Does the community benefit from ecotourism activities?

Some of the interviewees had a purpose with their conversation and in an informal interview talked about specific points (Paulson, 2010). The conversations ranged from 15 minutes to 35 minutes.

Fig. 8: Interviews at !Xaus Lodge and Witdraai.



4 Results and Discussion

The analysis was conducted as interviews were arranged and people were available, sometimes I could not interview a person due to them not being at their craft stall or taking a trip to the city or being at field school. The stages used for transcoding the content was, the ethnographic interview will have a recording if possible and transcribed in the end, but also field notes about the interview, the behaviour of the interviewee, sights and sounds as well. The way the questions were answered and responses to certain probes. There is also an ethnographic diary kept by myself to capture notes.

Example of Inductive Ethnographic Interview transcript with a 51-year-old traditional Bushman, Medicine man and community leader at Witdraai 21/03/2016:

R: Are your parents traditional Bushman?

I: My parents were born in the Kgalagadi Transfrontier park and still lived a bushman lifestyle with hunting and gathering food in the Park. I was born outside the Park.

R: What activities are you involved in at the moment?

I: We at Witdraai are only involved in eco-tourism and we have a 'veldskool' where we teach the children and other Bushman plant knowledge, tracking skills and the medicinal usage of certain herbs in the conservation areas. Only the pure Bushman lives at Witdraai.

R: What plans or projects do you want to put forward?

I: I have a project planned which forms part of eco-tourism and involves extracting oils from certain plants and sell that to the public, they have healing powers.

R: Do you think the tourism activities benefits the community?

I: There are some infighting between the groups as some do not think pure thoughts and only want money. We are getting a community hall and already a school for the very young ones. We only want to promote eco-tourism.

We moved from outside to inside and he showed us small piece of wood that he lights with some matches and the smoke swirls around and he says: *"where there is flame, there is life, where smoke swirls there is always a thought" "This piece of wood will always give you piece in your heart when you light it." It is called Mamma and you can only get it inside the Park."*

The interviewee is a friendly and enthusiastic person and he said if the interview was not arranged by the council member, he would be very uncomfortable as they were exploited by filmmakers and the media before, but he has peace in his heart now with this interview. Throughout the interviews the main theme is that eco-tourism brings the tourists, they engage in guided field walks, learn from the guides about the plants and small insects and they attend field school to learn the medicinal value of plants and tracking as they were born outside the park and did not engage in a hunter-gatherer lifestyle.

The researcher becomes a willing tourist as to experience the true feeling of how eco-tourism is practised. The field guides explain the use of ostrich eggs for storing water, what certain plants are used for. One such tuft of grass is used to brew in hot water for flu symptoms. Certain roots of tree can be used to make coffee in the older days. On Erin game farm they accompany hunters to help track the game as no vehicles are allowed to hunt with and they have to walk.



Fig. 9: Am-Am the Bushman field guide showing us how an ostrich egg is covered in sand to save water in various areas when the Bushman goes hunting.



Fig. 10: Ixaus Lodge cultural village.



Fig. 11: !Xaus Lodge.



Fig. 12: The salt pan at !Xaus Lodge.

5 Conclusion

The original project sets out to create visual narratives in the form of books, photographs and documentary videos. This would have been impossible without the combination of ethnography techniques such as interviews and observation (both unobtrusive and participant observation) that provided rich qualitative data and insights. The ethnographic Interviews allowed for reflections on activities and informal insights into the eco-tourism activities. The informal interview style with open ended questions complimented the research by exploring the transfer of knowledge and engagement of the researcher with an authentic experience. None of this would have been possible without spending time with the community, and without a contract where the benefits to the community are clearly stipulated. These benefits in the end turned out not to only be financial, but also cultural in that the history and culture and indigenous knowledge are documented. Furthermore, the students and I learned from the community respect for the preservation of fragile natural resources. The work produced as part of the project not only play a role in awareness and education of the tourist, but may also play a role in the education of the younger generation to carry on the traditions though knowledge transfer and preserving the natural resources for generations to come.

The study will be ongoing for more years of observation and interviews, to further see if the transfer of knowledge to the younger generation is used as part of tourism.

The final conclusion to this study is that the current eco-tourism projects on Erin Game Farm which includes guided field walks, hunting and tracking and the co-opt management of !Xaus lodge generated enough income to uplift the community for the greater good. Since the allocation of the farms and the near loss of income and accumulated debt the #Khomani San has managed with the help of the Rotary clubs from 2012 to overturn their debt. Some added value to the community with a community centre, a pre-school for the children at Andriesvale and Witdraai. My contribution may be small, but is part of the legacy in that it provides material that documented the knowledge and stories and created material that can be used by the marketing office that are run by the Bushman Council and tourism providers. The question now is what the devastating effect of Covid-19 would be on this fragile community and economy after months of limited tourism activity in the region.



Fig. 13: 2016 group of photography students with Am-Am on Erin Game Farm.

References

- About Us - #Khomani San. #Khomani San, 4 June 2016, www.khomanisan.com/about-us/. Accessed 18 Aug. 2019.
- Bushman Council. (2015). About Us Khomani San. Retrieved from Khomani San website: <http://www.khomanisan.com/about-us/#:~:text=World%20Heritage%20Site%20Status>
- Dikgang, J., & Muchapondwa, E. (2012). The valuation of biodiversity conservation by the South African Khomani San "bushmen" community. *Ecological Economics*, 84(84), 7–14. <https://doi.org/10.1016/j.ecolecon.2012.09.001>
- Dikgang, J., & Muchapondwa, E. (2015). The Effect of Land Restitution on Poverty Reduction among the Khomani San "Bushmen" in South Africa. *South African Journal of Economics*, 84(1), 63–80. <https://doi.org/10.1111/saje.12088>
- Dorobantu, M.R. and Nistoreanu, P. (2012). Rural Tourism and Ecotourism – the Main Priorities in Sustainable Development Orientations of Rural Local Communities in Romania. *Economy Transdisciplinarity Cognition*, XV(1/2012), 1–9. Flanagan, J. (1997). *Ecotourism anthropology and the ecosystem : developing sustainable tourism : case study - Belize C.A.* Thesis. pp.1–147.
- Flanagan, J. (1997). *Ecotourism anthropology and the ecosystem : developing sustainable tourism : case study - Belize C.A.* (Thesis; pp.1–147). University of Montana.
- Gooi, D. (2016, September 19). San Traditions, personal interview (C. McKenzie, Interviewer).
- Jaimangal-Jones, D. (2014). Utilising ethnography and participant observation in festival and event research. *International Journal of Event and Festival Management*, 5(1), 39–55. <https://doi.org/10.1108/ijefm-09-2012-0030>
- Khomanisan. 2015. History of the San. [ONLINE] Available at: <http://www.khomanisan.com/about-us/>. [Accessed 7 June 2020].
- Kruiper, I. (2016, March 21). Khomani San Eco Tourism, Personal Interview. (C. McKenzie, Interviewer).
- McLennan-Dodd, V., 2004. The Healing Land: Research methods in Kalaharicomunities. *Critical Arts: South-North Cultural and Media Studies*, 18:2,, DOI: 10.1080/02560240485310141, 3-30.
- Mhiripiri, N.A. (2008). The Tourist Viewer, the Bushmen and the Zulu: Imaging and (re)invention of identities through contemporary visual cultural productions. [PHD] pp.1–382. Available at: http://ccms.ukzn.ac.za/files/articles/PhD_theses/nhamo%20anthony%20mhiripiri%20final%20thesis%202.pdf [Accessed 15 Dec. 2019].
- Nsukwini, S., & Bob, U. (2016). The socio-economic impacts of ecotourism in rural areas: a case study of Nompondo and the Hluhluwe-iMfolozi Park (HiP). *African Journal of Hospitality, Tourism and Leisure*, 5(3), 1–16. Retrieved from ResearchGate.
- O'reilly, K. (2005). *Ethnographic methods* (1st ed., pp.1–259). London: Routledge. (Original work published 2005)
- Pacheco-Vega, R., & Parizeau, K. (2018). Doubly Engaged Ethnography. *International Journal of Qualitative Methods*, 17(1), 160940691879065. <https://doi.org/10.1177/1609406918790653>
- Paulson, S. (2010). The Use of Ethnography and Narrative Interviews in a Study of 'Cultures of Dance.' *Journal of Health Psychology*, 16(1), 148–157. <https://doi.org/10.1177/1359105310370500>
- Ramutsindela, M., Davis, N. and Sinthumule, I. (2016). Diagnostic Report on Land Reform in South Africa Land Restitution. Cape Town: Parliament of South Africa, pp.1–97.
- Raats, A. (2016, March 22). San Traditions, personal interview (C. McKenzie, Interviewer).
- Ramutsindela, M., Davis, N., & Sinthumule, I. (2016). Diagnostic Report on Land Reform in South Africa Land Restitution (pp.1–97). Cape Town: Parliament of South Africa.
- Steenkamp, A. (2016, March 20). Khomani San History (C. McKenzie, Interviewer).
- Stronza, A., & Gordillo, J. (2008). Community views of ecotourism. *Annals of Tourism Research*, 35(2), 448–468. <https://doi.org/10.1016/j.annals.2008.01.002>
- Stronza, A. L. (2010). Commons management and ecotourism: ethnographic evidence from the Amazon. *International Journal of the Commons*, 4(1), 56–77. Retrieved from https://www.jstor.org/stable/26523013?seq=1#metadata_info_tab_contents
- Tebogo Mogashoa Insights from an African entrepreneur. 2019. *Eco-Tourism And Sustainability*. [ONLINE] Available at: <https://tebogomogashoa.co.za/%EF%BB%BFeco-tourism-and-sustainability/>. [Accessed 17 August 2020].
- UNESCO. 2017. #Khomani Cultural Landscape. [ONLINE] Available at: <https://whc.unesco.org/en/list/1545/>. [Accessed 23 August 2020].
- Xaus Lodge. 2018. How !Xaus Lodge Began. [ONLINE] Available at: <https://www.xauslodge.co.za/about-us/>. [Accessed 16 August 2020].

Acknowledgements

This research was partly funded by ANFASA (Academic and Non-Fiction Authors Association of South Africa) in co-operation with the Norwegian Government, The Independent Institute of Education (IIE). The opinions expressed and conclusions derived from this study are those of the author.

Design as a Catalyst for Sustainability – An Approach to the Common Good and the Oceans

Keywords: Design, Common Good, Sustainability, Oceans, Marine Litter, Circular Economy.

Dília Nunes^{a*},
Joana Lessa^{b**}

^aMaster Student,
University of Algarve, Portugal

^bResearcher, Research Center
for Architecture, Urbanism and Design,
University of Lisbon, Portugal and Senior
Lecturer, University of Algarve, Portugal

*a46526@ualg.pt

**jlessa@ualg.pt

Humans are inherently social: they interact and cooperate in order to survive and thrive, therefore, establishing a set of benefits where the needs of the society as a whole prevail over the needs of the individual, is essential to determine the Common Good. Recent studies indicate that consumer needs reached a tipping point, endangering the Planet and future generations. The present study aims to establish if Design practice promotes the creation of solutions that tackle environmental problems created by a consumerist society, with focus on the oceans and marine litter problematic. The methodology adopted is based on literature review and case studies analysis. The preliminary findings suggest that Design practice can positively contribute for the mitigation of the negative impact of plastic that ends its life cycle as marine litter, thus playing a role in the efforts towards a healthier environment and consequently for the Common Good. However, future work needs to be done in terms of quantitative and qualitative research to assert all their Design practice positive impacts.

1 Introduction

The Common Good is inherent to the collective rather than the private, a concept where the societal body needs and/or interests prevail over the individual ones (Zalta et al, 2018). A practical application of this concept is the current Covid-19 pandemic that demonstrates how the entire collective body is unified in order to achieve a good common goal. Countries, worldwide organizations, pharmaceuticals, scientists, practitioners and researchers are sharing knowledge regarding this virus and are engaged in finding a vaccine that can help its mitigation. On the other hand, common citizens worldwide are willingly deprived of part of their individual liberties and agree to comply with emergency measures stated by governments like the use of masks, remote work and lockdowns, in order to fulfill the needs of the collective, reasoned by shared values that bound people and sustain communities.

On this regard, Design, practice might be of major importance, as its transdisciplinary essence can help create change and enforce these values in the society (Tromp et al, 2011; Press et al, 2016), acting as “a conscious effort to impose meaningful order” (Papanek, 1984), with a participatory, collaborative, and engaging approach, where users and consumers act both as producers and creators (Ehn et al., 2014). A practical application of this is the array of awareness campaigns that have been made throughout the world in the midst of the current global health problem by governments, private brands and worldwide organizations (AGDH, 2020; WHO, 2020; CNN, 2020). The digitalization of contents and open access to them (webinars, masterclasses, movies, virtual tours, concerts, etc.) can also be seen as designed strategies to enforce and encourage the “#stay at home” appeal that governmental institutions requested (WHO, 2020a; Gov.UK, 2020; SNS, 2020; USA HS, 2020). Indeed, several practices of Design have been called upon to create products, services and apply design principles and methods: Information Design, Film and video Graphics, Software Design, User Experience, Visual Design, Web Design, Service Design, Strategic Design, among others. So, the Design community and the practice of Design, may positively contribute for the Common Good.

1.1 The Common Good and Design

The conception of the Common Good has been discussed in philosophical literature since Plato and Aristotle and continued to be argued through time by philosophers such as John Locke, J.J. Rousseau, Adam Smith, G.W.F. Hegel, John Rawls, Michael Walze, or Robert Reich, among others. Plato refers to it as the “greatest good”, Aristotle as the “common interest”, whereas Locke uses the expression “public good” (Plato, 2003; Aristotle, 1995.). Rosseau, Smith, Hegel, Rawls and Walze all used the expression “Common Good”, although with interpretations that differed according to their time in history (Zalta et al, 2018). Presently, Robert Reich’s envision of the common good entails “our shared values about what we owe one another as citizens who are bound together in the same society.” (Reich, 2018).

According to the Montreal Design Declaration, "Design is the application of intent: the process through which we create the material, spatial, visual and experiential environments in a world made ever more malleable by advances in technology and materials, and increasingly vulnerable to the effects of unleashed global development" (WDS, 2017). Therefore, Design practice can promote the shared values defined by Reich (2018). Design is perceived as a discipline with its own specific procedures and processes, where non-linear methods, innovative approaches and creative solutions are the core of its implicit value (Papalambros, 2015). It is our understanding that when designers use these characteristics considering social and moral values, they bring into the Design practice the ability to create and promote ethical solutions that may contribute for the Common Good. However, fairly often, designers create products that do not solve a real problem but are aesthetically appraisable and have a consumerist drive. This duality regarding purpose has prevailed overtime in the designers' community and has been the object of several researches and reflections (Cross, 2001; Papanek, 1984 & 1995; Ehn et al., 2014). We believe that current time and circumstances present a unique opportunity for a shift towards a more sustainable consumer behavior. Thus, if use as "a form of social entrepreneurship concerned with the quality and experience of life for all people" (Press, 2016), it will, as Vitor Papanek seminal work claimed, "inescapably, become the job of designers to help set goals for all of society." (Papanek, 1984).

1.2 Consumerism and Conscious Consumption – Sustainability Concerns

Consumer habits trace as far back as the Athenian society, where goods as well as services were traded at the first known central permanent marketplace named the *agora* (Davidson, 2012). As civilization progressed and developed more complex societal systems, consumption patterns also changed. Tangible basic or leisure needs were no longer the only motive why people bought goods or used services, and other subjective reasons like perceived higher social status, started to play a very important role on society's consumption habits and social relations. Consumerism was firstly addressed under the expression "conspicuous consumption" in 1899, by Thorstein Veblen. The author described it as the need for the new rich to exhibit their wealth by means of exacerbated and unnecessary consumption behaviours and consequent conspicuous waste of goods (Veblen, 1899). However, in this pursuit of the possible, designers and companies developed cultural irrelevance, unusability, dysfunctionality and an ever increasing quantity of garbage (Press, 2016). The environmental complications only became evident after World War II, when the rising standards of living prompted mass production canons that led to unsustainable consumption patterns of energy and natural resources (Trentmann, 2012). The ecological consequences caused by this exponential growth soon followed, however, it still took some decades for sustainability and sustainable development concerns to be acknowledge and addressed on a worldwide scale

by policymakers. The UN Conference of the Human Environment is usually referred as the first landmark towards environmental sustainability (UN, 1972). In 1987, the Brundtland commission report - "*Our Common Future*", discussed major concerns regarding sustainability, and guiding principles towards sustainable development were established (UN, 1987:15). Other worldwide summits followed (Visser, 2009; SDC, 2011), however, very little was truly achieved until the Paris Agreement in 2015 (UNCC, 2020). The 2030 Agenda for Sustainable Development has endorsed 17 Sustainable Development Goals (SDG's) and intends to serve as a global partnership between countries worldwide, towards a healthier and environmentally sustainable planet for future generations to live in (UN, 2020).

Recent studies indicate that consumer needs reached a tipping point (Nova-Reyes et al, 2020; Barnosky et al, 2016), in which, living beyond planetary boundaries is no longer possible, therefore, consumerism futile purposes' need to be eradicated from consumers' behaviour values. It is our belief that as a value-driven activity, Design may act as a catalyst for the achievement of solutions that can help mitigate these global unsustainable consumerism patterns and promote a shift towards more meaningful and environmentally friendly consumption habits. Design communities as "Desis" project or "OpenIdeo" are two examples of designer's commitment to the Common Good by promoting and co-creating processes, products and systems that encourage the adoption of more conscious and mindful consumption habits (Desis, 2020; OpenIdeo, 2020).

1.3 Design as a Driver for the Common Good of the Oceans

Climate change is a global concern that affects Earth's Common Good, that is, it has impacts on the communal body of both humans and all the other living species that inhabit our planet, and present time faces unprecedented challenges that need to be addressed. The relevance of the oceans to Earth's livability is incontestable and their pollution by marine litter is a fast-growing problem that needs to be promptly addressed. The oceans cover 71% of earth's surface and produce 50% of the earth's oxygen. They are an essential source of food and resources (UN Environment, 2019; UNEP, 2020) as well as fundamental for the regulation of the planet's weather and climate (Nasa, 2020). Studies concerning the negative impacts of marine litter in the environment are well documented (Jambeck, 2015; Chiba et al, 2018; Bishop et al, 2020; Thompson et al, 2009), and facts suggest that through better waste management processes, awareness actions and a shift towards conscious consumption behaviours it is possible to mitigate this problematic environmental threat.

Being Design "the application of intent" (WDS, 2017) with a purpose, developing responsible solutions that raise awareness and contribute to the adoption of more sustainable lifestyles, consequently, helping to decrease global concerns like the above-men-

tioned environmental sustainability problems, is the natural path to follow. Furthermore, as a value-driven activity (WDS, 2017), it may act as a catalyst for the achievement of the Oceans' Common Good. Eco-design initiatives like Bordalo II floating exhibition, Zouri Shoes, Fapil ocean household products, Supercyclers marine debris bakelite collection and Bureo skate boards, to name a few (see. Picture 1), are already working towards these goals, although much still needs to be achieved.



Fig. 1: Ocean eco-design initiatives.

2 Case Studies

In this section, we decided to make a comparative case studies analysis, where we intend to describe the similarities, differences and patterns of cases that share a common goal, the sustainability of the Oceans. We will organize this analysis in two parts: firstly, we will make a brief presentation of each case study and identify their scope, range and goals; and secondly, we will identify each case study's Design approaches. For the assessment of the Design approaches, we will use key evaluation questions (KEQs) (Goodrick, 2014; Betterevaluation, 2020), in order provide a comparison table, so that more accurate findings can be attained.

For the selection of the case studies, we primarily considered the available timeframe and guidelines, thus, decided to focus on a limited number of options that we believe can shed light on new knowledge. The criteria applied were based on three dimensions: context; nature; and utility. In regards to context, the Oceans' marine litter threat is a fast-growing problem in environmental, cultural, economic, and political levels, and all case studies have to address it specifically. Concerning the nature criteria, the case studies business model had to be considered as of deviant nature, that is, they should adopt a new business approach, in detriment to the unsustainable linear model currently in use. As for utility, the marine litter problem is a long-term interest issue for humankind and for the Planet as a whole therefore we searched for initiatives that contribute to its mitigation. After a thorough research under the above guidelines, we selected the following case studies: Seaqual4U, Oceanworks® and Parley for the Oceans.

2.1 Seaqual 4U

Seaqual 4U is a Startup founded in 2016 by a Spanish textile industry alliance between the Ecoalf Foundation, Santanderina textile group and Antex spinning mill. Their goal is to address the problem of plastic marine litter by enabling all of the plastics found in our oceans to have a second life. The Seaqual Initiative was, therefore, created under the purpose of four strategic 'pillars': 1) to enable ocean cleaning; 2) to raise awareness and educate; 3) to engage industry; 4) to inspire society (Seaqual, 2020). Their Design approach comprehends the creation of a network of partners from local communities, NGO's, fishermen, research institutes, and regional and national authorities, that work as a collaborative community. The outcome of this cooperation between different stakeholders allows them to upcycle the recovered waste into a patented recycled polymer and fibre named Seaqual™. These products meet the requirements of the textile industry, as are used to create textiles of sustainable origin, thus contributing for an ethical economy while contributing to the mitigation of plastic marine litter. The initiative is profit oriented, a business that seeks to create value and raise awareness through the quality and ethical responsibility of their products. Their licensing system enables the certification and the traceability of the fabric's contents, which also benefits manufacturers and brands that plan to shift to a more sustainable business approach, avoiding "green washing" misleading conceptions.

Seaqual Initiative is based in Spain and works with other European countries and west coast African partners. They are currently considering to expand their local marine litter retrieve with organizations at strategic locations in Asia and Central and North America.



Fiat 500 and Fiat Panda seats



Ikea musselblomma collection



Jack Wolfskin ocean T collection



Camira ocean upholstery fabric

Fig. 2: *Projects and Products that use Seaqual™ fabrics.*

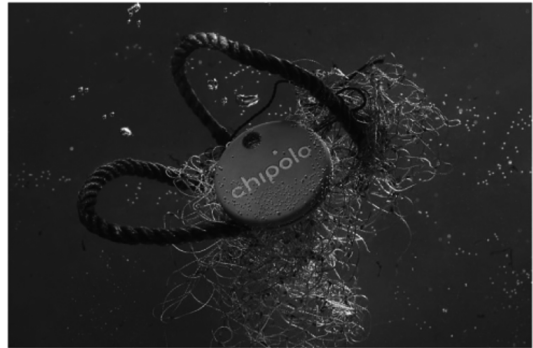
2.2 Oceanworks®

Rob Ianelli is an entrepreneur that has always been passionate about the beach and the oceans. In 2016 he created Norton Point, "a mission oriented brand which debuted the use of ocean plastics in eyewear" (Oceanworks, 2020). When creating this project, he encountered more difficulties than expected and this made him realize that the ocean plastic sector was fragmented and very difficult to reach, therefore he decided to grasp the opportunity to redesign the segment. Oceanworks® was founded soon after, with the goal of facilitating the access to ocean plastics materials by closing the gap on supply and answering consumer demands. The company's Design Approach comprises the work of "a group of fast paced innovators, trained engineers, and creative thinkers committed to accelerating the transition to a world without plastic pollution (Oceanworks, 2020). Their platform aims to drive recycled plastic offtake, so that new virgin plastic demand can be reduced. The company is profit oriented and is currently the largest global marketplace for sustainable materials, specialized in hard to access ocean and averted plastics, with a product range that varies from

components to resins and textiles. They have their headquarters in Los Angeles and a main hub in Vietnam, but also count with several international offices. Oceanworks® is associated to a global network of collectors, recyclers, and manufacturers, which allows them to have reliable global supply chains, logistics, materials, and product traceability, thus contributing to a sustainable economy. Their Oceanworks Guaranteed™ materials come from a trusted supplier network that was established under five guideline categories: 1) collection area compliance; 2) environmental stewardship; 3) social impact; 4) business compliance, and 5) recycling processes and segregation.



iZettle ocean reader



Chipolo item finder



Norton Point sunglasses



Outerknown ocean plastic buttons

Fig. 3: Projects and Products that use Oceanworks® resins.

2.3 Parley for the Oceans

Parley for the Oceans was created in 2012 by award-winning designer Cyrill Gutsch after an encounter with environmentalist Paul Watson, where he learned about the Oceans and the threat marine litter represents. The conversation was enlightening enough for him to convert his agency from a design company to an environmental organisation "pretty much overnight" (Dezeen, 2016). Their goal is to address major threats towards the oceans, the most important ecosystem of our planet. Parley intends to be "the space where creators, thinkers, and leaders come together[...]" (Parley, 2020) and collaborate towards tackling marine litter and restoring the health of the marine biota. This approach starts with Parley Talks, to a selected audience that elucidates potential partners regarding the problem. It is then followed by Collaboration Sessions, where they help to develop an individual idea or concept, connect potential partners, and moderate collaboration process from the idea stage to finalization of an agreement. When an agreement is signed, the Collaboration Projects are created and the Parley team supports its implementation by translating needs and ideas to each partner, managing expectations and keeping the partners on track with a realistic roadmap (Parley, 2020). Based on this description, the Parley approach resembles the practice of Strategic Design. According to AIGA (2020), Strategic Design "Assists in framing problems, identifying opportunities, applying methods, and developing solutions that improve the overall performance of companies and non-profit organizations" and that its "practice is futures-oriented and focuses on creating value for the business or organization, customers, and society".

The organization has formed alliances with major corporations for the use of Ocean Plastic®, a range of premium materials developed by Parley and their network for the sports, fashion and luxury industries, made from intercepted and upcycled marine plastic debris. These materials were developed according to the organization's AIR concept: Avoid, Intercept and Redesign. This Design strategy aims to promote the reduction of the use of plastics, the interception of plastic waste before it reaches the beaches and the oceans and the redesign of products so that new and more sustainable materials are used in manufacturing in place of plastic. Parley for the Oceans is based in New York but works with worldwide partners. They are a non-profit organization that aims to create a business culture in which protecting the oceans is seen as a more lucrative option than making decisions that pollutes them.



Adidas by Stella McCartney



G Star ocean denim collection



American Express credit card



Corona & the World Surf League reusable bags.

Fig. 4: Projects and Products that use Parley of the Oceans Ocean Plastic®.

3 Findings

In this article we focused on assessing if through the practice of Design, the studied cases may contribute to the mitigation of the negative impact of plastic that ends its life cycle as marine litter. On this extent, in order to obtain sustained findings, we used a set of Key Evaluation Questions (KEQ's) to assess the Design approaches implemented by each of the case studies selected. We registered these findings on the table below.

Key Evaluation Questions

1. How is the initiative designed?
 2. What is innovative in this approach?
 3. How does the initiative create impact?
-

Seaqual Initiative

- KEQ 1**
- Clear Problem and Purpose Identification – Upcycle Marine Litter and protect the Oceans
 - Holistic Approach - Collaborations to support ocean clean ups, raise awareness, support improvement of waste management and recycling infrastructures, and sell new sustainable polymers and fibers.
 - Works local to reach global – Established partnerships with local fishermen, scientists, environmentalists, authorities and NGO's.
-
- KEQ 2**
- Innovative Product – Upcycled Marine Plastic;
 - Traceability and Certification – Guarantees Authenticity;
 - Brands and Manufacturers Licensing Obligation – Reduces “green washing” as companies must comply with Seaqual Initiative standards.
-
- KEQ 3**
- Prevents Marine Litter from being sent to landfills or incinerated (over 99 tones of marine litter have been transformed in Upcycle Plastic);
 - Promotes Scalability (present in more than 46 countries with +300 brands and +300 manufacturers).
 - Gives visibility to those people and organizations helping to clean our oceans;
 - Creates awareness of the problem of marine litter with Clean Ups and Educational Programmes.
-

Oceanworks

- KEQ 1**
- Clear Problem Identification – Difficult access to Marine Litter resins and fibers
 - B2B Concept – Bridges the link between Sellers and Buyers
 - Promotes a secure Global Supply Chain Works globally – Online sales
-
- KEQ 2**
- Innovative Business Model - First Global Marketplace for recycled marine and adverted plastic materials and products.
 - Traceability and Qualification – Guarantees quality and authenticity;
 - Works with worldwide sellers - Continuous delivery reassures demand needs.
-
- KEQ 3**
- Promotes stability between trusted suppliers and demand markets
 - Promotes capacity and reliability – the guaranteed supplier network has reliable capacity at volume, which assures scalability;
 - Offers the integration of recycled plastics in the supply chain, that drives immediate consumer value;
 - Reasons product uptup, thus contributes to marine litter diminishment.
-

Parley for the Oceans

- KEQ 1**
- Clear Problem Identification – Irradicate Marine Litter problem from the Oceans;
 - Clear Purpose – Bridge knowledge and support research to clean the oceans and provide an alternative solution for plastics;
 - Non-profit organization;
 - Co-creation Working model – Bridges the co-creation between designers, scientists, artists, researchers, worldwide communities, brands, manufactures and national and international authorities, towards new solutions for marine litter.
-
- KEQ 2**
- Innovative AIR Concept – Avoid plastics, Intercept plastics before and after they became marine litter; Redesign plastic products and materials so that new sustainable solutions can be used;
 - Collaborative partnership approach – Parley Talks | Collaboration Sessions | Collaboration Projects.
-
- KEQ 3**
- Holistic Network of Stakeholders gives visibility to the marine litter problematic and raises consumer awareness;
 - Collaborative approach bridges disparate parties together and innovative solutions are often created;
 - Research for new materials helps the environment and promotes the development of new techniques and technology.
-

4 Discussion

In this section, we will evidence the similarities and differences between the case studies and discuss our findings to comprehend if their design approaches can promote the development of positive impacts concerning the oceans' sustainability, cross-referencing them with the reviewed literature, specifically the United Nations Sustainable Development Goals (SDG's), in order to identify possible contributions for the Common Good.

Seaqual4U and Parley for the Oceans, although with different purposes (Seaqual4u is a profit-oriented business organization and Parley for the Oceans is a non-profit organization), both promote the raising of awareness and ocean clean ups as well as the selling of their products (being that Seaqual4U has a capitalist interest, as where Parley for the Oceans uses their funds to implement the AIR approach). Oceanworks® focused on the creation of a trusted and reliable global marketplace, where recycled marine litter plastics can be purchased. These findings evidence that the case study's design approaches intent to mitigate the problem of marine litter. Therefore, it can be established that they are all determined to contribute for the fulfilment of the United Nations SDG 14 - Life below water, that aims to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification (UN, 2020).

Seaqual4U developed the Seaqual™ fabric from plastic marine litter recovered from the Mediterranean and West Coast Africa. Oceanworks® gathered a worldwide network of trusted collectors and recyclers that allowed them to produce certified resins and fibers made from marine litter. Parley for the Oceans created a global network of ocean clean up organizations to produce Ocean Plastic®, made from recycled marine litter. Therefore, findings show that all the case studies are working towards the development of responsible, sustainable and ethical materials and products that can lead to the accomplishment of United Nations SDG 12 - Responsible Consumption and Production, which envisions the dissociation of economic growth from environmental degradation (used by linear economy models), as well as the increase of resource efficiency and promotion of sustainable lifestyles.

Findings also indicate that all case studies established collaborative partnerships between different stakeholders, which helped bridge knowledge with practice, although with some differences. Seaqual4U formed a collaborative community that brings together individuals, organizations and companies. Oceanworks® has built a global network of collectors, recyclers, and manufacturers in order to attend worldwide demands for marine plastic resins. Parley for

the Oceans has the broader collaborators range of the case studies, as it bridges stakeholders from the most diverse areas such as art, fashion, entertainment and sport with environmentalists, scientists, authorities and brands. Still, even if differently, all case studies evidence the contribution for the fulfilment of UN SDG 17 - Partnerships for the goals, that entails inclusive partnerships at global, regional, national and local levels, built upon principles and values, in this case regarding the Oceans and Its sustainability (UN, 2020).

The KEQ's allowed us to evaluate them regarding relevance, appropriateness and outcome/impact. The first KEQ provided information regarding the purposes and processes each case study used. All showed a clear problem identification (plastic marine litter) and a well-defined work process. The second KEQ established the appropriateness of their initiatives. All showed to be working towards a solution to their problem, using different Design approaches. The third KEQ shows the outcome or the impact each case study proposes to have in order to positively contribute to the solution of their identified problem.

Overall, our findings indicate that the chosen case studies seem to promote the sustainability of the Oceans, thus contributing for a healthier environment and consequently for the Common Good.

5 Conclusions / Final Considerations

Design has always been seen as a practice responsible for the development of useful goods that are aesthetically appraisable and drive consumerism. However, Design practice has a broader valence that embodies knowledge and purpose, which led to its recognition by social and business structures as an added value of innovation and competitiveness. Therefore, in a time where consumer needs reached a tipping point and conscious consumption is mandatory if we wish to continue living within the planet's boundaries, global stakeholders need to adapt to these new environmentally driven purposes. Innovative Design approaches like Design for Sustainability (DfS) seem to be the path to follow.

The selected case studies collect, transform and/or distribute plastics recovered from the oceans, which can be qualified as a DfS approach, because they embody a holistic life cycle perspective of their products. We concluded that their activities comprehend structured and innovative design processes that deviate from the take-make-waste linear business models and work towards a circular economy model, where products are thought considering their entire life cycle. Moreover, the information provided by the findings on the design approaches developed by each of the case studies, suggests that they can be of major relevance and have the potential to reach a positive impact towards the sustainability of the Oceans.

However, we consider that future work needs to be done in terms of quantitative and qualitative research to assert all their Design practice positive impacts.

Nevertheless, if innovative and ethically responsible Design approaches are required and valued as efficient tools to sustain consumers' trust, they may contribute to a shift towards more sustainable consumption patterns, which will ultimately contribute to the preservation of the Common Good.

References

- AIGA – The Professional Association for Design (2020). Types of Design Practice. AIGA. Retrieved December 27, 2020, from <https://www.aiga.org/aiga/content/tools-and-resources/student-resources/types-of-design-practice/>
- AGDH – Australian Government Department of Health. (2020). Coronavirus (COVID-19) campaign resources . Retrieved November 2, 2020, from <https://www.health.gov.au/resources/collections/coronavirus-covid-19-campaign-resources>
- Aristotle (n.d.). Politics: Books III and IV. Clarendon Aristotle Series, translated by Robinson, R. & Keyt, D. and printed in 1995 by Oxford University Press.
- Barnosky, A., Ehrlich, R., Hadly, A. (2016). Avoiding collapse: Grand challenges for science and society to solve by 2050. *Elementa: Science of the Anthropocene* 4: 000094.
- Betterevaluation Website (2020). Specify the Key Evaluation Questions. Retrieved, November 10, 2020, from https://www.betterevaluation.org/en/rainbow_framework/frame/specify_key_evaluation_questions
- Bishop, G., Styles, D., Lens, P. (2020). Recycling of European plastic is a pathway for plastic debris in the ocean. *Environment International*, Volume 142.
- Chiba, S., Saito, H., Fletcher, R., Yogi, T., Kayo, M., Miyagi, S., Ogido, M., & Fujikura, K. (2018). Human footprint in the abyss: 30 year records of deep-sea plastic debris. *Marine Policy*, Volume 96, p.p. 204-212.
- CNN Business Website (2020). McDonald's and other brands are making 'social distancing' logos. Retrieved November 2, 2020 from <https://edition.cnn.com/2020/03/26/business/social-distancing-brand-logos-coronavirus/index.html>
- Cross, N. (2001). Designerly ways of knowing: design discipline versus design science. *Design Issues*, 17(3) pp.49–55.
- Davidson, J.(2012). Citizen Consumers: The Athenian Democracy and The Origins of Western Consumption. The Oxford Handbook of the History of Consumption, Oxford University Press.
- Desis website (2020). Homepage. Retrieved September 20, 2020, from <https://www.desisnetwork.org/>.
- Dezeen website (2020). "Plastic is a design failure" says Parley for the Oceans founder. Retrieved November 20, 2020, from <https://www.dezeen.com/2016/06/08/cyrrill-gutsch-interview-parley-for-the-oceans-founder-ocean-plastic/>.
- Ehn, P., Nielsen, E.M., Topgard, R. (2014). Making Futures: Marginal Notes on Innovation, Design, and Democracy. Cambridge: MIT Press.
- Ehrenfeld, J., 2018: Sustainability by Design: A Subversive Strategy for Transforming Our Consumer Culture Paperback. Yale University Press, New Haven and London.
- Goodrick, D. (2014). Comparative Case Studies, Methodological Briefs: Impact Evaluation 9, UNICEF Office of Research, Florence.
- Gov.UK Website, 2020. Coronavirus (COVID-19). Retrieved December 10, from <https://www.gov.uk/coronavirus>
- Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223), 768–771.
- Le Blanc, D., Freire, C., Vierros, M. (2017). Mapping the linkages between oceans and other Sustainable Development Goals: A preliminary exploration. Department of Economic & Social Affairs Working Paper No. 149. Retrieved November 8, 2020, from https://sustainabledevelopment.un.org/content/documents/12468DESA_WP149_E.pdf
- Nasa Science website (2020). Climate Variability. Retrieved November 11, 2020 from <https://science.nasa.gov/earth-science/oceanography/ocean-earth-system/climate-variability>.
- Nova-Reyes, A, Muñoz-Leiva, F., Martínez, T. (2020). The Tipping Point in the Status of Socially Responsible Consumer Behavior Research? A Bibliometric Analysis. *Sustainability*, 12, 3141.
- Oceanworks website (2020). About Oceanworks. Retrieved November 11, 2020, from <https://oceanworks.co/pages/about-oceanworks>.
- Openideo website (2020). Homepage. Retrieved September 10, 2020, from <https://www.openideo.com/approach>.
- Papalambros, P. (2015). Design Science: Why, What and How. *Design Science*, 1, E1.
- Papanek, V. (1984). Design for the Real World. 2nd edition, Academy Chicago Publishers, Chicago.
- Papanek, V. (1995). The Green Imperative: Ecology and Ethics in Design and Architecture. Thames and Hudson Ltd, London.
- Parley website (2020). Homepage. Retrieved November 5, 2020, from <https://www.parley.tv/#fortheoceans>.
- Plato (n.d.). Republic. Translated by Desmond, L. and printed in 2003. London: Penguin Books.
- Press, M., Cooper, R. (2016). The Design Experience - The Role of Design and Designers in the Twenty-First Century. Routledge.
- Reich, R. (2018). The Common Good. Knopf Publishing Group, New York.
- SDC - Sustainable Development Commission (2011). History of SD. Retrieved November 2, 2020, from http://www.sd-commission.org.uk/pages/history_sd.html.
- Seaqual website (2020). FAQs. Retrieved November 9, from <https://www.seaqual.org/faqs/#1585758845803-7378639d-b1fa6553-d20f>.
- SNS - Serviço Nacional de Saúde Website, (2020). Retrieved December 10, from <https://www.sns.gov.pt/noticias/2020/11/16/covid-19-recolher-obrigatorio/>
- Thompson, R. C., Moore, C. J., vom Saal, F. S., & Swan, S. H. (2009). Plastics, the environment and human health: current consensus and future trends. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 2153–2166.
- Trentmann, (2012). Chapter I - Introduction. The Oxford Handbook of the History of Consumption, Oxford University Press.
- UN – United Nations (1972). Conference on the Human Environment. Retrieved September 2, 2020, from https://www.un.org/ga/search/view_doc.asp?symbol=A/CONF.48/14/REV.1
- UN – United Nations (1987). Report of the World Commission on Environment and Development: Our Common Future. Retrieved September 2, 2020, from https://www.are.admin.ch/are/en/home/sustainable-development/international-cooperation/2030agenda/un_-milestones-in-sustainable-development/1987--brundtland-report.html.
- UN – United Nations (2020). Sustainable Development Goals, Knowledge Platform. Retrieved November 6, 2020, from <https://sustainabledevelopment.un.org/?menu=1300>.
- UN – United Nations Environment (2019). Global Environment Outlook – GEO-6: Healthy Planet, Healthy People. Cambridge University Press, Nairobi.
- UNEP Website (2020). Oceans and Seas. Retrieved August 26, 2020, from <https://www.unenvironment.org/explore-topics/oceans-seas>
- UNCC - United Nations Climate Change (2020). The Paris Agreement. Retrieved November 4, 2020, from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.
- USA Homeland Security Website, (2020). DHS responds: Coronavirus (Covid-19). Retrieved December 10, from <https://www.dhs.gov/coronavirus/coronavirus-news-updates>
- Veblen, T. (1899). The Theory of the Leisure Class: An Economic Study of Institutions. New York: The Macmillan Company.

- Visser, M. (2009). Landmarks for Sustainability: Events and Initiatives that Changed the World. University of Cambridge. Retrieved November 15, 2020, from <https://www.cisl.cam.ac.uk/resources/archive-publications/landmarks-for-sustainability-events-and-initiatives-that-changed-the-world>.
- WDS – World Design Summit (2017). Montréal Design Declaration. Retrieved from: http://www.designdeclaration.org/wp-content/uploads/2019/01/Montreal_Design_Declaration_2017_WEB.pdf
- WHO - World Health Organization (2020). Connecting the world to combat coronavirus. Retrieved December 10, 2020, from <https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus>
- WHO - World Health Organization (2020a). Landpage. Retrieved December 10, from <https://www.who.int/>
- Zalta, E., Nodelman, U., Allen, C., & Anderson, R. (2018). The Common Good, Stanford Encyclopedia of Philosophy, 29. Retrieved October 10, 2020, from <https://plato.stanford.edu/archives/spr2018/entries/common-good/>

Acknowledgements

Research Center for Architecture, Urbanism and Design, University of Lisbon, Portugal.

**Educating for the Common Good / Re-Orienting
Design Education / Other Ways of Worlding:
Interrogations of Design Education, Theory,
and Practice / Calling Upon the Common Designer:
An Interactive Roundtable Exploration of Design
Education & Practice**

Re-Orienting Design Education

**Hidden Connections:
Holistic Approaches to Design
for the Common Good**
Eric Benson, Michelle Fehler

**Design Education as a Common Good
for Artisans in India**
Judy Frater

**Implementing Design for the Common
Good in an MA Curriculum**
Ulla Ræbild, Richard Herriott

**How Will It Benefit the Community?
Designing a Cybernetic Curriculum
for the Common Good**
Michael Hohl

Hidden Connections: Holistic Approaches to Design for the Common Good

Keywords: Systems Thinking,
Life's Principles, Graphic Design,
Re-nourish, Biomimicry.

Eric Benson^a,
Michelle Fehler^{b*}

^aUniversity of Illinois
at Urbana-Champaign

^bArizona State University
*mfehler@asu.edu

Teaching designers to create for the "Common Good" is a needed effort. As it stands, academia markets niche degrees with a focus on "designing for the common good" with terms like "social impact" and "sustainability" stand out as oddities separate from the traditional focus on designing corporate solutions.

Faced with the growing social issues and inadequacies of racism, climate change, accessibility, wellness, equity, and education, design curriculums are severely lacking in their focus on the common good. Instead, design education must recognize that their conventions of co-design, sustainable, life-centered, biomimicry, social impact designs need to be incorporated into a methodological approach combining strategies of all to ensure design is a tool that leads to outcomes benefiting all. This method is called Systems Thinking.

We will discuss two programs where creating for the common good is embedded in their curriculum as case studies for higher education to follow.

1 Introduction

Graphic designers can be divided into two major categories. Designers who work on solutions that serve the clients' needs, and designers who feel their responsibility goes beyond the client's needs and consider all connected elements within and beyond the context of the problem. This approach is often described as Systems Thinking. Since everything is connected, "[s]ustainable design can't be achieved by optimizing just one attribute" (Jedlička, 2010). To arrive at design solutions that foster the common good, the designer's approach must include Systems Thinking. In this article, we will focus on graphic design programs, however, we do feel that there are similar concerns across all fields of design.

1.1 Mapping the Field

The current graphic design curriculum still has its roots in colonial and linear philosophies. Many of the design programs do not yet embrace factors of socio-economic, political, racial, and environmental contexts (Benson et al. 2017). In an analysis of four-year international undergraduate graphic design programs within universities and colleges, it is easy to form a fairly standard model of their curriculum goals. This landscape of graphic design in higher education is one where many undergraduate degrees focus on predominantly teaching and training students the fundamental skill sets to practice the craft in a professional landscape. This means students learn the basics of semiotics, composition, form-making, and software (amongst others) at a foundational level, and then depending on the specific design major (graphic, industrial/product, or UI/UX) they will be taught the tools and methods necessary to practice those design areas after university. "Within the over 2,000 undergraduate design programs in the U.S. overall, design schooling has not helped students become broader-thinking people who can help shape a democratic society" (Garcia, 2016). Each design area is siloed within a larger institution that further siloes other sub-areas compartmentalized and separate.

At the graduate level, the landscape shifts allowing the student to traverse deeper into more specific areas of design they are interested in. At the master's level one will find one, two, and three-year design degrees (MDes, MFA, MS, or MA) with names like Transition Design, Design for Social Innovation, Service Design, Experience Design, Product Design, or Sustainable Design (to name a few). Each delves into more details within a niche area of design where students build upon their undergraduate experiences in and out of design to learn the fundamentals of those smaller design areas, while at the same time add new knowledge to each through their thesis work. In addition to these branded degree titles, there are also graduate design programs that offer masters in the general field of design where students bring their interests to campus. These thesis investigations sometimes do not necessarily fit into an existing academic silo. However, those programs are in the minority in a sea of more jargony degree names. We also want to acknowledge that over the past few years, many programs have started to

shift the narrow focus of design education toward a more environmentally and socially conscious practice, partially due to the emergence of interdisciplinary programs (Garcia, 2016).

It's a problematic dichotomy presented in graphic design curricular structure, where undergraduate students are asked to focus most often on corporate needs (benefits to a few), while in graduate school they have the option to explore design as a common good (benefits to all). The logic that one must know the basics of graphic design to approach a more advanced question in a project about climate change or inequality has merit, however as the world's current and future problems grow worse, this separate but unequal division must instead blend together.

Currently, in many cases (but not all), undergraduate design students have to separate their interests or questions about designing for positive impact versus "learning how to design." Design students at every level should be taught the basics of their design areas, but also through their class projects and research must be more aware that their design outcomes have an impact. These impacts can be positive or negative, and through Systems Thinking students can learn how to create "benefits to all" in mind.

1.2 Niche and Nietzsche

The landscape of graduate-level graphic design in higher education has more options to study and implement work that has a higher goal than only meeting economic needs through its outcomes. In looking for a college or university to attend for a graduate degree, a prospective student can find dozens of different international options for a MA, MS, MDes, or MFA degree in "Sustainable Design" that are very generally focused on "design" and specific to fields like architecture, graphic design, or urban planning. Or in a different online search for graduate design degrees focused on social impact, a potential student can find (with greater effort) MA, MS, MDes, or MFA degrees with titles like M.A. in Social Design, Master of Arts in Design for Social Impact, Design for Social Innovation (DSI), Masters in Design Studies, Design Innovation and Citizenship, Inclusive Design, or MFA Indigenous and Decolonial Art Concentration.

These degrees are vitally important and valuable for design disciplines and society if action is taken during and after the awarding of a degree to practice design for the common good. However, despite the university's efforts to increase a design student's knowledge and skills to improve our world, the degrees are still siloed in a niche area of sustainability, service, or social impact design. "Design education may need to situate itself away from the traditional art or engineering setting to facilitate greater interdisciplinary learning" (O'Rafferty et al., 2014). This is where even these degrees aimed at the common good are falling short. Despite their important efforts, the degrees, for the most part, are still trapped in a siloed educational model that includes the branding of their

degree title. There are important tools, methods, skills, and knowledge stuck in each of these separated design areas that are needed in others for the design discipline to be fully effective in creating for the common good. But what is exactly the “common good”?

The generally accepted definition is defined as “the benefits or interests of all.” Scholars in design have opined on the definition of designing for the common good. Designer and educator Jorge Frascara recognizes “[...] four kinds of design: design to support life, design to facilitate life, design to improve life. And then, there is inconsequential design [...] Inconsequential design, in terms of the grand scheme of things, is the exclusively commercial design; that is, design-oriented at supporting corporation A against corporation B.” (Frascara, 2001).

Designer and educator Cheryl Heller believes that “Social Design is the design of relationships, the creation of new social conditions intended to increase agency, health, creativity, equity, social justice, resilience, and connection to nature” (Heller, 2018).

Outside of design, English philosopher John Stuart Mill believed happiness was integral for the common good of all, but most importantly it couldn't be achieved if decisions made to improve your overall happiness impeded others from doing the same. He said, “(i)n any situation where there is a moral choice, the right thing to do is that which is likely to produce the greatest happiness for the greatest number of people and not harm others or promote values contrary to your own” (Mill, 1879). He called this philosophy Utilitarianism. It is another workable definition for creating for the common good.

German philosopher Friedrich Nietzsche long opposed Utilitarianism.

“[...] ‘Good’ is no longer good when one’s neighbor mouths it. And how should there be a ‘common good’! The term contradicts itself: whatever can be common always has little value [...]” (Nietzsche, 1907).

Nietzsche’s critique of the common good is a subject for a different paper, but we mention his argument as it is similar to the current divide in undergraduate and graduate design education. Undergraduate is mostly championing the individual and their future career of using design to “support corporation A against corporation B” versus graduate education which is invested in creating to facilitate and improve the lives of others. The two levels of traditional graphic design education cannot exist so dissonant if designers are to be a force in helping to solve our global crises.

2 Connecting Design for the Common Good – Our Proposal

It is important to note that it isn't accurate to paint the division between the undergraduate and graduate design degrees in every institution as stark as this paper has thus far. Many universities are trying to connect them. Two of which will be used as case studies later in the paper to demonstrate repeatable examples to create a more holistic (yet still imperfect) graphic design pedagogy.

Design does not exist or function in a vacuum. It also does not exist without Mother Earth. Gaia gifts everything we need for us to live and thrive. What we have unfortunately done with her philanthropy created the divides, crises, and opportunities we still have. Nature provides for all of us and, equally as important, is a model for inspiration and creation for the common good. Nature works as a cycle where waste is food and excess is eliminated. Nature works in a series of countless connected systems that rely on one another to achieve a sustainable balance.

The current model of teaching and practicing design is rooted in Colonial Imperialism which rejects this sustainable cyclical process of nature for one that is linear and unsustainable that consistently excludes non-white cultural voices, creates toxic waste and messaging, increases greenhouse gas emissions that warm our climate, and supports misogyny.

This educational model does not put design as a discipline into the category of "in the common good" as it consistently ignores natural cycles and non-white cultures. Despite our best efforts at the graduate level to be more inclusive, fair, and just with our design topics and degrees, the discipline is still largely functioning outside of "in the interests of all" as it is trapped in an outdated linear system of operation.

The authors' proposal to make design a catalyst for the common good is to rethink the design process from linear to cyclical, mimicking nature. Our design process should be practiced and taught under a framework called Systems Thinking. Robin Wall Kimmerer, an Indigenous professor of Biology, idyllically describes this methodology: "The breath of plants gives life to animals and the breath of animals gives life to plants. My breath is your breath, your breath is mine. It's the great poem of give and take, of reciprocity that animates the world" (Kimmerer, 2013).

In other words, everything is connected on our planet and our natural systems depend on a dynamic non-equilibrium trying to achieve balance. So, to think in systems, when it comes to our profession, means we approach a design problem by being informed, aware of, and influenced by the impacts that our material and vendor choices have on one another, the planet, and consequently on us (Benson & Perullo, 2017).

Furthermore, the best practices, tools, and methodologies from the various design sub-areas like human-centered, service, empathic, sustainable, inclusive, indigenous, social, participatory, experiential, and transition design should be incorporated into the systems thinking process.

It is common in academic venues to see innovative design methods for participatory or service design that produce impactful results. At the same time, it is equally common for these outcomes to be lacking in considerations for environmental sustainability or regenerative design projects (or vice versa). A more holistic approach to creating is important for the common good to be achieved “for all” through design.

Re-nourish.org plots out the systems thinking process effectively into four steps that can be taught at any design level (or implemented in a design agency) as Design Thinking is currently.

- determine project goals,
- map out the design problem,
- brainstorm outcomes, and
- evaluate each possible outcome (Benson & Perullo, 2017).

These four steps are included as part of a more robust Systems Thinking Toolkit from Re-nourish.org. A component of this toolkit and a bedrock of a Systems Thinking process are seven goals that should seek to be met in every design project.

- Eliminate waste.
- Renourish our planet (reparations for nature).
- Renourish our souls with a beautiful object or service.
- Create reciprocity (a gift that creates an ongoing relationship).
- Create with, not for inclusivity.
- Have a purpose, not just profit (improve quality of life).
- Advocacy for marginalized voices (reparations for others).

These seven goals of a Systems Thinking project are each important overarching thematic ideals found in many of our design sub-areas (like indigenous, inclusive, and sustainable designs). They are all components of a living document that should and will change as Systems Thinking is taught and practiced outside of the classroom in various iterations.

One can describe Systems Thinking visually to designers by showing the 1977 “Powers of Ten” film by the Eames. In this film, we learn about the universe and ourselves through how similar we are to everything else as we zoom in and out by a power of ten. This analogy demonstrates that in a design process acknowledging that everything is connected, we must look at details as much broader concepts to best solve a root cause of a problem for the common good.

This is a longer time investment than the typical Modernist linear design process as there is more weaving back and forth when much is learned through interdisciplinary collaborations and research to ensure that yes, indeed, the designer(s) have created a solution that not only best solves a problem with a sustainable outcome, but also considers “the benefits or interests of all”.

SYSTEMS THINKING

(LIFE-CENTERED DESIGN: LIFE'S PRINCIPLES + RE-NOURISH TOOLKIT)



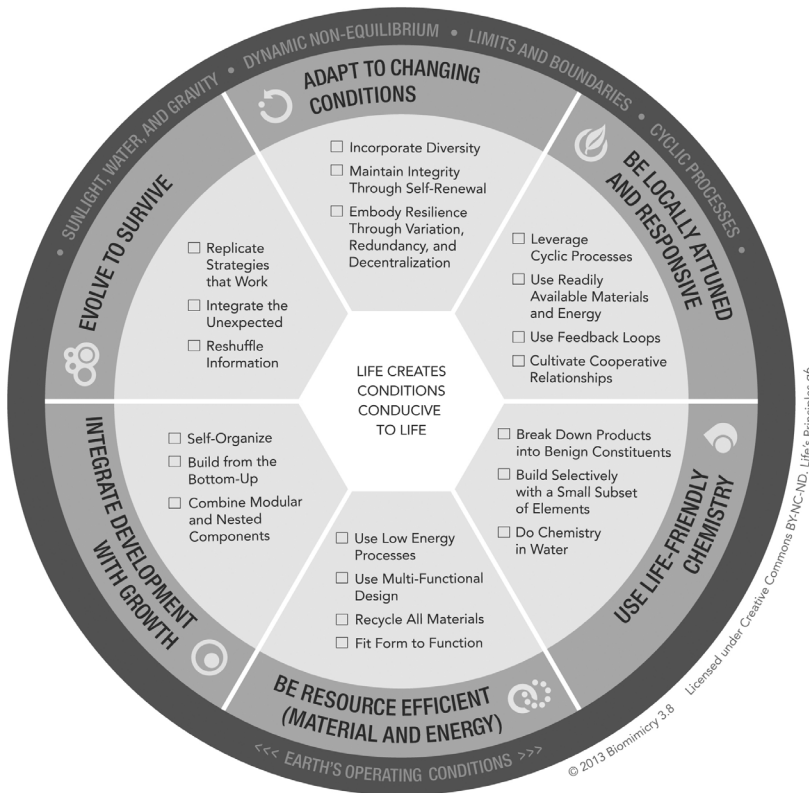
* Not a complete list of all areas

Fig. 1: Connecting design for the common good with systems thinking.

Gaia and Human-Centered Design are both crucial components of the common good. We consider “good” design to include other species beyond homo sapiens. Homo sapiens are just one species of many. Life around us has figured out strategies for more than 3.8 billion years on how to thrive. All living organisms are exposed to the same rules and limitations. We all experience the same gravity, are made of the same cells and have a desire to procreate, create community, and nurture future generations. Human-centered design has been a well-established practice in design research, practice, and education. However, for a design to truly benefit all, the design also needs to consider all life. We, therefore, propose to evolve the term human-centered to life-centered design.

In addition to the Re-nourish toolkit, another method to access, teach, and discover systems thinking is through Life's Principles (LPs) (cc Biomimicry 3.8). The LP's were developed by a group of dedicated biologists, scientists, ecologists, and other experts who promote the application of biomimicry (Baumeister et al., 2012). They examined, categorized, and grouped the general laws of our planet and thriving organisms into 26 Life's Principles. In a way, they summarized the rules of the system we know as planet Earth.

Fig. 2: The 26 Life's Principles as shared through creative commons license by B3.8.



To make the LPs more accessible, Fehler translated them into a tool that specifically relates to the world of visual communication design (Fehler, 2020). By converting them into a set of questions and a numbered ranking tool, graphic designers can tap into nature's 3.8 billion years of research and development with minimal time investment.

For example, the Life's Principle of "Build Selectively with a Small Subset of Elements" became: "Does the design consist of multiple and nested components? How?" or "Maintain Integrity Through Self-Renewal" became "Can it easily be updated and made current with minimal input of energy and resources? How?" and "Use Feedback Loops" became "How can you build-in a reliable channel or method for feedback that will inform future designs?" etc.

Over the past two years, this tool has been tested and revised as part of the *Sustainable Graphic Design* class (GRA 494/598) at Arizona State University (ASU) where students explore their social issue capstone projects. Feedback from students revealed that the nature-based tool helps them to rethink their problem areas, figure out what value they would like to change or add, and design in a regenerative and inclusive way.

It is important to note that Systems Thinking is not a new concept as it has been researched and discussed by scholars ranging from the worlds of ecology and biology to business and design for decades. However, based on the authors' current research and teaching, our proposal to help connect and unify various areas of design and the current organization of our design programs is novel and explored in greater detail in the case studies that follow. In other words, Systems Thinking in our proposal is a new and holistic way to help designers realize their responsibility in exploring everything that is connected to a problem in a way that the common good can be realized.

2.1 Systems Thinking at the University of Illinois

Like many universities, the graphic design curriculum at the University of Illinois was historically based exclusively on typography and layout. These fundamentals of the field are still embedded in the curriculum today, but over the past five years, the undergraduate and graduate programs have shifted to address the common good. The faculty research has been a driving force in this change. The overlap amongst the faculty's interest is indeed designing for the common good. Whether it be racial inequality or safe access to bike transportation in cities, the graphic design program at the University of Illinois has reenvisioned both their undergraduate and graduate degrees to reflect the current times while not forgetting about the field's past.

The first major step for the curricular changes was to rewrite the program mission to include the common good as a fundamental goal. "Coursework addresses graphic design fundamentals (typography, critical thinking, and image-making), design history and contemporary practices, research methods, user experience, and social responsibility. Students engage with complex problems and are asked to identify opportunities where design can intervene" (Benson et al., 2015).

The second step was to create new and retitle existing classes so that it was clear how each helped achieve the program goals. The faculty created a required junior-level design ethics course entitled *Ethics of a Designer in a Global Economy (EDGE)*. Secondly, Systems Thinking became a mandatory topic during the sophomore year in the *Design Methods* course. In combination with those two courses, a topical *design course (Design Inquiry)* was redesigned to be a junior and senior vertical-studio. Despite the topic of this course (taken

twice) being open to the instructor, consistently it featured projects on the common good.

The faculty also created three levels of digital interaction courses that were topical like *Design Inquiry*. They featured the basics of web development and usability on projects that were designed by students or focused on the common good. In harmony with these courses were the graphic design fundamental courses on typography, layout, and portfolio production.

The graduate program changed its name from an MFA in Graphic Design to an MFA in Design for Responsible Innovation (DRI). The degree offers these specialized tracks of study:

- Sustainable and regenerative design.
- Urban sociology and critical race design.
- Visual and cultural studies.
- Student-proposed applied research in responsible innovation, social impact, and engagement.

It is a requirement in the MFA to take the *Ethics of a Designer in a Global Economy (EDGE)* course. As these graduate students could enter academia post terminal degrees, the faculty assigns them as teaching assistants in undergraduate courses. It is common for the graduate students to share their work with the younger graphic design students continuing the conversation on design for the common good between both degree levels.

As this curriculum is all relatively new, the faculty are always looking for ways to improve its delivery and to see how it impacts students during and post-graduation. In working with Arizona State on this paper, adding the work being done at their graphic design program could help improve the teaching and research at the University of Illinois and vice versa.

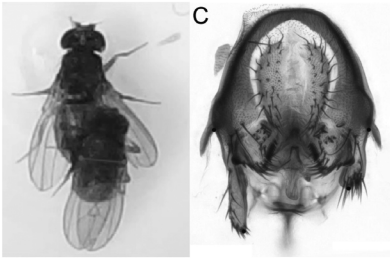
2.2 Nature-Based Design at Arizona State University

The Visual Communication Design (VCD) program joined The Design School in 1996 after being in the School of Art since the mid-1980s. It has since had a strong focus on typography, critical thinking, information design, and hand-made skills. Recently, ASU celebrated 25 years of its Social Issue Design Exhibits. For these exhibits, students spend their senior year researching, exploring, and designing interventions to alleviate a chosen social issue (Sanft 2005). In 2012, the Design School also launched a studio-based Master's of Visual Communication Design (MVCD) program. This program builds on what the undergraduate program already established and emphasizes work in design research, experimentation, and social/environmental engagement. In 2015, ASU became the first university worldwide to establish a Biomimicry Research Center and launched a Biomimicry Masters' and a graduate certificate degree program.

Over the past eight years, these programs cross-pollinated best practices, thus Systems Thinking and Biomimicry have been included in various courses that make up the undergraduate and graduate visual communication design programs. Below are examples of assignments that allow students to explore, understand, and apply nature-based Systems Thinking in their design work.

Biomimicry in Design (DSC 598), is a multi-disciplinary graduate seminar at ASU where students learn how to tap into nature's design principles. To understand the intricacies of the Life's Principles (LPs) and to see the contrast between how nature versus humans design, students participate in an exercise called "Life's Principles in Nature and Design" (Baumeister, 2015). Each student is given two LPs to study. Then, the students go outdoors to find local organisms that serve as good examples for each LP. Once found, they search for design solutions that also follow the same LPs. By deep-pattern finding in nature and design, students compare and contrast solutions and often find that human solutions do not follow as many LPs as nature's solutions.

LP: Integrate the Unexpected – Fruit Fly (*Drosophila pachea*)



The fruit fly that lives in the Sonoran Desert is not only a species that is dependent on a cactus to help produce a protein to help mature larvae. It also produces in the male an asymmetrical reproductive system. The left lobe of this fruit fly is drastically more extensive than the right side. This insect's historical evolution has shown morphed patterns from left to the right side of the lobe in response to the mating position. This drastic change in the fruit fly's asymmetrical anatomy leads one to conclude that the fly's balance would change, but this enlarged lobe doesn't hinder the fly at all. The *Drosophila Pachea* study shows that it isn't the case as its ancestors evolving due to the mating evolution of sex organs. Instead, the male's asymmetric lobes tightly grasp the female's abdomen in an asymmetric 'locking' position, with the left and right lobes reaching different female structures. This is a different mutation function for the male fruit fly compared to other insects. This mutation ensures the optimal reproduction of the *D. pachea* to prolong the species.

<https://www.semanticscholar.org/paper/Drosophila-pachea-asymmetric-lobes-are-part-of-a-Rhebergen-Courtier-Or-gogozo/7d7254b9e905930c981e47437088326321137b41>

<https://www.biorxiv.org/content/10.1101/816538v2.full>

LP: Integrate the Unexpected – Color Mauve



A young chemist named William Perkin was only 18 when he was trying to find a cure for malaria; instead, he created the color mauve in 1856. At the time, purple was only worn by people of nobility. Perkin was trying to oxidize organic compounds found in coal tar and sulfuric acid, but instead, his results lead to this black slime. With Perkin's curiosity, he touched the substance and found out that it made a purple dye, which is seen in an old notebook. He showed his brother his findings along with his brother's classmate when they began studying the dark slime. The three eventually tested it on silk to find that this was a cheaper method than the current produced from a species of sea snails, which affected thousands of predatory sea snails. Later this process of Perkin's work helped Paul Ehrlich to create chemotherapy. Without the acceptance of learning to adapt to mistakes, the sea snails could be extinct and possible no creation of chemotherapy.

<https://www.famousscientists.org/william-perkin/>
<https://www.inc.com/tim-donnely/brilliant-failures/9-inventions-made-by-mistake.html>

Learning about systems in nature provides opportunities for increased curiosity about systems elsewhere, and deepens connections to nature. Students in *Sustainable Graphic Design (GRA 494/598)* learn cause and effect through causal loops, a tool to find leverage points. Donella Meadows (1999), esteemed systems thinking expert, defines leverage points as: "...places within a complex system... where a small shift in one thing can produce big changes in everything". Designers who leverage causal loops can find opportunities where a minimal input of energy, material, or perspective can bring about the needed change for the common good.

After an introduction to systems mapping, students are asked to watch a short nature documentary. Then they are tasked to synthesize information from the natural system into a causal loop. After a reflection discussion, students then map a component of their capstone/applied project into a causal loop. This activity has helped many students find opportunities where their work can bring about change as well as confirm that their messaging can lead to the desired outcome.

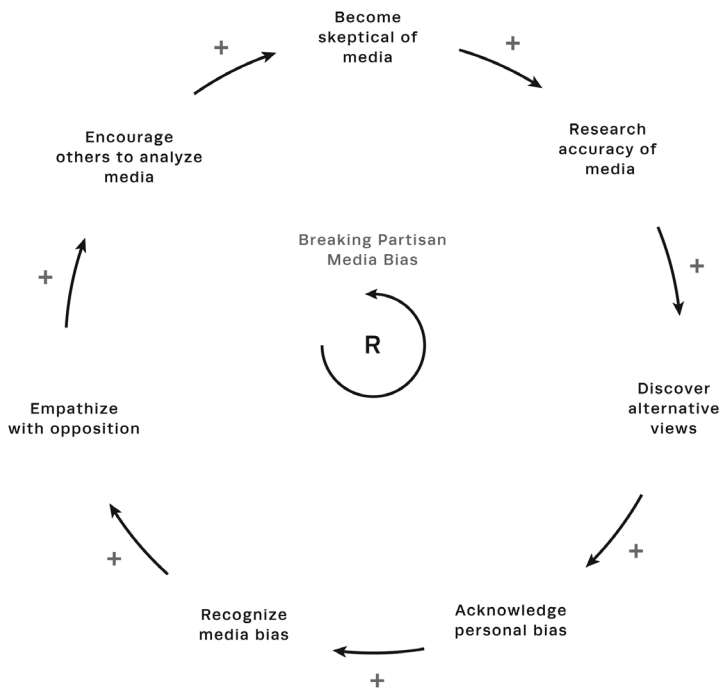


Fig. 4: Causal Loop exploring the reinforcing cycle of bipartisan media bias in the United States. K. Van Zile, GRA 494, Spring 2020.

3 Leveraging the Hidden Connections – Bringing Us Together

At the time of publication, a pandemic is disrupting many established systems. It is shining a light on issues from healthcare, racism, to inequities within our economic and educational systems. Design education must support an evolution into a more just, inclusive, and healthy society. Design for the common good requires a deep investigation into systems that, in the past, has not been part of design curricula. From teaching this process in our design courses, we have found that it is a valuable approach to define design problems, set meaningful goals, inspire students, shift values, and design interventions that benefit all. To do this successfully, we have to connect the silos of the sub-areas of design and integrate their tools to become part of a more holistic design education using Systems Thinking.

We hope that this paper inspires many to work with the Re-nourish Systems Thinking toolkit and the Life's Principles in design curriculum. The goal is to improve upon their offerings and create better tools and theories so that Systems Thinking can be disseminated with collaborators near and far.

References

- Baumeister, D., Tocke, R., Dwyer, J., Ritter, S., & Benyus, J. (2012). *Biomimicry resource handbook*. A seed.
- Baumeister, D. (2015). *LP Example* [Assignment]. Retrieved from Blackboard.
- Benson, E. (2019). Systems thinking: Re-nourish. Retrieved December 09, 2020, from <https://re-nourish.org/systems-thinking/>
- Benson, E., Gibson, M., & Jennings, J. (2017). *Dezombies and the Coming Design Apocalypse: Confronting the Urgent Need to Increase Racial Diversity and Environmental Awareness in University-Level American Communication Design Programs*. *Dialectic*, 1(2).
- Benson, E., Briggs, M., Mercer, L., Robinson, S., Ruecker, S., Salamanca, J., & Thomas, N. (2015). *Graphic Design BFA*. Retrieved December 13, 2020, from <https://art.illinois.edu/index.php/prospective/academics/undergraduate-programs/graphic-design>
- Benson, E., & Perullo, Y. (2017). *Design to Renourish: Sustainable Graphic Design in Practice*. Boca Raton, FL: Chapman & Hall CRC.
- Fehler, Michelle. (2020). *Life's Principles in Visual Communication Design*. Retrieved from <https://naturefactor.com/resources/>
- Fascara, J. (2001). A history of design, a history of concerns. *Graphic design history*, 13-18.
- Garcia, A. R. (2016). The importance and availability of factors influencing socially responsible design curriculum in U.S. higher education undergraduate programs. ProQuest Dissertations Publishing.
- Heller, C. (2018). *The Intergalactic Design Guide: Harnessing the Creative Potential of Social Design*. In *The Intergalactic Design Guide*. Island Press.
- Jedlička, W. (2010). *Sustainable graphic design: tools, systems, and strategies for innovative print design*. John Wiley & Sons.
- Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge, and the teachings of plants*. Milkweed Editions.
- Meadows, D. H. (1999). *Leverage points: Places to intervene in a system*.
- Mill, J. S. (1879). *Utilitarianism*. United Kingdom: Longmans, Green, and Company.
- Nietzsche, F. W. (1907). *Beyond Good and Evil: prelude to a philosophy of the future*. United Kingdom: Macmillan.
- O'Rafferty, S., Curtis, H., & O'Connor, F. (2014). Mainstreaming sustainability in design education—a capacity building framework. *International Journal of Sustainability in Higher Education*.
- Sanft, A. (2005). *Senior Show* [Assignment]. Retrieved from Blackboard.

Acknowledgements

We would like to show gratitude for our colleagues and students without whom our work would not be possible. We are also deeply humbled by the genius of all organisms around us and the limitless inspirations they shower us with.

Design Education as a Common Good for Artisans in India

Keywords: Design Education,
Artisans, India, Kutch, Textiles,
Craft Traditions, Cultural Heritage,
Common Good, Value-Based
Assessment, Cultural Economics,
Value-Based Economy.

Judy Frater^a

^a*Ashoka Fellow*

Artisans in India have been persistently perceived as workers, hands without heads who require the “intervention” of professional designers to provide them with work. Lack of access to attractive incomes or individual recognition has contributed to an estimated 15% of artisan communities leaving traditional crafts as a source of livelihood every year. Yet, with the crisis of COVID-19 and the eight-week lockdown imposed by the Government of India, the perception of artisans as laborers is clearer than ever as advocates of artisans-- designers and well-meaning NGOs- band together to decide where craft should be heading and provide artisans blocked from their work with designs for face masks and fridge bags

1 Introduction

Indian artisans are reeling from COVID-19 and its economic repercussions. Many organizations have emerged, concerned that craft faces an existential crisis. Notably, few artisans are members of these groups. In overwhelming discussions members suggested making masks, and later initiated marketing campaigns. Recently a weaver was promoted as descending from a lineage of weavers and today weaving a particular fiber. The campaign did not mention his design education, unique designs or his artistry. The message was that he needed help, and it once again brought up a fundamental question: who are artisans?

The Indian government has a Ministry of Textiles, and many schemes to uplift artisans. Amply funded, the schemes aim to upgrade skills to international standards. Yet, an estimated 15%^[1] of artisan communities leave traditional crafts as a source of livelihood every year. Though well meaning, old and new NGO and advocacy groups have done little to stem this tide.

The mismatch between schemes, support programs and results arises from perception. The concept and language of the schemes indicate that craft is perceived as an antiquated, inferior form of manufacturing that could only survive if propped up with “help.” Artisans are perceived as skilled workers.

Focus on skills valorises artisans in the market for a price known in economics as instrumental values. In this model, intermediaries facilitate the production of public and private goods and artisans are one end of the value chain.

The instrumental approach to craft, in addition to nominal valorisation fails to acknowledge artisan agency and creativity. It also crowds out intrinsic values of craft and obscures its inherent quality of shared and common good.

Traditional craft in India was not industry, made in in large scale factories or production lines. In Kutch^[2], an individual or family conceived the object to be made, produced or procured the raw materials needed, and created it; it was holistic creation. Nor was craft distributed in mass. The artisan delivered his work to users directly. Each artisan family had its own clientele, and there were often hereditary, personal relationships between makers and users. Traditionally craft was made in a community-based horizontal social structure, in which artisans all held more or less equal economic and social status.

[1] Laila Tyabji , The 5th International Textiles and Costume Congress, Maharaja Sayajirao University, Baroda, 3-5 October 2019.

[2] An arid district in western India on which this article is based.

In the 1950s, as India began nation building focused on rapid industrialization and traditional clients began to prefer mass produced goods over hand craft, artisans looked to more distant, unknown markets. With industrialization, the concept of design as an entity was also introduced. Designers were encouraged to intervene in commercializing craft, using an industrial model which assumed that the goals are to manufacture faster, cheaper and in a more standardized way.

Design “intervention,” began a process of separating concept and execution, resulting in the perception of artisan as worker. “Intervention” further implies a value hierarchy: that designers have valuable knowledge, while artisans have less valuable skills. Relegating artisans to worker status resulted in minimizing value for their work, little to no opportunity for creativity or recognition and, finally, waning interest in craft, particularly among the next generation. Artisans leave craft today because from their perspective, it does not generate enough income, nor enough respect for the effort that it requires.

2 Education for Artisans

After many years of studying craft traditions of Kutch, followed by many years working with hand embroiderers, in 2005 Judy Frater began a design education program for artisans. Anthropologist and former Curator at The Textile Museum, she understood that traditional craft held in museum collections and used as inspiration by designers across the world was designed as well as created by artisans. Her research further showed that artisans continued to innovate appropriately within their own cultural context^[3].

Concerned that the core strength of artisans was grossly undervalued and that the cultural heritage that craft traditions expressed would be lost if artisans were denied their agency in creating, she believed that through education the direction could be reversed.

The concept of her design education program is to value traditional craft as cultural heritage, to take traditional knowledge as a pre-requisite and provide what is understood as higher or specialized education directly to artisans. The program stresses identifying and appreciating tradition as a foundation, and then teaches artisans to innovate within that. It also acknowledges that a key issue is disconnection from contemporary markets and includes market orientation as a core element. The goal is for artisans to gain respect as well as better income.

[3] “This is Ours,’ Rabari Tradition and Identity in a Changing World,” *Nomadic Peoples* (Koln) Vol. 6, Issue 2, 2002.



Fig. 1: Master artisan advisors guided development of the program. Each year they conduct a day-long session teaching students about their cultural heritage. Credit: Judy Frater.

To ensure relevance and success, Frater enlisted guidance from respected master artisan advisors. She drew from key aspects of traditional learning systems and an understanding of artisan lifestyles so that artisans could attend and benefit from the course. The design course comprises six two-week courses spread over a year: Colour; Basic Design; Market Orientation; Concept, Communication, Projects; Collection Development, Finishing; and Merchandising, Presentation. Courses are taught in regional languages by visiting faculty who are professional design educators. They draw from local traditions and emphasize practical implementation of theory in studio work. Students and faculty live together, interacting intensively for the two weeks.

The modular structure, adjusted to accommodate cultural practices, enables working artisans to balance learning and ongoing work. Between courses students are given homework that tests their ability to apply learning in their crafts. Local faculty members, graduates of the program, visit students in their homes to ensure that they have understood course material and guide implementation in assignments. The year-long duration of the course ensures that students absorb, retain and use what is taught. The strengths of the course are thus local orientation, and sustained input^[4].

[4] Chatterjee, Ashoke, Kala Raksha Vidhyalaya: An Evaluation Report, June 2007.



Fig. 2: Students display and present their year's work to family members and artisan designer alumni. Thus the community is aware of learning. Their feedback is also important in sustaining tradition. Credit: Judy Frater.

Frater intended the course to initiate social change in artisan communities and received an Ashoka Fellowship to establish the program. In a conscious effort to build an alumni community and ensure support from the greater artisan community of Kutch, she included an alumni jury at the end of each course, and a family jury after the sixth course. Finally, students present to a jury comprising design and craft professionals. This ensures authenticated feedback, and simultaneously informs jury members of artisan capacity.

After directing the program under Kala Raksha Trust for eight years, Frater realized that artisans also need to learn business and management. So in 2013 she developed a post-graduate course, Business and Management for Artisans (BMA). Also modular and practice-based, the course launched in 2014 under Somaiya Kala Vidya, which today operates both courses.

Both courses end in public events. Each graduation program held in Kutch includes a professional fashion show, drawing thousands of enthusiastic viewers, and compelling them to value craft and artisans in other ways. BMA students plan and implement exhibition/ sales in higher-end urban venues, immediately confirming increased value. In 2015 an exhibition/ sale was also added to the design course.

Wanting to ensure that the programs address needs and values of the artisan students, in 2019 Somaiya Kala Vidya engaged cultural economist Dr. Priyatej Kotipalli to conduct a value-based assessment of 15 years of operation. As of 2019, 181 artisans had graduated from the design program, and 16 had graduated from the BMA course. Of these, 47 are weavers, 34 are Ajrakh printers, 2 are batik artists, 38 are bandhani artists, and 76 are embroidery artists. Among these, 82 are women and 115 are men. For the

study, 37 artisans were interviewed, 15 in an introductory group interview, and 29 in individual at home in-depth interviews. Of the in-depth interviews, 10 were weavers, 4 were Ajrakh printers, 1 was a batik artist, 6 were bandhani artists, and 8 were embroidery artists. Ten were women and 19 were men. The interviews were video recorded. This paper presents the findings of the role of design education in accessing values that artisans define as intrinsic to craft.

3 Artisan Designer Assessment of their Education

The study began by ascertaining values held by artisan communities. For artisan graduates, success is measured in terms of the ability to successfully and independently negotiate contemporary markets, and in terms of recognition within the community as well as in target markets. They also value being able to use their creativity and having a voice^[5].

Respondents of the study felt that the design course addressed their circumstances and needs, and appreciated that it connected them directly to the market.

“This course is especially for artisans,” one graduate said. “When we are in a group together we can share ideas with each other. We can learn from others' experience. If I had gone to [an urban institute], the students are all from different backgrounds.” (Abdul Vahab Haiderali Khatri, 2019 study interview).

They felt that the balance of theory and practice contributed to extending existing knowledge. Numerous respondents noted that they had learned to consciously vary their work, and that it enabled them to realize the value of their tradition.

“We didn't know about our traditions,” one graduate said. “In the course we realized the value of our own work. For homework we had to learn the stories of our traditions. We sat with our elders and asked them the history and meaning of motifs.” (Prakash Naran Siju, 2019 study interview).

Nearly all graduates cited confidence as a major result of their education.

“I lost the sense of inferiority about my lack of education,” one graduate explained. “I lost diffidence. Now I can talk with everyone.” (Rajesh Vishram Siju, 2019 study interview).

Another graduate related,

[5] Quoted from a meeting held with Bhujodi weaver design graduates 20 February 2018.

“Before, I was afraid, will my work be appreciated? SKV taught me how to get inspiration, make a theme board, get key words. I lost my fear. Now I know I can derive a design from anything.” (Khalid Usman Khatri, 2019 study interview).

In terms of economic impact, most respondents related dramatic benefits. With better design and assistance in connecting to better markets, they gained clients and orders. In turn, their incomes increased.

“If we make something from the heart customers don't ask why it costs so much,” one graduate said. “Til now, no one has questioned me.” (Poonam Arjun Vankar, 2019 study interview).

“Now it is our work,” another graduate declared. “It is my design, my collection; I name my price.” (Ramji Hirabhai Maheshwari, 2019 study interview).

Many graduates built larger workshops and homes.

“Before the course we couldn't save,” one graduate explained. “Now we have savings.” (Suresh Parbat Vankar, 2019 study interview).

He had purchased a car eight months ago.

Also important was gaining name recognition. Respondents related that they had previously worked for others and were not known.

“They would give us work and they would sell it,” one graduate said. “Even they didn't know whose work it was. They knew it was an artisan's work, but they didn't know the artisan's name.” (Varsha Uttam Bhanani, 2019 study interview).

“SKV and education brought a lot of change in my life, not just money but respect,” another graduate said. “I am known and invited by other NGOs. Even in our society I gained respect.” (Dahyalal Atmaram Kudecha, 2019 study interview).

Clearly, individuals benefited tangibly from learning design. The study also sought to ascertain the impact of the program on enhancing the inherent quality of craft traditions as a shared and common good.

In standard economic discussions, common goods are accessible to all- they are non-exclusive^[6]. Common goods have no clear

[6] (Klamer, (2017) p.83).

4 Design Education as a Common Good

legal ownership. They are held in common by an identified group of people, countries, or organizations. No one can be excluded from enjoying their fruits but there is rivalry between potential users[7].

Lohman cites five characteristics of common goods:

- Participation must be free and unforced.
- Participants must share a common purpose.
- Participants must have something in common that they share.
- Participation involves *philia* (sense of mutuality).
- Social relations must be characterized by *dikaon* (fairness)[8].

The traditional commons is the pasture that surrounds the village, free for all villagers to make use of. Established ongoing practices are also called a commons.

According to Klammer, a creative commons comes about when people add content, respond to that content, and share the content with others in their network. Without such contributions the creative commons would not exist. As a rule, contributions do not have any reward other than the satisfaction of being part of that conversation, of sharing in its ownership[9].

Klammer elaborates that through participating in and contributing to a creative commons, participants realize values. For example, a painting has value partly because it shares with other paintings the commons of the arts. It is almost impossible to get the value of art realized in an environment that lacks a commons for the arts[10].

[7] (Klammer (2017), p.91.).

[8] (Lohman, 1992 quoted in Klammer (2017), p.87).

[9] Klammer (2017) p.185.

[10](Klammer (2017) p.86).



Fig. 3: A young weaver walks the fashion show ramp at his graduation from Somaiya Kala Vidya. The design education program has brought the next generation back to hand craft as an excellent choice rather than a last resort. Credit: Ketan Pomal, L.M. Studio, Bhuj.

A craft tradition would therefore be an example of a creative commons. After 15 years of design education for traditional artisans, the number of artisan design graduates in the circumscribed Kutch region has grown, and a new genre of traditional artisan has emerged: the Artisan Designer. These graduates differ from artisans and urban designers, in that they both design and produce. Today the new community of Artisan Designers has fresh outlooks and a shared desire to realize the collective value of the individual stylistic innovations on tradition that each has developed through the shared experience of design education.

Graduates relate their ability to consider satisfaction beyond monetary gain.

“I felt that more than money I should enjoy work. When I started weaving I earned RS 700 while I was earning RS 1500 working in the company. I didn't go to the company for money, I went where I found satisfaction.” (Puroshottam Premji Siju, 2019 study interview).

“Our soul has to be content. It's not about car, a house, an AC. You should be able to sleep peacefully at night.” (Khalid Usman Khatri, 2019 study interview).

They relate the appreciation of individual creativity and their mutual respect, trust and collaboration for the greater good.

“We have brands, specialties. Before, in an exhibition all of the weavers would have the same designs so there was competition. Now if there are 8 of us in an exhibition each has his own specialty.” (Prakash Naran Siju, 2019 study interview).

“All of us who studied design show our work to each other, ask feedback. We don't hide our work from each other. It takes time to make a new design. Today we each do different designs, and it benefits us. Sometimes a customer brings a photo of someone else's work, asking us to produce it. The technique is the same. But we tell them that is his collection and give his address. We are clear. Or if they want silk and he uses it we send them to him. That is the benefit of education.” (Puroshottam Premji Siju, 2019 study interview).

They have begun to feel a responsibility for development of the artisan community. They understand themselves as role models.

“People who have taken the class with ambition have advanced. We have built good homes. The young generation has become interested. Because of education, weaving, printing and bandhani have become strong and now there is variation.” (Puroshottam Premji Siju, 2019 study interview).

“You can be a follower or a leader. You have to understand yourself as a role model; others will follow you.” Dahyalal Atmaram Kudecha, 2019 study interview.

The responsibility extends to cultural heritage. Today, Artisan Designers are concerned with raising the value of their heritage and perpetuating their traditions.

“We can meet weaving production challenges but to prepare the next generation of weavers is the real challenge.” (Ramji Hirabhai Maheshwari, 2019 study interview).

“In the future we want to develop further. Because our work should not die; we should try to take it forward so more people know about our living art in Kutch.” (Prakash Naran Siju, 2019 study interview).

“Because of design education Kutch artisans understand the importance of preservation of tradition. In the first class we bring master artisans for a whole day to talk about tradition. In one day listening to them we begin to think about something we will think about for the rest of our life: our value and the value of our craft.” Dahyalal Atmaram Kudecha, 2019 study interview.

“If we work with joy our value will grow in the market, people will increase. And the next generation will take forward what the elders have entrusted us with. We'll get work and a good price.” (Puroshottam Premji Siju, 2019 study interview).

“My thinking is different. If you make something for RS 100, I think how I can make it better so it sells for RS 120. That way, the value for craft and artisans increases.” (Shakil Ahemad Qasim Khatri, 2019 study interview).

“Those who come to SKV get new direction, so others send the next generation. Seeing the graduates, people have come back from working in industries. That is a plus point.” (Prakash Naran Siju, 2019 study interview).

“I had only studied to 7th grade. And we weren’t known. Now we are recognized, and our art is recognized. We may inspire others to not leave our tradition. If they learn they can grow. I tell people to follow my example.” (Tulsi Puroshottam Puvar, 2019 study interview).

“Now many girls in our village think about going to SKV. They want to go. They say they want to do something new. I feel good about it.” (Krishna Velji Vankar, 2019 study interview).

“Education contributed to Ajrakh. A lot of new fabrics have been developed. Graduates have created a lot of new designs. Second, it has come online, people have become aware and boutiques have started buying from them.” (Juned Ismail Khatri, 2019 study interview).

Finally artisan designers also look beyond themselves to the environment and the future, and search for ways to be more ecologically responsible.

“When the internet came, the market became fast-fast fashion. People don’t want to wear the same thing twice. We artisans can’t create like that. We can’t re-use dye water. Over production results in wasting water. That is the problem.” Mukhtar Jakariya Khatri, 2019 study interview).

5 Conclusions

Teaching design to artisans can serve to define as well as generate a common good.

The design education that artisans of Kutch have experienced can be understood as a common good within the creative commons of their traditions. Graduates came to the program free and unforced; they share the common purpose of developing their tradition and have in common their design education. Alumni relationships involve mutuality and a sense of fairness.

Culturally appropriate design education has given traditional artisans the ability to identify and appreciate salient characteristics of their hereditary work and taught them to innovate within their own definitions of traditions.

It has provided them with a sense of personal and community worth. Graduates articulate increased valuation of the common good of their traditions as affording freedom, independence, recognition and satisfaction, in addition to a decent livelihood.

In valuing their traditions, artisan designers develop a magnanimous sensibility of responsibility for community development. The confidence that emerges from their educational experience encourages working with collegial respect rather than competition. It provides a breadth of vision that enables graduates to believe that there is enough livelihood for all if they develop their own individual interpretations of their traditions.

References

- Frater, Judy (ed) (2020). Education for Artisans. *Intangible Cultural Heritage Courier of Asia and the Pacific* (under the auspices of UNESCO), 6.
- Frater, Judy (2002). 'This is Ours,' Rabari Tradition and Identity in a Changing World. *Nomadic Peoples*, 6 (2)
- Klamer, Arjo (2017). *Doing the Right Thing*. London: Ubiquity Press Ltd.
- Kotipalli, Priyatej, and Anna Mignosa (eds)(2019). *A Cultural Economic Analysis of Craft*. London: Palgrave.
- Lohman, R. (1992). *The Commons: New Perspectives on Nonprofit Organizations and Voluntary Action*. New York: Jossey-Bass Inc. Pub.

Acknowledgements

The research for this paper was undertaken on contract from, supported and funded by Somaiya Kala Vidya, a division of the K.J. Somaiya Gujarat Trust, Kutch, India. Priyatej Kotipalli, PhD Erasmus University conducted interviews with graduates of the education programs. These were filmed by Ketan Pomal, Studio LM, Bhuj, Kutch.

Implementing Design for the Common Good in an MA Curriculum

Ulla Ræbild^a,
Richard Herriott^a

^a*Design School Kolding, Denmark*

This paper reviews the approach of NAME (hereafter “the School”), a third-level design school in LAND towards design for the common good. The expansion of the concept of design to include social goods and sustainability (protecting people and the planet) shows a profound shift in the focus of design teaching and design education. It follows from an earlier and perhaps not fully mature shift from “structure- and process-based to competency-based education and measurement of outcomes” (Carracio et al. 2002), the “disappearance of things” (Findelli, 2000) and “in response to new developments, new tools, new situations, and new technologies” (Friedman, 2019).

Design for the common good makes demands on the means/ends relation in design, the ontology of art school organisation and puts into focus the junction between non-legal stakeholder empowerment and legalistic, static approaches.

The change to design for the common good could be interpreted as a change from indirectly addressing the common good to directly addressing the common good. It can also be seen a change of what is considered to be the means and ends of design. In the traditional model, the means to design are the processes and methods required. The ends are elaborated goods and services. Under the new conceptualization, the means of design are the processes and methods *and* the goods and services. The ends are the social or common good.

The School has integrated UN SDGs into its curriculum. It is also presently renewing its commitment to accessibility in teaching and research. The result has been a re-engineering of the MA programmes. Whilst the BA programmes retain their classic division into industrial design, communication, textiles and fashion, the MA programme has been divided under notions of society, sustainability. Design for the common good thus adds to “the paradox of ambiguity at the centre of art school ontology” (Orr and Shreve, 2017).

In part this is reflected in the blending of traditional disciplines (an ontological structure) and the risk of loss of the handy short-hand the disciplines represented for communities of activity (fashion designer, communication designer etc).

This paper considers the organisation of the MA programme with regard to course structure, progression and modes of teaching and the impact on assessment and guidance. It is a consequence of the ontological shift of the “product” from ends to means that some reconsideration of the nature of design is required. The shift also necessitates the consideration of how economy, policy, management and law that may not be in-line with students’ skills or expectations. These things are implicit in the courses only. The students have to unravel the bigger picture though they might not have the ability to really grasp it.

Easing this transition has been the School’s long-standing focus on co-creation, participatory design and co-design. The intellectual framework can be seen as consistent with Buchanan’s notions of fourth order design (2001), David Pye’s concepts of design as recognition of the humanity of the users (1995, Ch. 13) and Arnstein’s concept of citizen participation (1969).

The aim of teaching design for the common good is set against the context of the legalization of culture (Hastrup, 2003) where legal norms replace moral and normative claims on “the good”. Work by Herriott (2019) also indicates that design thinking is possibly, though not necessarily, at odds with legalistic thinking and also legislative methods of the pursuit of the common good. Design for the common good runs into an interesting barrier as design (dynamic) expands into the larger systems of societal organisation that are typically the purview of law and legislation (which are relatively static).

The paper concludes by reflecting on the self-critical awareness needed to compensate for the ontological untidiness of design for the common good and how to orientate design in relation to pre-existing social structures also aimed at the common good (law, legislation and politics).

1 Introduction

Before launching into the topic, the authors wish to begin with a statement. That is: despite difficulties and the inevitable short-comings of design for the common good, it is worth it. We agreed that this was the essential message after which came the analysis of pedagogic shifts and re-structured ontologies. We hope a presentation of these points can make it easier for others in design education to teach design for the common good.

The change to design for the common good could be interpreted as a change from *indirectly* addressing the common good to *directly* addressing the common good. It can also be seen a change of what is considered to be the means and ends of design. In the traditional model, the means to design are the processes and methods required. The ends are the elaborated goods and services. Under the new conceptualization, the means of design are the processes and methods *and* the goods and services. The ends are the social or common good. This means designers may work on things or they may work on systems and things or only systems.

To conclude this section, we address how the common-good themes reshape the structure of the design education. And we also discuss how this structure plays out when it is implemented.

2 Then...

In this section we take a short look at design education generally, looking in particular at publications relevant to the School's case.

2.1 A short Look at design Education

The difficulty of designing design was recognised as long ago as 1971 when Papanek wrote "*Education for designers (like nearly all education) is based on learning skills, nourishing talents, understanding the concepts and theories that inform the field, and, finally, acquiring a philosophy. It is unfortunate that our design schools proceed from wrong assumptions. The skills we teach are too often related to processes and working methods of an age that has ended.*" Papanek was thinking back over the span of time from the emergence of formalised design at the Bauhaus through the post-war years of economic expansion. His 1971 book echoed the concerns of Carson's (1962).

Findelli (2001) makes a bridge from Papanek (1971) to more recent discussions. Findeli observed that design was, at the end of the last century in a period of stagnation but awaiting reform in the light of the problems inherent in the forces that formed it:

"the determinism of instrumental reason, and central role of the economic factor as the almost exclusive evaluation criterion; an extremely narrow philosophical anthropology, which leads one to consider the user as a mere customer or, at best, as a human being framed by ergonomics and cognitive psychology; an outdated implicit epistemology of design practice and intelligence, inherited from the nineteenth century; an overemphasis upon the material product; an aesthetics based almost exclusively on material shapes and qualities; a code of ethics originating in a culture of business contracts and agreements..."

If we fast forward, past intermediary landmarks such as the maturation of human-centred design and the emergence of design for sustainability, we find that we still grappling with the problem of fitting design education to a world beset by social and environmental crises.

Design teaching has also faced pressure to change from within [1]. During this time there has been the discussion of the merits of studio based teaching (Green and Donello, 2003). As third level education has expanded and the time allowed been reduced, the way the studio has been used has altered such that one course might be aiming to teach two or more subjects simultaneously. Sander and Stappers et al (2007) argue that the point that design has shifted from outcome-led to criteria-led (e.g. being sustainable). Edeholt (2015) discusses how demands for sustainability is pressuring design away from traditional concerns such as marketability and product competitiveness.

Lastly, design's very identity is an unresolved issue as the extended discourse on design's relation to the humanities and science demonstrates (e.g. Cross, 1982). Meyer and Norman (2020) conclude in their statement of teaching of design by saying that other disciplines may be assume to be able to deal with the problems design is best suited to handle and in so doing tackle "the root cause rather than the symptom; emphasizing the role of people; considering the entire system; and capitalizing on the value of rapid prototyping, testing, and iteration. These fields are apt to focus upon technology, cost, and efficiency without a deep understanding of the societal impact, and the role that communities can play" (ibid). In short, the overarching constant in design education is change in why it is taught, what is taught and how it is taught.

3 Now

This section is about the MA programme at the School up until 2018 which was structured according to classic design disciplines: industrial design, communication, textiles and fashion design.

The teaching of design may be carried out either inside a larger research university or at a stand-alone institution. Mayer and Norman (2020) write that "stand-alone schools emphasize practice, while research universities emphasize scholarly work, evidence-based principles, and theory development." The NAME is an institution which is a hybrid of the former and the latter modes. Its work was originally practiced-based but in the last decade has moved more towards a university-style of education, accredited in 2010 as research based higher education. However, it is retaining its basis in design-by-doing even as it adds more and more theoretical support for its teaching.

[1] Perhaps this pressure is always with us.

3.1 The School's Early History

Like many art schools, the School was founded as a vocational institution with an emphasis on practical skills. The teaching staff were primarily drawn from industry. In the last 20 years the School has endeavoured to become a research as well as teaching institution. More of the staff are PhDs than in 2000 and a cadre of researchers joined since then and have carried out their work in parallel with teaching. And since 2006, the School has been awarding PhDs (in cooperation with another design institution, OTHER NAME), the first being in 2006. This change to a more academic profile allowed a stronger emphasis on the teaching of theory of design but also teaching the meta-level of the nature of research generally and the nature of design research in particular.

For many years, as noted above, the MA design education at School had four components. These exactly paralleled the BA education. Students of industrial design, communication design, textile design and fashion could graduate and proceed to an MA candidature with the same titles. Whilst the undergraduate course dealt with building up skills through course-based learning and drew from academic theory, the focus had a clear practical slant. On the MA level (table 1) the course had more theoretical and meta-level content. The School's conception was that the students on the MA distinguished their studies from the BA by means of the critical use of design theory and by a much greater emphasis on its role in their projects. However, as the teachers supervising project work and theoretical curriculum at MA level were not always the same, this intention was not consistently implemented. In some ways, the MA was merely the BA continued.

1 st semester	2 nd semester	3 rd semester	4 th semester
Internship	Longer disciplinary projects/ Exchange abroad Theoretic module a cross disciplines	'one step closer' Pre-thesis project Theoretic module a cross disciplines	Thesis Practical part and theoretical part (academic text)

Table 1: *Old MA structure before 2018.*

3.2 Preferences for the New MA Programme

In 2016 the School's management embarked on a course of renewal for the MA programme. The chief motivation was the sense that the design education at MA level was not reflecting the world into which the students were going to emerge.

As has been noted by Findeli (2001) product design was diminishing as a proportion of design work (and Findeli was referring to an exhibition on this matter in 1985). Social and environmental issues were becoming more pressing at the same time. This trend has only continued in the first decades of this century. Also, and

significantly, students at the School wished for there to be a stronger ethical relation to their work. There was also more and more cross-disciplinary project teaching at the School. So, these three developments – 1) less focus on product, 2) a desire for ethical design and 3) more cross-disciplinary teaching – showed good grounds for a thematic programme.

Additionally, there were changes in the School's internal structure, outside of teaching, that also suggested a re-arrangement might be needed. These changes also had an ethical, common-good dimension. The School had formed project development teams, staffed by professional designers and centred in the school's strategic focus areas: social design and design for sustainability. The groups gained the appellation of "lab". The labs worked from 2008 over a 10-year period with companies and municipalities to drive change through design - however, this was in complete parallel to the education. The designers in the Labs did not teach. Teaching was conducted by practitioners and researchers.

In 2018, by joining together research (academic), practice (consultancy, design and artistic development) and education (MA) under the strategic areas social design and sustainability the School aligned its activities in one swoop. The aim was to fruitfully capitalise on the potential synergies between activities. For the MA programmes, this change brought about obvious benefits in terms of alignment of knowledge foundation and practice understanding - as well as what was assumed to be a clearer profile under the new joint names for the MA programmes and Labs: Design for People and Design for Planet.

The change was radical, as it disintegrated the former disciplinary design hubs as primary organisational structure in the institution, and formed new multi- and interdisciplinary Labs to become the backbone of the organisation. Thus, it could with some conviction be described as a change in primary topics that foreseeably can spur discussions around hierarchies (within the MA structure and between the BA and MA) and ontologies (the relations of the elements of the design education are altered).

3.3 The Current Structure of the MA Programmes

The new programmes are cross disciplinary in the sense, that students from various design backgrounds can apply and will be taught in class a cross these. Students applying for the MA programmes are now applying for either People or Planet. However, applicants must document a BA in design (or design related) as a main criterion. Furthermore, applicants must indicate which one of the five design disciplinary hub they wish to be assigned to at School. These hubs are based from the disciplines at BA level, and formed to provide students with disciplinary tutoring and peer community along with the people and Planet communities. Teachers from Programmes and well as disciplines evaluate applications.

3.4 Programme Structure

The two new MA programmes (from now named People and Planet) follow the same structure. The 1st and 2nd semester each comprise two courses. These four courses are used to introduce to key ways of approaching and working within social design and design for sustainability. In the 3rd semester People and Planet join forces to let students learn from each other and work together. First they work in a course on co-creation for behavioural change, and following, a course on research through design and scientific knowledge production. The 4th semester is used for the MA thesis work. (See table 2, below).

Planet	1 st semester	2 nd semester	3 rd semester	4 th semester
	Material Narratives	Preferred Futures	Behavioural Change	Thesis
	Learning from the Past	Holistic Systems	Deep Research	
People	1 st semester	2 nd semester	3 rd semester	4 th semester
	Situating Reality	Critical Framing	Behavioural Change	Thesis
	Empathic Equality	Collaborating Real Time	Deep Research	

Table 2: modules on the revised MA programme.

The first-year courses are structured as follows: three weeks introduction to theory and methods in workshops and assignments. This is often group based and supported by weekly disciplinary supervision. Then there follows four weeks for the students to explore and prototype in workshops. There are users/collaboration partners supported by supervision from programme tutors and the disciplines. Then one week finalising and presenting the work. The 3rd semester is taught by programme only (meaning no interdisciplinary work). For the thesis project, students can select supervisors and choose to combine programme and disciplinary supervisors, or work by programme only. It is always the programme managers that are responsible for the courses in terms of course descriptions, learning goals, briefs and examination. The discipline is represented in the evaluation and examination as censors, internal as well as external. In this arrangement the basic disciplines and the themed disciplines have varying degrees of prominence. However, there is still the need within the themed structure to support the students' discipline identity.

4 Discussion

After the fact, Meyer and Norman (2020) discussed the kinds of issues the School's MA attempts to deal with, especially its curriculum recommendations for design (ibid. p38). After underlining the value of both education for practice and education for a continued academic career, they write "Basically, we suggest that all students engage in a common, foundational set of courses, followed by a

specialization, which is where they would spend most of their time.” Meyer and Norman outline four types of knowledge needed for design to deal with “performance challenges, systemic challenges, contextual challenges and global challenges”. Interestingly, they clearly suggest that a combination of practical and academic knowledge aimed at these challenges “do not necessarily match with courses. Some concepts might require, several courses, some might be covered much more rapidly, probably best if integrated into other course material or projects”. This is pretty much what the School has found in its slicing and dicing of content. Some of it keeps coming back into play and some other parts need careful course construction so as not overwhelm the students with relevant parameters.

Design for the common good makes demands on 1) the means/ends relation in design. This table shows the change in the ontology of means and ends in design. The most important box is the lower left one.

	Means	Ends
Before	Design Methods	Products and services
After	Design methods, products and services	The common good

Table 3.

In the “before” condition, design methods which is all the skills and theory are directed towards an outcome, the design of goods and services that meet the demands of the market. Only implicit is the idea from this arises a social good or common good. And even that eventual outcome was predicated on another link, that producing competitive consumer goods was good for society: satisfied customers, profitable producers and economic growth. In the “after” condition, in the revised MA, the link from design to the common good is made direct: we are designing to be ethical. The product, the service become a means to an explicit end, the common good.

Design methods and products and services are grouped as the means for the common good. However, in the old “before” situation one had only to look at a final design proposal to assess it. Now we look at the process *and* the product and assess them against their expected socially beneficial outcome, a rather harder task. Or do we still look at the product and assume its goodness is a heuristic for its ability to improve the common good?

A second difficulty relates to examinations. Since a course as students from four disciplines at least one of the examiners must be from that discipline. This means a course in theme X has five examiners: one to assess the theme X and one of four to match the

student’s discipline. Arising from this might be problems of grading consistency. Thirdly, the programme must correctly describe the content both for teachers and students (Christiansen et al 2015; Katis et al. 2018). It will take time for the course descriptions and their operationalisation to align.

The consequence of teaching design for the common good is a change in the ordering of the curriculum which means the way the course content is divided. First, and most marked is redistribution (for want of a better term) of the traditional disciplines into new categories. First, this was done as part of the process of structuring the programme. The course leaders had to find a way to divide the elements and communicate to one another and to the school management. This then becomes an ontological issue. “Ontologies are used to establish effective communication between different agents. Ontologies specify the terms used in agents’ communication and provide the exact meaning of those terms relative to other ontology terms and within a specific context. Ontologies provide the agent with the domain knowledge and enable it to function intelligently” (Hadzic et al. 2009). We would say the ontologies structure the domain knowledge (what is to be taught) and enable that knowledge to be placed in a time sequence divided across the new programmes.

The diagram below shows how the course content was re-divided under the “common good” theme of the revised MA programme.

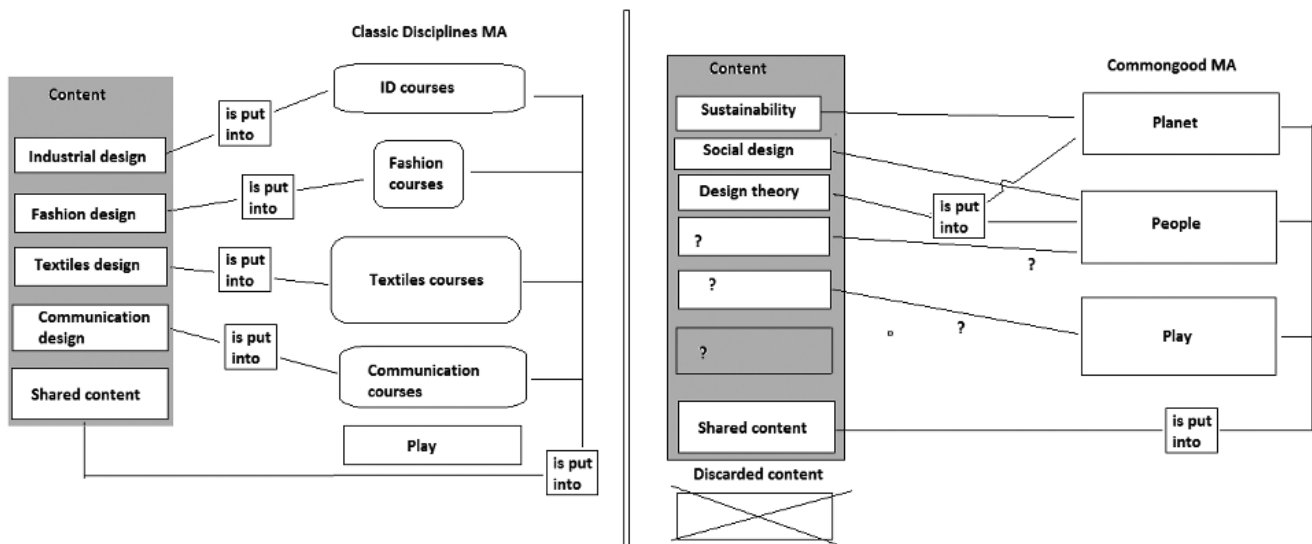


Fig. 1: model showing the arrangement of elements in the classic MA and the new, common-good MA. (The People and Planet courses are run alongside the MA for Play).

Gruber's idea of ontology is that it is "a body of formally represented knowledge is based on a conceptualization [...] A conceptualization is an abstract, simplified view of the world that we wish to represent for some purpose. Every knowledge base, knowledge-based system, or knowledge-level agent is committed to some conceptualization, explicitly or implicitly. An ontology is an explicit specification of a conceptualization." (Gruber, 1993). Gruber makes the point that ontology is a social relation, about the relation of knowledge being accepted by a group. The construction of the programme depended on the course heads reaching a common understanding of what was being constructed. The model shows that under the process of transition from the design-thematic "classic" MA to the "common good" MA, there were necessary redivisions of course content and a modified approach to the progression. The progression of, say, the textiles design content would have accommodate expected progression with either sustainability (Planet) and social design (People).

Redström (2020) writes "[...] I have argued that complexity and uncertainty are intertwined in design, but perhaps not necessarily in the ways one might initially think of. I have argued that the perceived increase in complexity in design does not (only) stem from external factors, but from an inherent, continuous and critical questioning of what design is and could be." It would appear design education can look as it does at the School, where the students can see design as another method to deal with issues normally addressed through legislative deliberation and regulated planning processes. Here one can perceive the manifestation of what might be a missing element in a thematic education addressing the challenges outlined by Meyer and Norman and dealing with the critical questioning suggested by Redström. If designers are dealing with systems, why does their advanced education not equip them with at least the outlines of political science theory just as they often have the outlines of engineering and psychology. Buchanan (1999) suggests design can deal with large order problems. Meyer and Norman (2020) dissect the structure of these and Redström asks about design's nature. Putting this together, one can see that design as a human-to-human endeavour must be based on a knowledge of the other competing methods of reconciling the conflicts of stakeholders. It turns out the 'internal' re-ordering of the design programme makes apparent the way design is related to *other* instruments of social deliberation. The next step is not only to ensure knowledge of those other instruments is part of design education but also to communicate that to our colleagues in other spheres (engineering, law and political science).

5 Conclusions

In line with Meyer and Norman (2020) we can see how design education should and can move from one structure to a new one, predicated on design as a means not an end. The structure of the programme at the School shows how design can meet the challenges set out by Meyer and Norman. What Meyer and Norman didn't hint at was the way in which thematic approaches can re-order the relations of the content of a design education. It also makes visible the conventions of design education. At one point it made sense to divide the subject by disciplines because that was where the skills were applied, rather than it being a natural division of the world. Ontology makes visible the way in which we conceive the world and if the world is more complex or we admit of its greater complexity then design education must mould itself accordingly.

References

- Arnstein, S. R. "A Ladder of Citizen Participation," JAIP, Vol. 35,. No. 4, July 1969, pp.216-224. I .
- Buchanan, R (2001) Design research and the new learning. Design Issues, Vol. 17,No. 4. (pp3-12)
- Carraccio, C., Wolfsthal, S., Englander, R., Ferentz, K., Martin, C. (2002). Shifting paradigms: From flexner to competencies. Academic medicine : journal of the Association of American Medical Colleges. 77. 361-7.
- Carson, R (1962) Silent Spring. Houghton Mifflin, New York.
- Christiansen, F.V., Horst, S., Rump, C., 2015. Course design, in: Rie-necker, L., Jørgensen, P.S., Dolin, J., Ingerslev, G.H. (Eds.), University Teaching and Learning. Samfundslitteratur, pp.135–148.
- Cross, N (1982) Designerly Ways of Knowing. Design Studies. Vol 3, No. 4 October 1982 pp.221-227
- Edeholt, H (2015) Design as a New Futural Epistemology: Design Education Made Relevant for Climate Change and Development. Proceedings of the 3 rd International Conference for Design Education Researchers, 2015, Illinois.
- Findeli, Alain. 2001. "Rethinking Design Education in the 21st Century." Design. Issues 17 (1) (Winter): 5–17
- Friedman, K. (2019) "Design Education Today — Challenges, Opportunities, Failures." Research and Education in Design conference, Lisbon.
- Green, L., Bonollo, E.,. (2003). Studio-based Teaching: history and advantages in the teaching of design. World Transactions on Engineering and Technology Education. 2. 269.
- Hadzic M., Wongthongtham P., Dillon T., Chang E. (2009) Introduction to Ontology. In: Ontology-Based Multi-Agent Systems. Studies in Computational Intelligence, vol 219. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-01904-3_3
- Gruber, T (1993) A Translation Approach to Portable Ontology Specifications. Knowledge Acquisition, 5(2):199-220, 1993.
- Hastrup, K (2003) Representing the common good. In Mitchell, J.P., Wilson, R.A (eds.) Human Rights in Global Perspective: Anthropological Studies of Rights. Routledge, London.
- Herriott, R (2019) Project scale and the wicked problem of fourth order design. EAD, 2019, Dundee.
- Katis E., Kondylakis H., Agathangelos G., Vassilakis K. (2018) Developing an Ontology for Curriculum and Syllabus. In: Gangemi A. et al. (eds) The Semantic Web: ESWC 2018 Satellite Events. ESWC 2018. Lecture Notes in Computer Science, vol 11155. Springer, Cham. https://doi.org/10.1007/978-3-319-98192-5_11
- Meyer, M.M., Norman, D (2020) Changing Design Education for the 21st Century. She Ji: The Journal of Design, Economics, and Innovation, Volume 6, Issue 1, Pages 13-49, <https://doi.org/10.1016/j.sheji.2019.12.002>.
- Orr, S., Shreve, A. (2017) Art and Design Pedagogy in Higher Education: Knowledge, Values and Ambiguity. Routledge, London. "
- Papanek,V.J. (1971) Design for the Real World: Human Ecology and Social Change, rev. ed. (1971; New York: Van Nostrand Reinhold Co., 1984), 285.
- Pye, D (1995) The nature and aesthetics of design. Herbert Press, London.
- Redström, J (2020) Certain Uncertainties and the Design of Design Education. She Ji: The Journal of Design, Economics, and Innovation, Volume 6, Issue 1,2020, Pages 83-100, <https://doi.org/10.1016/j.sheji.2020.02.001>.
- Stappers, P., Hekkert, P, Keyson, D. (2007) Design for Interaction: Consolidating the User-Centred Focus in Industrial Design Engineering. In: E. Bohemia, K. Hilton, C. McMahon, A. Clarke (Eds.), DS 43: Proceedings of E&PDE 2007, the 9th International Conference on Engineering and Product Design Education, University of Northumbria, Newcastle (2007), pp.69-74.

How Will It Benefit the Community? Designing a Cybernetic Curriculum for the Common Good

Keywords: Curriculum Design,
Second-Order Cybernetics,
Design Pedagogy, Resilience,
Community Design, Ecological Literacy,
Action Research.

Michael Hohl^{a*}

^a*Anhalt University of Applied Sciences,
Dessau, Germany*

*michael.hohl@hs-anhalt.de

In this paper we will present our insights, experiences and reflections around developing a design theory course that connects acting and theory in an applied manner. This course has been unfolding since 2014, within an existing environment and had a sustained and expanding effect on the learning environment. At the heart of our learning and teaching approach lie participation, democratic decision making, responsibility and, among others, systems thinking, cybernetics, and elements of constructivist thinking, including selected elements of transition design, action research and designing for social innovation. In our learner-centred approach it is not only what we learn, but how we learn. This includes the social dynamics we try to foster and making these explicit as particular values (Bela Banathy, Arthur Costa, Linda Booth-Sweeney). Our underlying claim is that there is evidence that some students participating in this course will not only consciously shape their learning experience but also become responsible actors in view of the common good. Learning and life converge in our setting. This text describes this process from a ten year perspective and builds upon several earlier articles.

1 Introduction

In July 2010 I participated in the annual conference of the American Society for Cybernetics (ASC) taking place at Rensselaer Polytechnic Institute (RPI) in Upstate New York, Troy. The theme had been conceived by the then president of the ASC Ranulph Glanville. The conference, titled 'Art - Design - Mathematics', was distinct for several reasons and had a lasting impact upon my own teaching and PhD supervision. Firstly, central to the conference was that it was not about giving papers and thus listening to answers, but working actively in groups and instead having interesting conversations and 'more fully harness the collective potential of groups' (Dyer et.al., 2015). Assuming that through conversation and the inclusion of multiple viewpoints from different disciplines interesting questions would arise. In essence it was about acting in view of new futures. Second, how the activities and interactions were conducted followed the Banathy Conversation Methodology (BCM) (Dyer et.al., 2015). BCM was developed in the early 1980s by systems scientist when they realised that they accomplished more in the breaks of their conferences than in the actual sessions.

After this intense conference I asked myself: How can we as educators connect learning and teaching with these values of encountering others on an eye-level in listening and conversation? How can my design students learn about ethics, values and responsibility and incorporate those into their own thinking and practice? What impact might such an education have on the common good? For this I looked at different ways of teaching and learning. In this process Ranulph Glanville invited me to co-teach Ph.D. research seminars together with him at Sint Luca School of Architecture in Ghent and Brussels as well as at the Royal College of Art in London. In our first joint sessions we tried out cybernetic and constructivist approaches in which we involved PhD research students in workshops experimenting with critical reflection and feedback (Glanville, Hohl 2012). In this unstructured format knowing emerged from reflections on past experience and constructing reflective narratives that found their way into physical and embodied models. The process helped the students to gain new insights into their professional practice and make experience more explicit. Here we realized the importance of a safe learning space, of embodiment, situatedness and the role of emotions for learning (Hohl, 2016). We treated the students as younger colleagues and presented us as learners as well. While we were learning, together, it became clear to us that how we learn and how we feel when we learn were intrinsically connected. For the participants this learning also was a community practice, taking place in language and action (Glanville, 2014).

After Ranulph passed away in December 2014 I pursued this investigations on my own – together with undergraduate students in Dessau, Germany. Together we looked at models that connected theory and methods to values and culture. During field research i became aware of the 'Eight Key Elements of Education' by the

Polynesian Voyaging Society in Hawai'i, which I found particularly inspiring, as they connected theory with activities around everyday life scenarios (Polynesian Voyaging Society, 2007). Also relevant became Linda Booth-Sweeney's 'Habits of Mind of a Systems Thinker' (Hohl, 2017), and we connected these insights with a curriculum that created an awareness of systemic effects.

From Neil Postman (Postman, 1969), Carl Rogers (Rogers, 1974, 1975) and Paolo Freire (Freire, 2005) i learned to take the learners, their backgrounds, serious, and encounter them with openness and empathy. Ivan Illich (Illich, 1973) taught me about the convivial dimensions of designing. From Alice Water's 'School Gardens' (Waters, 2008) and Fritjof Capra's Center for Ecological Literacy i learned about the interconnectedness of applied learning within an integrated educational framework in which, for example, different disciplines such as math, art and biology are integrated within a single course (Hohl, 2015). From David Orr (Orr, 1991) and Nainoa Thompson (Speidel, 1994) I understand that learning needs to be connected to values and community. For example, teaching in a school garden, akin to the design studio model (Schon, 1985). Here theory and practice are connected through acting, and then connecting this knowing with the human body, health and nutrition once the (educational) garden produce is later prepared together in the kitchen. Their acting becoming knowing within an integrated collaborative and convivial community experience, also nourishing the common good.

From my own PhD student supervision i learned that connecting research, responsibility, ethics and values is something that must be adopted early on and not during a higher, post-graduate degree. I became aware that it might be crucial to focus upon the newly arriving students in their first semester. Together with Mathilde Scholz, a Bachelor student with a degree in social sciences, we subsequently began conducting experiments with first-year Bachelor students from design, applying an action research based approach of teaching design theory to first year BA students integrated design (Hohl, Scholz, 2020a, 2020b).

It is important to note here that Mathilde had studied theory with me from her second semester on, and was familiar with my particular approach to teaching. We often had conversations about my style of teaching, reflective practice, cybernetics, feedback, Banathy, Glanville, Schön, Postman, Rogers or Illich. Also worth mentioning here is that two former Bachelor students which completed their degree here, returned as lecturers after completing their MA degrees at other universities. For both it is important to connect theory and practice through relevant exercises and reflection.

Another important educator in our learner centered approach is our colleague Professor Brigitte Hartwig. She teaches Social Design and in her teaching & learning approach the students learn designing by identifying local problems in the town of Dessau itself and engage in the local community. Part of this is the Vorort Haus, an initiative where students develop design projects off-campus in a formerly vacant building in the city centre. It is here where students can explore new ideas for service designs and experience the effects on people and the community.

In this paper I try to weave together our ten year explorative learning journey into teaching design research & theory to students of art, design and architecture, involving community building, feedback and reflection within a framework of cybernetics and systems thinking. We conclude with a critical review of our own teaching methodology.

2 From Learning 'What' to Learning 'How'

2.1 Our Learner-Centred Approach

During field research on the island of Oahu, Hawai'i, in 2014, I became aware how influential the teaching approach of the Polynesian Voyaging Society is. The students learn and act in mixed groups of younger and older students. It is a peer teaching model taking place mostly outdoors doing something for the community. While the students also learn about the stars as navigational aids, and about local flora and fauna, they also engage, while doing so, in communal activities such as keeping footpaths clear, planting shore vegetation, weeding invasive species of plants, collecting refuse as well as cleaning and maintaining boats. Here all learning is embedded within a larger framework of contributing to the community, the common good and connected to values and a meaningful way of life. Learning becoming a way of life, a life project. My observations of how learning developed there defied Donald Schön's description of theoretical knowledge of being of more value – in higher education – than practical knowledge and the more general and theoretical knowledge was, the higher it was viewed (Schön, 1987). On Hawai'i theory and practice seemed to complement each other and appeared very much integrated (Hohl, 2015).

Another confounding aspect for me was that in these communal activities a leader seemed to be missing. Everyone was busy co-operating and co-ordinating but to my knowledge there was no overall 'plan', and an agenda was missing. Everyone appeared to know what needed to be done, and a leader seemed not to be necessary. I experienced this absence of an agreed organised structure as confusing and frustratingly unclear (Hohl, 2015). However, at the same time it was impressive to observe that it was indeed possible for things to get done in absence of a single person 'calling the shots'.

As an educator teaching theory I asked myself: How might I achieve such a degree of autonomy and intrinsic motivation among my students in my own teaching?

In cybernetics one also learns from the elements observed in complex systems. For example, order arises by itself and is not imposed top-down. (However, structure is not organisation. A seminar should be structured as students are used to structure and expect structure.) Organisation however is taking place on its own. This was a gradual insight, emerging over time and has been elaborated in another paper (Hohl, Scholz 2020). From Mathilde I learned that structure was essential for emergent self-organisation to take place.)

Systems thinkers Michael Stone and Zenobia Barlow (Stone & Barlow, 2011) recommend to delegate and to not try to do everything on one's own. In their Essay "Cultivating conditions for institutional change" they write: For systems change foster community and cultivate networks. Work at multiple levels of scale, top-down, bottom-up, outside-in and inside-out. Create space for self-organization. Let go and do not try to control, trust, people are responsible actors if you let them. Facilitate – do not dictate the direction. Have patience, change will take time. And finally: Be prepared to be surprised. The relevance to design education has been discussed in Hohl, 2015 and Hohl, 2018.

We realised that 'how' we learn is as important than 'what' we learn. The way we feel when we learn, the interactions, conversations and the social dimension play an often neglected role. Students are not only learning to design, they are becoming designers. A profession and particular mindset of looking upon the world and interacting with people, in- and outside the discipline.

This attitude and mindset would also be mirrored by the conversation rules of systems thinker Bela Banathy, first experienced at the 2010 ASC conference, mentioned above. To these we tried to aspire to in our discussions and conversations:

Bela Banathy's conversation rules:

- display tolerance, patience, and consideration to others;
- honor and respect each other;
- listen to others, attempt to understand the point of view being expressed, reflect, and respond;
- do not dominate;
- do not offend;
- avoid losing control of one's feelings;
- view all ideas as contributions to the group for consideration, accepting that not all ideas will be used;
- allow free exchange and public ownership of ideas;
- allow equal opportunity to participate;

- stand for what one believes in;
 - allow equal opportunity, but take responsibility for actions and decisions.
- (Dyer, et.al. 2015)

Between 2016 and 2020 these practices, together with continuous feedback from our students, transformed into a new format of learning with unexpected systemic repercussions upon the culture of the faculty of design.



Fig. 1: In the student room [cloud], students organise their own extra-curricular events. On 'monday pitch' they present their ideas and provide one another with constructive feedback, at other occasions they organise teaching & learning activities, for example workshops to learn a particular software (Grasshopper) or methodology such as Agile or Scrum), not offered by any modules.

Students got more engaged, not merely in their own projects, but also in creating a community of learners on the campus. They spent more time at the university – instead of working alone at home. Step by step more students moved to Dessau, which before had been commuting to lectures from larger cities such as Berlin or Leipzig. A growing community emerged, centred around a new student room, the [cloud] room, which a group of students is in charge of (Figure 1). Students felt empowered and got actively involved experiencing the effects of their initiated changes. They began laying out the design of the room, based on their own needs, then designing and making the furniture. From there on they established a particular way of organising and managing the room following democratic 'new work' principles (Laloux, 2014), leading to a strong sense of ownership, empowerment and self-efficacy.

As the semester passed by the emerging change gathered momentum and resulted in other activities, on and off campus. Among those extra-curricular activities was perMA, an initiative of Bachelor students conducting voluntary weekly workshops with students, staff and teachers in co-designing a new, learner-centred Master's program. Their workshops began with the question 'How would you like to learn?' and from there developed the format together

with various stakeholders over the course of the semester. Together they identified needs and constraints and developed a distinct program. The 15 workshops each lasted two hours and were continuously documented in great detail. After the sessions facilitators as well as participants took time to contribute written reflections and feedback. These were analysed, discussed and applied in the following session. Subsequently the core members of the perMA group collated and analyses the data, conducted interviews with experts and compiled a highly constructive and reflective publication, laying out the results but also giving instructions on how to conduct such workshops (Figure 2).

The book was published in Summer 2020 via a crowdfunding campaign and supported by the dean of the faculty of design. The publication concerns solely *how* students wish to learn, the various formats and interactions, not *what* is being learned. The format can be adapted to different styles of learners and is flexible to adapt to learning any subject. It is about the 'how' and 'why' of learning. The core insights reflect were: Working and learning in groups, on projects of their own choice, creating real world change in their immediate environment. The workshop itself being an example of that method.



Fig. 2: The 'perMA – Prototype of a new culture of learning' publication. 287 pages long it documents the extra-curricular workshops conducted on campus, insights from the workshops as well, and contains several interviews with experts on learning and curricula development. Many of the tools developed during our theory seminars were applied here, such as the different ways of giving and receiving feedback.

Another initiative is the AG Curriculum, an open workgroup which meets every Tuesday evening. It was initiated by a group of teachers and students following a three-day conclave meeting in which the curriculum was discussed. All members of the university are invited to participate. It is composed of students, teachers and members of staff interested in changing the curriculum, meaning how we are teaching and learning together.

Some of the student members have also become student representatives/members of the board of the university. A third-year student has herself become an accreditor and is evaluating curricula and performance of other universities.



Fig. 3: The Curriculum workgroup (AG Curriculum) meets every Tuesday evening. Here students and teachers work together on designing new ways of learning and teaching. It is about peer-teaching, encountering each other on an eye-level, learning from one another in small groups and finding consensus. In the session depicted we are calculating group sizes for vertically integrated groups of BA and MA students.

2.2 Vorort Haus, the City as a Laboratory

The town of Dessau is an aging and shrinking city. While in 1992 112'216 inhabitants lived in Dessau, in 2010 there were 86'840 people (INSEK, 2013). Annually the city is losing on average around 1000 inhabitants. At the same time Dessau is among the European cities with the highest average age of around 53 years, making it one of the 'oldest' cities in Europe. Once young people complete school or university they mostly leave Dessau and move to larger cities, which also offer more interesting job opportunities. As a result it is a quiet town, with many vacant spaces, uninhabited buildings and ruins. And as such a place full of opportunities.

In 2012 a group of teachers, former students and locals tried to save a dilapidated 19th century hospital building located in the city center. This building had been empty for many years and was deteriorating. They began making much needed repairs and became a registered society. They named the building 'Vorort Haus', Vorort meaning both suburb and at-the-location. Their first goal was to save the building from further decay, then to create studio spaces to work in and also to maintain the extensive garden and out-buildings. Today these have been transformed into workshops for printing, welding, and mending bicycles, among others.

After a while these actions were supported by the local council, in order to support young people wishing to stay and change things.

Many of those involved had ties to the University and from 2014 on some of the students involved in running the student room [cloud] also got involved at Vorort, as part of the Service Design seminars of Professor Hartwig.

During this time the University also recognised the importance of the Vorort Haus, in which some Summer Schools were taking place and began to support it. As the state of the building was gradually improved - a large part still is under construction today - the leaking roof was being repaired, a kitchen designed, built and installed, students began taking studio rooms there, to create co-working spaces or have a temporary space to design their thesis projects. Subsequently taking their first steps towards self-employment as designers. Within this protected space it has become possible for them to take ownership of their design idea, for example their final thesis project, and perhaps try to convert it into a business idea. With this protected framework it may succeed but may also fail without great risk. Others use their studio space for more recreational activities such as making music or painting. Many of this learning and entrepreneurial activities involve students and thus are related to the university, but are taking place outside of its 'formal' boundaries, which are more likely to be associated with rules of access, delays and opening hours. Moreover an increasing number of Bachelor and Master thesis projects engaged in themes such as learning & teaching, food, health, gardening, and nutrition.

2.3 Thesis Projects on Themes Around Learning & Teaching, Participation, Environmentally Friendly Housekeeping and Sustainable Eating & Food Waste

Mathilde Scholz, also one of the initiators of the [cloud] room and the perMA project described above, did her Bachelor's thesis project around learning and teaching, completed in Spring 2019. Her thesis was titled "Learning-culture at the school of design: Teaching and learning between needs, challenges and potentials", and used our joint 2018 1st semester seminar (described above) as a case study of the efficacy of our student centred approach, described in more detail in (Hohl, Scholz 2020a and 2020b). It also discussed the [cloud] student room, the AG Curriculum, and extensively the importance of feedback and empowerment for student motivation. Central to her insights is the changing role of the professor, from that of a remitter of projects, to a supportive expert, learner and facilitator, who prepares the fertile conditions for students learning journeys, either as individuals or in groups. When students select their own topics for the projects they become intrinsically motivated, take ownership of their own learning process and feel empowered. Often students select projects that are meaningful to them and stem from own experiences or observations. One of which was Mathilde's investigation around the best conditions for learning how to design.

Another thesis project was conducted by Master student Nadine Ungefucht. Her project 'Mit-tag' centred around food and nutrition. Her initial interest was about more healthy eating on the campus, with the goal of improving the quality of students' eating habits, and perhaps the quality of food prepared on the campus. As part of her research process she organised a weekly food-sharing event (Figure 4) on the campus commons, sharing food and conducting interviews, mainly to get a better understanding of students' relationship to food and nutrition.



Fig. 4: Weekly food sharing events as part of Nadine's MA thesis project, centred around food and nutrition. Within her research process these events turned into a community building event with participants from different faculties and backgrounds.

As it was Summer her weekly one hour lunch-sharing sessions were located outdoors. Everyone was invited to bring a dish and share it with others. In the beginning only a handful of students participated, but through word of mouth soon students from other faculties joined in, and within several weeks up to 25-30 people attended, sharing their dishes and trying other foods. During her research Nadine discovered food as a strong element that can bring people from different backgrounds together and build a community.

After completing her Master's degree she contacted a local organic food shop who had produce to give away that otherwise would have been discarded. As a result once a week the group of students and Alumni now organise bi-weekly 'waste cooking' events, Küfa or kitchen-for-all, at Vorort Haus (Figure 5), often with thirty or more participants. Due to restrictions caused by the COVID-19 pandemic at present these are take-away events only, where students bring their own containers to take them home.



Fig. 5: 'Waste cooking' at the Vorort Haus kitchen. Students and friends prepare food from produce donated by a local organic food shop. Donations are used to pay for the facilities such as water and electricity.

Another project with sustainability, ecology and community in mind is Jeanette Schmidt's 'Sauberkasten' project. Initially she was interested in exploring non-toxic ways of housekeeping and cleaning and began investigating traditional ways of domestic cleaning, so called household remedies.

In this process she conceived a 'toolbox' or 'cleaning box' containing six traditional ingredients that allow oneself to mix washing detergents, washing up liquids, window cleaners and other detergents.

The prototype involved soda, vinegar, soap, chestnuts and orange essence, together with recipes to mix particular detergents. After completing her degree project she founded the company 'Sauberkasten' together with a friend and – after winning an environmental prize – redesigned the box, which became quite a success, especially building a community of consumers interested in more ecological housekeeping and sharing their knowledge. In the meantime Sauberkasten have expanded and have been joined by two additional team members. Jeanette continued to do her masters with us, alongside her entrepreneurial challenges.



Fig. 6: *Sauberkasten*, an integrated design Bachelor thesis project, encouraging consumers to mix their own housekeeping detergents from a few basic ingredients.

3 Summary and Discussion

Above I discussed our efforts encompassing around 10 years, from realising that giving lectures was an outdated format, to students giving input to new ways of teaching and us publishing journal papers about our research together. From my perspective our teaching style influenced by Glanville, Banathy, Freire, Postman and Laloux fell on fertile ground in Dessau, which had been supported by our colleagues, namely Prof. Brigitte Hartwig. In my view it led to a palpable transformation of mindset and culture with visible changes on campus and in town.

The question is how large of an influence our teaching style and mindset contributed to this change. It began seriously in 2014-2015 with the realisation that students in the second semester disliked theory. There the mission became making theory seminars more engaging and interactive. Perhaps I am overestimating our influence and the new generation of students simply are more engaged, idealistic and motivated? From Banathy's system thinking we know that systems change may take up to six years.

Perhaps it was both: The ground here was fertile and my theory seminars found a practical application in the studio projects around Social Design/Design for Social Innovation conducted by my colleague Brigitte Hartwig?

By employing community building styles of learning and teaching that empower our design students to seek self-efficacy and extend the reach of learning to design from the campus out into the commons. I described a corollary, from my own perspective, of how following principles adopted from systemic thinking, once some students had experienced self-efficacy and ownership over their own learning process, they began transforming their environment in view of supporting conditions for community building. In Noel's models for curricula (Noel, 2020) I would affirm that our model has elements of Noel's 'empowering design education' and '21st century skills education'. Perhaps some of the presented evidence is a post-rationalisation, trying to create a causal relationship from chance observations or what might have developed through external circumstances? However, the increasing number of social innovation and service design projects that engage in 'soft' areas such as ecology and sustainability, ecological literacy, health and nutrition, learning and teaching, I think, speaks for itself.

I think our approach is becoming highly relevant when we look at the new 'New European Bauhaus' funding scheme, initiated by the EU around the UN's SDG 17. The scheme calls for 'designers to save the world' and aims at bringing designers, artists and scientists together to create innovative solutions in making Europe more sustainable, 'greener' and transform into a circular economy. On one hand this will require participants that can collaborate well across disciplinary boundaries, but that also are able to lead and have well established social skills. Which also have a well established 'ethical compass' and know about and reflect their values and mindset. Perhaps our mindset shaped by Dessau's simple but flexible space of possibilities and that of staying a lifelong learner, what Terry Irwin, Gideon Kossoff and Cameron Tonkinwise (Irwin, 2015) describe in their Transition Design Framework as 'posture and mindset' is a good beginning.

References

- Freire, P. (1973). *Education for critical consciousness*. New York: Continuum International Publishing.
- Freire, P. (2005). *Pedagogy of the oppressed*. London: Continuum International. (Originally published in 1970)
- Glanville, R. (Ed.) (2012). *Trojan horses: A rattle bag from the "Cybernetics: Art, design, mathematics—A meta-disciplinary conversation" post-conference workshop*. Vienna: edition echoraum.
- Glanville, R. (2014). *How design and cybernetics reflect each other*. Retrieved May 3, 2020 from <http://openresearch.ocadu.ca/id/eprint/2053/> (Appears in Proceedings of RSD3, Third Symposium of Relating Systems Thinking to Design, Oct. 15-17, 2014, Oslo, Norway)
- Hohl, M. & Glanville, R. (2012). Notes from the reflecting workshop, Sint-Lucas, June 23rd – 25th, 2011" in Reflections 16, eds. De Maeyer, Gudrun, Sint-Lucas School of Architecture, ISSN: 1784-7052
- Hohl, M. (2015). *Living in cybernetics: Polynesian voyaging and ecological literacy as models for design education*, *Kybernetes*, Vol. 44 Iss: 8/9, pp.1262 – 1273
- Hohl, M. (2016). *Teaching and Reflecting Reflection with Ranulph* in "Art | Architecture | Cybernetics | Design: London and the 1960IES" eds. Marianne Ertl, Werner Korn, Albert Müller, Edition Echoraum, Vienna.
- Hohl, M. (2017). *Ecology, Systems Thinking, Designing and Second-Order Cybernetics* in Werner, Liss C. (ed.), *Cybernetics: state of the art*, TU Berlin book series 'CON-VERSATIONS', Bunschoten, R., Werner, L. C. (eds.), Vol. 1 , Universitätsverlag Technische Universität Berlin, Berlin. Retrieved November 20th, 2020 from <http://dx.doi.org/10.14279/depositonce-6121>
- Hohl, M. (2019). *The Polynesian Voyaging Society as a Cybernetic Paradigm for a Design Curriculum* p.195-217 in Thomas Fischer, Christiane M. Herr eds. *Design Cybernetics: Navigating the New*, Design Foundation Series, Springer Publishers, ISBN 978-3-030-18557-2
- Hohl, M. and M. Scholz (2020a). *Acting Cybernetically: Practicing Design Theory And Theorizing Design Practice as a Participatory Learning Journey* published in *Cybernetics and Human Knowing*. Vol. 27 (2020), no. 2, pp.41-60 Retrieved November 20th, 2020 from <http://chkjournal.com/?q=node/357>
- Hohl, M and M. Scholz (2020b). *Theorie Designen: Ein neues, partizipatives Lehrformat für Designtheorie im ersten Semester*, in June H. Park (Eds.) *Designwissenschaft trifft Bildungswissenschaft* (Schriftenreihe Design & Bildung - Schriften zur Designpädagogik)
- Illich, I. (1973). *Tools for conviviality*. New York: Harper & Row.
- INSEK, (2013). *Integriertes Stadtentwicklungskonzept Dessau-Rosslau, Stadt Dessau-Roßlau / Dezernat für Wirtschaft und Stadtentwicklung*, Retrieved December 12th, 2020 from https://verwaltung.dessau-rosslau.de/fileadmin/Verwaltungsportal_Dessau-Rosslau/Stadtentwicklung_Umwelt/Stadtentwicklung/Konzepte/Stadtentwicklungskonzept/INSEK_2025_Kurzfassung.pdf
- Irwin, T. (2015). "Transition Design: A Proposal for a New Area of Design Practice, Study, and Research." *Design and Culture* 7 (2): 229–46.
- Laloux, F. (2014). *Reinventing organizations: A guide to creating organizations inspired by the next stage in human consciousness*. Brussels: Nelson Parker.
- Leyen, U.v.d. (2020). *A New European Bauhaus*, op-ed Article by Ursula von der Leyen, President of the European Commission Retrieved December 20th 2020 from: https://ec.europa.eu/commission/presscorner/detail/en/AC_20_1916
- Maturana, H. R. & Verden-Zöller, G. (1996). *Biology of love*. In G. Opp & F. Peterander (Eds.), *Focus Heilpädagogik* Munich, Germany: Ernst Reinhardt. Retrieved May 18, 2020 from www.terapiacognitiva.eu/cpc/dwl/PerMul/biology-of-love.pdf
- Nixon, J. (2020). *Hannah Arendt: The promise of education*. New York: Springer.
- Noel, L. (2020). *Envisioning a pluriversal design education*, in Leitão, R., Noel, L. and Murphy, L. (eds.), *Pivot 2020: Designing a World of Many Centers - DRS Pluriversal Design SIG Conference*, 4 June. Retrieved December 12th, 2020 from <https://doi.org/10.21606/pluriversal.2020.021>
- Orr, D. W. (1991). What is education for? In *context* 27. Retrieved January 19, 2019 from: <http://www.context.org/iclib/ic27/orr>.
- Polynesian Voyaging Society (2007). *Key Elements of Education*. Available: http://pvs.kcc.hawaii.edu/hoonaauao/education_elements.html accessed 2014/10/10
- Postman, N., & Weingartner, C. (1969). *Teaching as a subversive activity*. New York: A Delta Book.
- Rogers, C. R. (1974). *Questions I would ask myself if I were a teacher*. *Education*, 95(2), 134-139. Retrieved February 20, 2019 from <https://www.centerfortheperson.org/pdf/teacher-questions.pdf>
- Rogers, C. R. (1975). *Empathic: An unappreciated way of being*. *The counseling psychologist*, 5(2), 2-10.
- Schön, D. A. (1985). *The design studio: An exploration of its traditions and potentials*. London: RIBA Publications for RIBA Building Industry Trust.
- Schön, Donald: *Educating the Reflective Practitioner*, Presentation to the 1987 meeting of the American Educational Research Association, Washington, D.C. 1987.
- Speidel, G. E., & Inn, K. (1994). *The ocean is my classroom*. *Kamehameha Journal of Education*, 5(Fall), 11-23.
- Stone, Michael, & Barlow, Zenobia 2011, *Living Systems and Leadership: Cultivating Conditions for Institutional Change*, *Journal of Sustainability Education* Vol. 2, available at <http://www.ecoliteracy.org/essays/seven-lessons-leaders-systems-change> accessed 2014/10/10
- Von Foerster, H. (2003). *Ethics and second-order cybernetics*. In *Understanding understanding* (pp.287-304). New York: Springer.
- Waters, Alice (2008). *Edible Schoolyard: A Universal Idea*, Chronicle Books, San Francisco
- UN Sustainable Development Goals: *Sustainable Development Knowledge Platform*." Accessed April 27, 2020. <https://sustainabledevelopment.un.org/?menu=1300>.

Other Ways of Worlding: Interrogations of Design Education, Theory, and Practice

**Following the Otherwise –
Contributions of Intersectional Feminist
Design Pedagogies Towards Socially
Transformative Practices**

Maya Ober

Design for a Feminist Future

Alison Place

**Exploring Feminist Modes of Hacking
as a Commoning Design Practice**

Marie Dietze

**Fluid Worldviews: Designing within
the Common Good**

Ricardo Sosa, G. Mauricio Mejía,
Joni Adamson

Following the Otherwise – Contributions of Intersectional Feminist Design Pedagogies Towards Socially Transformative Practices

Keywords: Design Education,
Feminist Pedagogy, Intersectionality.

Maya Ober^{a*}

^aBerne University of the Arts
^{*}maya.ober@gmail.com

[1] This paper discusses the preliminary findings of an interdisciplinary research project, situated between Anthropology of Education, Design, and Gender Studies, that engages in looking at the contemporary intersectional feminist design pedagogies and explores how they inform design practice towards the otherwise, basing on two case studies. Written in a hybrid form, merging academic writing, and creative non-fiction, this paper presents ethnographic data from the fieldwork. Employing ethnographic methods, in particular, participant observation allows the author to inquire how intersectionality can inform design pedagogy. What concepts, ideas, methods, and tools are employed and how they adapt and transform across the two programmes, depending on the cultural, political, spatial and social context on the macro level, and on the personal circumstances and background on the micro-level.

[1] This paper presents preliminary findings based on an MA Thesis in Design Research at the University of the Arts in Berne, Switzerland, that will be submitted in January 2021. The project will continue as a PhD dissertation.

1 Introduction

In order to understand the shaping of design practice amidst a growing discourse on the politics of design and its contribution to the common good, this paper proposes to explore contemporary intersectional feminist design pedagogies. It focuses on two sites, namely: (1) the Chair of Design and Gender Studies (later referred as DyEG) at the Faculty of Architecture, Design, and Urbanism (FADU), University of Buenos Aires (UBA), Argentina; (2) the Norm-creative MFA Programme in Visual Communication at Konstfack, Stockholm, Sweden. These pedagogical approaches postulate design otherwise, defining design as an inherently political and socially transformative practice contributing to a more just society (Ansari 2018; Abdulla 2018; Keshavarz 2017). Only recently has the lens of intersectionality been applied in the field of design education, despite serving for decades as an analytical tool and pedagogical influence in the Social Sciences (Crenshaw 1989; hooks 1994; Mitchell, Simmons, and Greyerbiehl 2014). Interestingly, these pedagogies have been emerging at a similar time at different locations globally, primarily in the second decade of the 2000s. Nevertheless, there has not yet been any study exploring this phenomenon, one which would reveal how design education has responded to calls for decolonization, depatriarchization, and deprecarization, as well as the rise of social movements such as BLM, the Women's March, #Niunamenos, #QueSeaLey, #metoo, and others.

In this paper, I discuss the preliminary findings of an interdisciplinary research project, situated between Anthropology of Education, Design, and Gender Studies, that engages in the tracing of the intersectional feminist design pedagogies and explores how they inform design practice towards the otherwise (Abdulla, 2018) based on the aforementioned two case studies. Employing ethnographic methods, in particular, participant observation allowed me to inquire how intersectionality can inform design pedagogy. What concepts, ideas, methods, and tools are employed and how they adapt and transform across the two programmes, depending on the cultural, political, spatial and social context on the macro level, and on the personal circumstances and background on the micro-level.

2 Bridging as a Theoretical and Methodological Framework

Understanding design education as a formative space shaping design practice, this paper wants to highlight voices from the margins. I understand these programs and courses as spaces of resistance not only within their institutions, but within the design field at large, taking upon themselves the “urgent task of configuring new ways of knowing and being” (Alexander 2005, p.7–8). These new ways of teaching, learning and designing invite us to rethink the existing categories of design and attempt to contribute to socially transformative practices.

Through a triangulation of participant observation, interviews, and visual and project analysis, in the following sections, I provide rich descriptions of project presentations of each course, based on

ethnographic data collected during preliminary fieldwork in 2019 and 2020[2], trying to address the following research questions:

- What characterizes feminist pedagogies within the design field?
- What theories, practices, and philosophies inform feminist pedagogies of design education?
- How do feminist intersectional perspectives inform design education and design pedagogy, including how, what, and why we teach?

Based on ethnographic data, I wrote in first person a narration of experiences of these courses, interwoven with the voices of students and teachers. Drawing on the scholarship of feminist Chicana writer Gloria Anzaldúa, the aim of this writing is to bridge “to other realities [...], shifting consciousness” of what design education could be and to explore how, why, and when the genealogies and social locations of teachers and students emerge in their design production (Anzaldúa 2001,1). I seek to examine to what extent - through changing ways of knowing that integrate reflection with design action - they attempt to devise subversive systems of knowledge and challenge the status quo of the design discipline (Anzaldúa 2000). Writing in a light prose, far away from academic language closer to creative nonfiction, is a deliberate methodological decision that attempts to create a “bridge” for other educators, students and researchers to approach these new ways of teaching.

3 The Last Shift at the FADU: the Final Presentations at the Chair of Design and Gender Studies (DyEG)

I arrived at the FADU (Faculty of Architecture, Design and Urbanism) still quite jetlagged. Following a short nap after the flight, I took a bus to the Ciudad Universitaria to participate in *La Entrega Final* - the final presentation at the Chair of Design and Gender Studies (DyEG). A ride costs 18 pesos or approximately 30 cents, reminiscent of Argentinian socialist policies. Taking a sharp curve through a metal gate, the bus line 117 entered the university city, entirely disconnected from the urban fabric of Buenos Aires. Located in the north-west of the city, the campus sits in isolation between a large highway and the Río de la Plata to its east. “La Ciudad Universitaria para mi es otro mundo,” says Gabriella Giugiotella, one of nine teachers at the DyEG. There is a supermarket, a bank, and even a free day-care for children of the students and employees. It feels like a city within a city. In the 1950s, the University of Buenos Aires decided to expand its venues and create a new campus to serve the needs of growing faculties of sciences, philosophy, economics, and architecture. They chose to implement the urban plan created for Buenos Aires by Swiss architect Le Corbusier back in the '30s. Over the course of the '60s and '70s, several buildings

[2] Due to the pandemic, I had to interrupt my preliminary fieldwork in Sweden. However, I concluded the fieldwork in Argentina, resulting in a broader data set of the first case. This explains the disparities in the scope of two descriptions.

were constructed, including the FADU's so-called Pavilion Three. The rectilinear building - celebrating glass and concrete and lacking any ornamentation or color - imposes its presence and seems to be an organism of its own.



Fig. 1: Graffiti "Feminism is revolution" at the entrance to the FADU, Buenos Aires, AR. November 2019. Photograph: Maya Ober.

Trying to approach the main entrance of the FADU, some large fluorescent graffiti caught my attention, reading "*Feminismo es revolución, En la FADU no nos callamos más*" ("Feminism is revolution, At the FADU we are not silent anymore"). Fluid strokes of white and black handwriting on the "abortion green" background - a color linked to the National Campaign for the Right of Legal, Safe, and Free Abortion - announced how the political activism of #niunamenos and #quesealey was present on campus. I climbed the stairs and next passed an "informal" market, with stalls selling everything from plants, hand-made jewellery, books, clothes to pañuelos verdes, the green scarves that serve as a National Campaign's primary symbol. I saw these triangular scarves all over the streets of Buenos Aires - tied to necks or wrists, hanging in backpacks and purses, always popping out and marking their presence in brash green.

I entered the main hall, trying to grasp the space. The intense November sun was piercing through the skylights, illuminating a large white panel with photographs of the Desaparecidos faculty members during the military dictatorship. "This faculty was strongly hit by the dictatorship, it was also a very different faculty than it is now," says Valeria Durán, a sociologist and lecturer at the DyEG, recounting how the sinister military dictatorship changed the FADU. During this period, there was a strong union between student movements and working class struggles: For instance, while the

Faculty of Architecture participated in the International Congress of Architecture, focusing on social housing, students and teachers governed courses together in a horizontal way. They understood academic thought as inherently political. After the Coup d'Etat in 1976, Hector Corbacho became the dean at the FADU, transforming the boiling, politically active faculty into a silenced one. Around 100 students and members of the faculty "disappeared," brutally assassinated by the regime. The teaching meanwhile shifted from socially oriented design towards a technocratic one. Subjects such as sociology or psychology vanished from the curriculum, which set its new focus on fulfilling the needs of a free market and supposedly "apolitical" aims. Until today, Durán continues, "it is a faculty where politics seems like it's out of this world." She describes the dissonance between the political militancy of the students and a lack of political engagement within the curricular content. "I feel that in the majority of the courses, politics is simply out of the classroom."



Fig. 2: Memorial with photographs of the *Desaparecidos* faculty members during the last military dictatorship. November 2019. Photograph: Maya Ober.

This lack is something felt acutely by students of the program. "I find it important," student Bernardo Charadia tells me, "now, in Argentina of 2019 with all the social movements, *niunamenos*, *que-sealey* and others, to include a gender perspective in my design. That's why I enrolled." Charadia is part of the graphic design department, where the classes are apolitical, he says. He enrolled in a DyEG course to acquire theoretical and conceptual tools, hoping to better understand what is happening now in the country.

The noise of the students strolling through the corridors starts to amplify. It is Friday, almost seven o'clock, and the last shift at the FADU begins around this hour. The University of Buenos Aires of-

fers classes in three periods: morning, afternoon, and evening. The crowd changes accordingly - in the morning, there are mostly young students from affluent backgrounds studying architecture, while later it becomes more diverse, culminating in the evening sessions from 7–11 p.m. Most people attending these classes both work and study, while some come from the working class backgrounds or from the provinces, Some are also parents. Decisions about course scheduling are inherently political ones, influencing who is excluded and who is included, or which bodies are present. Soon La Entrega Final begins. My head starts to spin, trying to follow the cohorts of students.

The course was initiated by Griselda Flesler and is co-run by an interdisciplinary team of nine, including professors, lecturers, and teaching assistants. The group is made up of graphic and industrial designers, architects, sociologists, communication specialists, and artists, with a total of seven women, one trans non-binary folk, and one cis-man. Since its foundation in 2017, 1'581 students have already attended the course. It is an elective for undergraduate students from all design departments: architecture, fashion, graphic, industrial, textile design, landscape architecture, and sound and image design. The class is offered every semester, and enrolls 200 students. To me, a class of this size seemed insane, as I was used to groups of 30 students at maximum. At the FADU, however, which has a student body of roughly 25'000 students annually, this size is completely normal. Natalia Laclau, one of the lecturers, describes how this size of class is characteristic of public universities, which are tuition-free at the undergraduate level - regardless of nationality - and have no restrictions for undergraduate student enrollment. The course is an elective for undergraduates, and when the online enrollment begins each semester, the class fills within minutes. The team frequently receives angry emails and phone calls from students, disappointed they couldn't get in. Ultimately, it is the university that regulates how many students can attend this class, as increasing the number of spots would entail a higher budget, and there are not sufficient funds for this. As it stands, the University of Buenos Aires also doesn't pay the teaching assistants, expecting that they would work "ad honorem" for free. Rather than wait for a structural policy change, the teaching team established a cooperative: each month, lecturers put part of their salary into a common pot to finance the work of three teaching assistants.

The workshop is immense, probably around two hundred square meters. The students arrive in batches and begin to hang their projects, quickly filling the room. Fifty interdisciplinary groups of five students mixed from all departments - from architecture and film to industrial, graphic, fashion, and textile design- were asked to develop projects, namely design responses to the text "Los cuerpos" ("The Bodies") by trans-feminist Spanish writer Paul B. Preciado, an extract from his newest book *Un apartamento en*

Urano (An Apartment on Uranus). Printed A3 sheets start to occupy the walls, taped to the blackboards and whiteboards. Mindful of the differing financial capacities of the students, the only required deliverable of the course is one A3 print.

Everything begins to liven up. The colors, patterns, and textures of the drawings, photographs, visualizations, and accompanying texts energize the space. The students circulate and examine the projects of their colleagues. Everyone is talking, and the Rioplatense Spanish - with its vivid, unique intonation - makes the typical "sho" and "zho" sounds resonate throughout the space. There are around 200 people in the room, strolling around and conversing. As I am still quite jetlagged, I can only hear the noise, amplified by the whirring sounds of planes departing from the nearby Jorge Newbery Airfield.

The chair of Design and Gender Studies runs this interdisciplinary elective course each semester. Sixteen meetings encompass seven theory classes and nine practical ones. In the first theoretical part, the students attend an hour-and-a-half long lecture by Flesler, Durán, and invited guests, and afterwards, they discuss the topic of the lecture in four groups of fifty people, together with the rest of the teaching team. The class begins at 7pm and ends officially at 11pm, although often students continue debates later into the night. The topics include: feminisms and the design and architecture canon; introduction to the history of the "Other"; false neutrality; design thinking and the critique of heterosexual normativity; postcolonial design and architecture; technology; and gender studies. The bibliography for each class includes between three to six obligatory papers or book chapters, as well as around five complementary ones. To assist the process of reading, the teaching team prepares a lecture guide that explains some concepts. The literature is translated into Spanish or written by Spanish-speaking authors. "In Argentina, speaking and reading English is still often related to the socio-economic conditions in which one grows up," Flesler explains, emphasizing the fact that they teach at a public university, and thus have a responsibility to make their pedagogy as widely inclusive and accessible as possible. The students also underline the importance of the bibliography and critical readings. Lucia Molina Carpi, an image and sound design student, recounts how - thanks to the class - she now regularly reads feminist and critical race theory in order to open new ways of thinking about film that she can apply in practice.

"Outside of the FADU, I interiorized feminism. Since my childhood, I have been participating with my mum in the Encuentros (National Womxn Meetings). I would go to the protests for free and legal abortion, for LGBTQ rights," Carpi describes. She also notes how she wants to connect her activism with her professional life with design work. Nowadays, audiovisual media are incredibly potent,

opening the door to popular culture and influencing the masses. Carpi wants to have a voice and tools - to learn how to communicate, how to develop ideas on a social level. "This course also provokes a certain discomfort," she reports. "Suddenly departing from the normative mode of thinking, that privileges cis, heterosexual, male, white, abled [people]. We open ourselves to questions and issues we had previously naturalized and internalized. Getting out of our comfort zone, we start speaking and designing from other positions. Not necessarily only from a woman perspective, rather from multiple ones."



Fig. 3: Celeste Moretti, a lecturer at the DyEG, FADU discusses *Hegemogramm* project. November 2019. Photograph: Maya Ober.

Following the theoretical classes, there is a written exam with open questions. The form of a traditional exam enables them to evaluate the acquired knowledge of Feminist Theory and Gender Studies in a relatively manageable way, even if it takes around three weeks to check the pile of 200 exams. These concepts are fundamental to the subsequent design work. Celeste Moretti, one of the teachers, emphasizes that "we don't require the students to know profoundly each text, but we do want them to be fluent in the concepts that cross with their disciplinary fields."

After the exam, the practical part begins, in which students work in interdisciplinary groups of 5 people in four commissions. The teaching team - made up of Celeste Moretti, Gabriela Gugliotella, Natalia Laclau, and Paloma Carignani, with assistants S. Ismael Menegolla, Florencia Scalise, and Facundo Revuelta - lead the commissions in couples or individually, rotating by semester. Each commission works with 10 groups of students; during each class, they have around 20 minutes to discuss each group's project. Every semester, the students get a different assignment - once it was a

list of national and university laws, another time articles from a newspaper, and now the text by Paul Preciado.

I look around the room and attempt to take in all fifty projects hanging on the walls. While the students do not have to produce prototypes, many do, and their installations fill up the room. A multi-use belt with inclusive patterns, with fluid uses depending on gender identity; a publication on menstrual myths; a board game on constructing identities; an artist book; a short documentary about sex life on the campus; a sex toy for the visually impaired; textile room dividers; and more. A text accompanies each visualization, explaining the theoretical framework behind the project. For the teaching team, this part is often more important than the visual result of the project. They are interested in seeing how the theories discussed in the course influence students' ways of thinking about design and disciplinary divisions.

When everything is hung, the students slowly leave the room. It is virtually impossible to discuss their projects with roughly 200 people in the same space. The acoustics are horrible. The group whittles down to around 16 people - the teaching team, some interested guests from the National University of Rosario, and me. I can still hear the noise of the students, who wait in the adjacent room. We begin the round. Each teacher presents the projects from their commission individually and talks through the theoretical frameworks, using the texts written by the students. It is already 8:30 pm and my jet lag is kicking in. I find it difficult to concentrate, especially given that the discussions revolve not around design choices - such as materials, colors, or technologies - but rather juggle between queer theory, Judith Butler's gender trouble, and Preciado's ideas of transitioning both gender-wise and politically, and their intersections with design. The intellectual depth overwhelms me, and my head spins even stronger.

"Some people are locked inside their body as if it were Alcatraz. Others only understand freedom as something the body can perform." This phrase by transfeminist writer Paul. B. Preciado was the starting point for the project done by Bernardo Charadía, Carolina Herrera, Carolina Lotti, and Florentina Gajate. Stencilled black type on a white background reads "Hegemogram." Below, multiple pictures of magnified parts of the body create a large collage. Sensual lips, upper thighs, hands, eyes, buttocks, breasts, nipples, hair, feet, phalluses - all perfectly carved and conforming to the western beauty ideal. The thin, young, white abled bodies, juxtaposed one next to another with thumbs up and hearts emojis stuck upon them, were taken directly from a Facebook or Instagram feed. Beneath this mesmerizing image, the same stencil type says "Tu Libertad es hegemónica" ("Your freedom is hegemonic").

"So they asked their friends on Instagram," explains Celeste Moretti, the lecturer, "what was their body part that generated the feeling of freedom, and requested them to send an image of it. The original idea was to create a recompilation of diverse bodies and design a mural with bodily diversity symbolizing freedom. But when they started receiving the photos, they realized that all the images of parts of the body belonged to skinny people with hegemonic features."

"Because it was the universe of their algorithm!" interrupts Flesler. "Let's say, all my friends are skinny, all my friends are young, all my friends are white, all my friends are happy in and with their body."

"So then they reconfigured it and called it 'hegemonic freedoms' as the part of the body that gives you the most freedom is the one that is most related to the hegemonic body. And they put together a video with photos and audios of the people who were telling them why that part of the body generated them freedom." continues Moretti.

"It is an example that there is also something in this course that makes you very attentive to the design process, as you are reconfiguring and thinking anew. Many things sometimes happen, and you realize it only at the moment of designing." summarizes Flesler.

4 So, What's so Scary About Me?

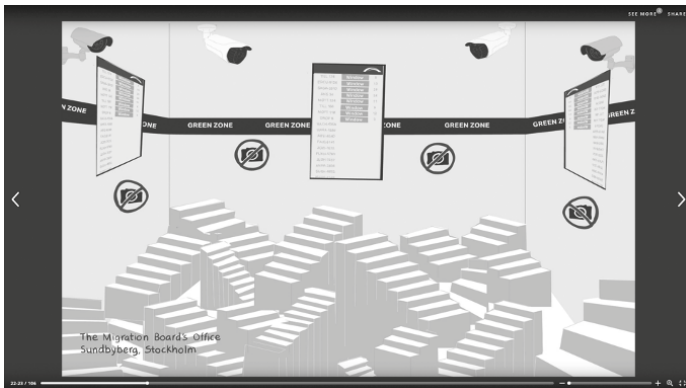


Fig. 4: A spread from "Refugees Welcome?" graphic novel by Hayfaa El-Chalabi.

"Well, if you refugees didn't bring your families and the families of your families, we would not have ended up with a refugee crisis of one million refugees. We would have had enough time slots for everyone..." reads the violet handwritten looking text on the spread. These are the words of a migration officer at the Migration Board's Office in Sundbyberg. Next to them, an exposed naked body – pure flesh and blood – is agonizing. The person is

amorphous and crosses in despair, hands above their head. That is one of Hayfaa Al-Chalabi's self-portraits, a second-year student at the Master Programme in Visual Communication at Konstfack in Stockholm. During two days, thirteen second-year students present the interim results of their final projects.

Since 2015 the Norm-creative MFA program in Visual Communication has been training students based on the concept of norm-criticality, coined by gender experts Rebecca Vinthagen and Lina Zavalia in 2014. Norm-creativity is a method that questions discriminatory standards and normative values, drawing on feminist and critical theory. The first part of this process uses "norm-criticality" to interrogate discriminatory practices embedded in design decisions and choices. After identifying an oppressive norm, designers seek to address this issue in their creative practice.

Norm criticality serves as an analytical lens for the program. By pointing to power structures, it makes visible and questions discriminatory norms in design practice. Therefore, in the first semester of the program, students participate in an intensive phase where they learn about the history and present of oppressive systems (e.g., white supremacy, racism, patriarchy, ableism, classism, heteronormativity, and others) and critically reflect upon their practices. This learning process is rather painful, Johanna Lewengard, co-head of the program, mentioned in my interview, as students begin to unpack questions of power and not only "start seeing patterns of systemic oppression," but also begin to realize and acknowledge their positions in them. (2019). Further on, the norm-creative approach is used for aiming to transform "norm-critical analysis into practice" (Crippa, Lewengard, and Ober 2019).

Hayfaa thinks that norm-creativity is a necessity. For her, design should be norm-creative because that is what design is. "It is a reflection about our society, and it is about communicating with people. And it's about representing people." she says. "By given for me, it should be norm creative, because it can not be racist. That's not a functioning design. It's dysfunctional. It's segregated design". She believes it is the time to acknowledge that our society is not rich white men, but more than that. "And it is only natural to do norm-creative design."

During two years, students develop their design practice either in the field of graphic design or illustration. Lewengard emphasizes the importance of going beyond mere intentions and focusing on the impact designs might have and their participation in the reproduction of oppressive systems. Therefore, she advocates for "focusing on methods that help us to identify gaps between intention and outcome," and explains that "using a broad set of tools for analysis (feminist tools included) creates a more holistic view on

visual communication and sharpens design decisions." (Crippa, Le-wengard, and Ober 2019).

Hayfaa is standing in the dark auditorium room, and the illustration spreads – from her book in progress "Refugees Welcome" – are glaring on with a dazzling light from the giant screen. I can feel how some people in the audience are becoming more and more uncomfortable as Hayfaa continues sharing her story. Later on, one male Swedish undergraduate student from will ask her if she is looking for revenge. For her MA project, she is working on a graphic novel using the power of storytelling, documenting her asylum process and experiences as an Iraqi refugee who came to Sweden at the age of 13.

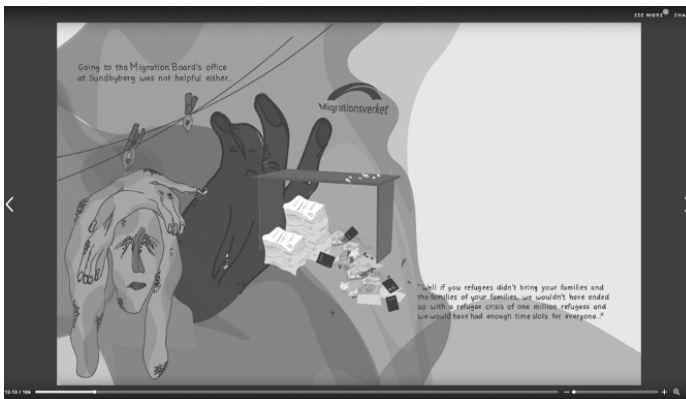


Fig. 5: A spread from "Refugees Welcome?" graphic novel by Hayfaa El-Chalabi.

A green-greyish room is filled with surveillance cameras. On the wall, multiple `No photos or video allowed` signs are hanging. That's the migration office to which Hayfaa had to go numerous times, as she received her last deportation notice. This space repeats itself across multiple spreads.

"The place is so big. Your body is fully surveilled inside it. And you're not allowed to take pictures or to document in any way what's happening ."

She is twenty-three years old, relatively small demeanor, while she presents the interim-state of her project without any notes, standing, and moving confidently, and gesticulating at times. Her voice is strong and decisive. Her speech is filled with profound anger, similar to that of a Black feminist poet Audre Lorde during her presentation "The Uses of Anger: Women Responding to Racism" back in 1981.

"So what's so scary about me?" she asks. There is complete silence in the room. Not a comforting, reflective one, the silence of discomfort.

"You know, I realized that my power lies in documentation. I decided that illustration is a powerful tool to break the silence and alienation they are attempting to make. When we write history, we usually have two sides. But in a history that's written, there is a lot to be documented by only one side who is an effective governmental institution against you, a refugee. It's obvious that this history is oppressive that's written unfairly. It's a history that's told by the powerful, and the other part is deprived of telling it. And here comes the power of storytelling and illustration and visual communication, because here comes my tool of documenting against this oppressive, you know, one-sided history."

5 Influence of Feminist Activism on the Academic Space of Design Education – Final Conclusions

Although intersectional feminisms inform the pedagogies of each program, the situatedness and the local milieu are nevertheless fundamental to how they are applied in the classroom, and thus how they influence design production of the students. In the two essays above, I provided a glimpse into each programme, focusing on the micro, on the intimate, on the local. It would be premature to draw overarching conclusions at this stage of the research, as it demands broader data collection.

Nevertheless, the process of writing, helped me defining the scope for further exploration, namely, the influence of feminist activism on the academic space of design education. My interlocutor Bélen Triantafilou, image and sound design student at the DyEG describes it as follows "I am lesbian. I need to claim it and name it. I am telling my boss about it, and to the boss of my boss. But ten years ago, it was different; now I have more freedom; but not everybody from the LGBTQ+ community does, therefore I am involved in activism for the transgender community. It was important to me to apply these concepts that I know from the outside of the faculty, from the streets, from the activism, in my design work." she emphasizes. On her wrist, she is wearing a green, triangular scarf –pañuelo verde – the symbol of La Campana Nacional por el Derecho al Aborto, Legal, Seguro y Gratuito (National Campaign for the right to legal, safe and free abortion). "Here at the Chair of Design and Gender Studies (DyEG), the teachers quote Lohana Berkins" – an Argentine travesti activist, who campaigned for Gender Identity Law passed in 2012, that allows transgender people to legally use their self-perceived identity, as well as get free cover of all the medical treatments for transitioning. "During this class, I feel that they are talking about the same things as I am. The teachers are tuned to what is happening with you, and with the society at large. They are not giving the same class over and over again for two hundred times, as is the case in other courses."

Back in Stockholm, Hayfaa El-Chalabi speaks about the importance of political discourse in the MFA programme at Konstfack. "It is amazing, because of the freedom of discussion, because of the diversity of teachers, because of how they provide other teachers

from all countries and because they focus on the decolonization. I think there is still a lot of learning to be done, but I was very happy to see to have a class where they show us and Edward Said, for example, where they speak about the Palestinian Israeli issue. Because in Sweden, usually these discussions are not really existent in design schools. I was very happy to see lots of diversity, to see people who know what Orientalism is; who know what a Western gaze is known with the male gaze is.”

To further discuss the educational practices of the otherwise, it is fundamental, as emphasized by Bélen and Hayfaa, to attune design education to the reality on the streets, as well as to students’ particular genealogies and identities. In this way, the created spaces within design schools, provide both resistance to dominant ways of designing at the same time facilitate changing perspectives as passageways of transformation.

References

- Abdulla, Danah. 2018. "Design Otherwise: Towards a Locally-Centric Design Education Curricula in Jordan." PhD. diss, Goldsmiths, University of London.
- Alexander, M. Jacqui. 2005. *Pedagogies of Crossing: Meditations on Feminism, Sexual Politics, Memory, and the Sacred*. Durham: Duke University Press.
- Ansari, Ahmed. 2019. "Decolonizing Design through the Perspectives of Cosmological Others: Arguing for an ontological turn in design research and practice." *Crossroads: The ACM Magazine for Students* 26, no. 2 (Winter): 16-19. <https://doi.org/10.1145/3368048>.
- Anzaldúa, Gloria. 1987. *Borderlands = La Frontera: The New Mestiza*. San Francisco: Spinsters/Aunt Lute.
- Anzaldúa, Gloria, ed. *Making Face, Making Soul = Haciendo Caras: Creative and Critical Perspectives by Feminists of Color*. San Francisco: Aunt Lute Foundation Books, 1990.
- Anzaldúa, Gloria E. 2000. *Interviews/Entrevistas*, edited by AnaLouise Keating. New York: Routledge.
- Crenshaw, Kimberle. 1989. "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics." *University of Chicago Legal Forum* 1989, no. 1: 139-167.
- Crippa, Benedetta, Johanna Lewengard, and Maya Ober. 2019. "Expanding Knowledges: Pedagogies of Freedom for Visual Communication." *Depatriarchise Design*, January 2019. <https://depatriarchisedesign.com/2019/01/23/expanding-knowledges/>.
- hooks, bell. *Teaching to Transgress: Education as the Practice of Freedom*. New York: Routledge, 1994.
- Keshavarz, Mahmoud. *The Design Politics of the Passport: Materiality, Immobility, and Dissent*. London: Bloomsbury Visual Arts, 2019.
- Mitchell, Donald, Jr., ed, with Charlana Y. Simmons, and Lindsay A. Greyerbiehl. 2014. *Intersectionality & Higher Education: Theory, Research, & Praxis*. New York: Peter Lang.

Design for a Feminist Future

Keywords: Feminism, Intersectionality,
Equity, Power, Justice.

Alison Place^{a*}

^aUniversity of Arkansas
^{*}aplace@uark.edu

Consider the many ways design shapes our lives today: our homes, our work, our relationships, our community, our economy, our government, our education, our recreation. Design is at the root of our built environment. Therefore it is reasonable to say that designers, collectively, are world-builders. But what kind of world are they building? Whose world is it? Who benefits in this world? Who suffers? Design praxis has traditionally positioned itself as tool in service to capitalism, perpetuating the domination of wealth and exploitation of labor, while ignoring its complicity in social, political and environmental oppression. Designers have long been taught to be neutral actors and universal problem solvers, but neutrality is a stance that serves the oppressor and upholds the status quo.

The models we have created to serve the common good, such as social design and human-centered design, do not go far enough to address inequity and reverse harm. A human-centered approach does not necessarily target or elevate the experiences of those who are oppressed, nor does it explicitly address the systems that perpetuate their oppression. The common good is only served by centering those who are the most marginalized and the most vulnerable. Building a more equitable world, then, requires a systemic redistribution of power. An intersectional feminist approach to design generates a conceptual framework for interrogating and intervening in inequitable power structures through design. The theory of intersectionality, coined by law professor and activist Kimberlé Crenshaw (1989), addresses inequities as they relate to complex intersections of social identity and the unique experiences of discrimination that take place at those intersections. Intersectionality rebukes the notion of universal design. Within feminism, the personal is universal. Plurality is the default.

Feminism is typically associated with verbs such as “dismantle,” “tear down,” and “fight,” but radical feminists are the original builders - of movements, of collectives, of relationships, of structures, of systems, of worlds. Contemporary feminism seeks to gen-

erate opportunities for intervention, making it a natural ally to design. The aim of this paper is to propose an intersectional feminist framework for design through five principles: critically examine power, center marginalized stakeholders, prevent harm + prioritize healing, embrace plurality + complexity, and think radically + act incrementally. By drawing on key tenets of feminist theory, a new framework is generated for design that serves the common good. It forces a critical re-imagining of our values, our methods and our roles as designers. In the feminist spirit of challenging the status quo, we must question existing ways of knowing and doing to create space for radical empathy and generative world-building.

1 Introduction

The aim of this paper is to analyze the ways in which contemporary design methodologies perpetuate and replicate systems of oppression, and to propose a framework for designing for the common good that is shaped by feminist theory. I will explore various intersections of design and feminist theory to develop a set of principles that might guide design theory and practice across a wide range of fields. This exploration will focus on relationships between authority and power, and call into question established norms and roles in design. In this paper, the term "design" will refer to all aspects of the design process, such as research, prototyping and dissemination, as well as the outcomes of those activities, including artifacts, affordances, experiences and systems, both in the material and digital worlds. A "designer" will not be defined by their education or professional affiliation, but rather by their positionality within a system of which they are a potential agent of change.

2 Designing Against Inequity

It is difficult to overstate the power and pervasiveness of design in contemporary life. Design intervenes in nearly every aspect of the human experience today, with few aspects of our day-to-day lives untouched by the decisions of designers. Our communities are shaped by the design of cities and buildings. Our relationships are shaped by the design of dating apps and social media. Our home lives are shaped by the design of furniture and products. Our economies are shaped by the design of digital tools and marketplaces. Our worldviews are shaped by the design of algorithms and artificial intelligence. Design is at the root of the built world through which we maneuver and exist each day.

But the impact of design is not just constrained to the objects and artifacts we see; it is also at the root of unseen systems and policies that serve as the invisible structure of our lived experiences. The extent to which these invisible structures govern our lives is not a backdrop of design, but a consequence of it. As a discipline and as a practice, design is perpetually in dialogue with complex social, political and economic systems of oppression. To be a designer, therefore, is to wield an enormous amount of power in shaping lives, and with that power comes a critical responsibility to exercise it ethically and to the benefit of the greater good. Every

decision that a designer makes requires a choice-to either include or exclude entire communities of people, to inform or manipulate those who seek knowledge, to serve or disenfranchise vulnerable populations. On their surface, these choices seem simple, and designers' good intentions evident, but the gap between intention and impact is wide, and growing.

Whether large or small, directly or indirectly, every member of society is impacted by design decisions, whether their needs were centered or ignored as part of the design process. Since the emergence of the modern design discipline in the 20th century, design has positioned itself as a tool in service to capitalism, perpetuating the domination of wealth and exploitation of labor. Existing models for design, such as "design thinking," preach innovation and progress while at the same time upholding the status quo by reinforcing existing power structures. The dominant culture and methodologies of design are marked by patriarchal norms and values that center a "default" narrative - primarily white, cisgender, heterosexual and able - bodied-and cause non-dominantly situated people to be "othered" in the process. Design outcomes that result from these methodologies reinforce structures of privilege and oppression and perpetuate the subordination of marginalized identities.

3 A feminist Approach

The events of 2020 have forced us to examine the ways in which complex issues like global health, climate change and economic instability have drastically inequitable impacts on people based on their gender, race and class. Design that serves the common good must be design that dismantles inequitable power structures and builds new ones. The intersection of design and feminist theory is a site for critically interrogating power structures in the design process to generate tools and processes that center equity and liberation. Design is a vehicle that can put feminist theory into action, and feminism is a framework that can make design more equitable and beneficial to the lived experiences of real people. Feminism is typically associated with verbs such as "dismantle," "tear down," "topple," and "fight," but feminists have also historically been builders - of movements, collectives, relationships, structures, systems and worlds. A feminist model for design opens space to explore new methods and frameworks for building a world that serves the common good.

Feminist HCI researcher Shaowen Bardzell writes, "by making visible the manifold ways that gender is constructed in everyday life, contemporary feminism seeks to generate opportunities for intervention, making it a natural ally to design" (2010). There is no single definition of feminism - or, more accurately, *feminisms*. Academically, feminism is a domain of critical theory that examines "the ways in which literature (and other cultural productions) reinforces or undermines the economic, political, social and psychological oppression of women" (Tyson, 2006). In the more popular

vernacular, feminism is the "movement for the social, political and economic equality of the sexes" (Merriam Webster, 2017). Historically, feminism has been regarded as the pursuit of enfranchisement, empowerment and liberation of all women. Contemporary feminisms employ a more nuanced view of gender in relation to larger systems, such as ecofeminism and transnational feminism.

This paper will address feminism through an intersectional lens. Intersectionality, named by law professor Kimberlé Crenshaw to connect theories on race, class and gender discrimination, is an analytical method for understanding the systemic nature of inequity. According to Crenshaw, intersectional analysis must begin by recognizing that women don't share one universal experience simply by virtue of anatomy or gender (1989). Intersectional feminism addresses inequities as they relate to intersecting facets of social identity and the unique experiences of discrimination that take place at those intersections. Intersectional feminism is not just about gender. It is about power - who has it and who doesn't. A theory for design informed by intersectional feminism emphasizes the interconnectedness of power structures with the so-called "user experience." It considers not only individuals' experiences but also their positionality within society, including their relationships to other people, institutions and systems.

The following five principles demonstrate ways in which intersectional feminist theory can inform a model for equitable design. Each principle addresses an aspect of contemporary design practice and how it can be reimagined through a feminist lens to directly address inequity and systemic oppression. Collectively, the principles represent a critical re-imagining of designers' values, methods and responsibilities and an urgent call to action.

3.1 Critically Examine Power

Traditional theories of design lead us to believe that to design is not an inherently political act. The discipline originated as a neutral vehicle to execute another entity's vision, a channel between craftsperson and client. Professional designers have long been taught to be neutral actors and universal problem solvers. Today, amidst global crises of our climate, our health and our democracies, it is clear that design has moved past the stage of its evolution when its practice can be considered without inherent virtue or inherent vice. Designers are powerful change agents, and their actions are perpetually in conversation with - and often complicit in - complex systems of social, economic and political oppression. In an interview with Eye on Design, design educator Danah Abdulla said, "For far too long, designers have remained married to the concept that what we do is neutral, universal, that politics has no place in design. Yet the choices we make as designers are intrinsically political: With every design choice we make, there's the potential to not just exclude but to oppress" (Khandwala, 2019). To reject

the notion of the designer's role as political is precisely what makes wielding their power so dangerous.

An intersectional feminist approach to design must be based on a critical interrogation of the power structures that surround designers, the design process and its stakeholders. Critically examining power must begin with the positionality of the designer themselves. Designers tend to be white, educated and able-bodied, occupying a position of considerable privilege within society. Culturally, designers have often been elevated to a hero-like status. The typical role designers play in the design process is that of the "expert," swooping into a situation or community to "fix" something and then leave. What results is an uninformed, often harmful design intervention that caters to the privileged and marginalizes others. A hallmark of feminist theory is a wholesale rejection of hierarchies, calling for equity in power relationships. Feminist social research methodologies, for example, advocate for a reduced hierarchy between researcher and participant in which the two are situated as co-researchers, placing emphasis on their personal connection rather than a researcher's "objective" stance (Reinharz, 1992). An intersectional feminist approach to design calls for a reimagining of the relationship between designer and user based on a reduced hierarchy and a culture of care. Rich Hollant, founder of the interdisciplinary design studio CO:LAB, asserts that "design is secondary to building relationships and being in communities" (2019).

Designers must also critically examine the power structures within which their processes and outcomes take place. Design is not created or experienced in a vacuum. All design attempts are inevitably enmeshed in the power structures of patriarchal society. Users experience design within the context of their positionality in relation to established power structures, whether they be familial, institutional, historical, economic, political, social, or all of the above. All design decisions therefore either reinforce or subvert those relationships. Designing for equity, then, becomes not just about solving a problem but also an endeavor in redistributing power.

The analytical lens of intersectionality implores us to better understand the many power structures that people operate within on a daily basis. Intersectional feminism is predicated on the notion that all women are not a monolith. In the same regard, all users who interact with design artifacts and systems are uniquely different. Yet the designer's toolbox is woefully ill-equipped to meaningfully incorporate the nuances of power relationships and marginalized identities into the design process. Tools like stakeholder mapping and user personas are largely based on assumptions that lump groups of people together based on demographics, and therefore do little more than reflect the worldview and biases of the designer. To design for the common good, new tools are needed for analyzing and addressing the role of power in the design process.

3.2 Center Marginalized Stakeholders

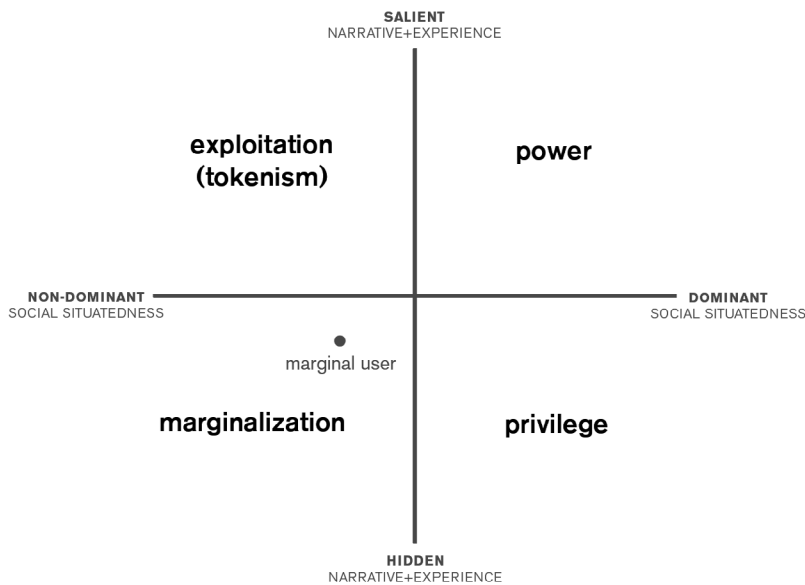
There are many models for design that purport to benefit the common good by focusing on positive human outcomes rather than profits. Social design, human-centered design, design for good and universal design, to name a few, champion the experience of the "user," centering their needs and incorporating their feedback or participation into the process. While the collective impact of these models has been arguably positive, they all lack necessary mechanisms to address systemic inequity. For example, human-centered design is a methodology that aims to address the role of users in the design process by utilizing methods that increase representation and reduce bias. However, a "human-centered" approach does not necessarily target or elevate the experiences of those who are marginalized by society, nor does it explicitly acknowledge the systems that perpetuate their marginalization. While empathy as a tool may allow a designer to better understand the nuance of a marginalized user's experience, it does not equip them to address the historical, social or political systemic causes of it.

In the same regard, simply stating an emphasis of designing for the common good and against private interests does not necessarily ensure a positive societal impact. In fact, it may do the opposite. Viewed through an intersectional lens, society is not a monolith, and what is considered "common good" for one group may not be for another. Design that aims to benefit society as a whole does not end up benefitting everyone equally. The common good can only be as "good" as the lived experiences of the most vulnerable in society. Therefore, designing for the common good must value equity over general progress, and must begin with designing for the most vulnerable.

Design suffers from the problem of the "default user" - even when a particular audience is targeted, design outcomes are created with a default user in mind, and in Western society the default identity is white, cisgender male. At the same time, marginalized people are treated as "edge cases" in the design process (Wachter-Boettcher, 2017); their experiences are perceived to be infrequent and less significant compared to the "default" experience, therefore their needs are not considered important enough to address. Feminist standpoint theory asserts that knowledge is socially situated and non-dominantly situated people in society hold and produce different types of knowledge than their dominant counterparts. The experiences and narratives of marginalized communities are typically hidden or erased by dominant narratives. Therefore, to obtain knowledge that is representative of lived experiences, research must begin with those who are marginalized. Feminist epistemologies, when applied to design, introduce a new domain of user research - the "marginal user" - which forces us to integrate a new set of methods for user research (Bardzell, 2010).

designing for marginal users

Fig. 1: Designing for marginal users.
Mapping the experience of the “marginal user” in relationship to power structures.
© 2018 Alison Place.



To redistribute power to marginalized stakeholders, a system must address both their visibility and their social power. Simply making a marginalized person’s experience more salient does not give them power, and in fact leads to the exploitation of their identity, also known as tokenism (see fig.1). In order for power to be redistributed equitably, a system must also address the conditions that cause social identities to be marginalized. Within a feminist framework for design, designers must work with marginalized communities in an equal partnership of collaboration and co-design, in which designers design *with*, not *for*, them. They must also relinquish the designer-as-expert status and instead act in service to community leaders, placing power and trust in them as the experts. The design process must center marginalized narratives, allowing people to maintain agency over their story and how it’s represented.

3.3 Prevent harm + prioritize healing

It comes as no surprise that a discipline with a culture centered around the directive to "move fast and break things" (Velazco, 2018) has a limited capability to anticipate potential harm. Yet the harm caused by design in recent years - to people, to institutions, to democracies - is vast and immeasurable. Technology writer Sarah Wachter-Boettcher proposes an opposing mantra: "slow down and fix stuff" (2017). It is time for designers to be held accountable for actively anticipating and preventing harm caused by what they create.

Yet, so often, designers rely only on the current and most visible state of affairs to understand the context surrounding a design problem. They fail to consider the decades, or even centuries, of social, economic and political history that have informed the current experiences of marginalized communities. Addressing historical oppression is integral to systemic change. Before we can design a feminist future, designers must better understand the past. The complex, global issues that societies face today are deeply rooted in historical events and long-upheld systems of oppression. Design processes are informed by those systems, and therefore reproduce inequalities structured by what Black feminist scholar Patricia Hill Collins calls the "matrix of domination: white supremacy, heteropatriarchy, capitalism, and settler colonialism" (2002). To design for equity, much more than a passing familiarity of global, regional and local history is needed. Designers often fail to situate their work properly in relation to historical context, thus, as with history, design repeats itself. Without a deep understanding of the history of interlocking systems of oppression, what designers create merely upholds the status quo. To design for the common good, designers must actively engage with the histories of oppression in order to disrupt ongoing exploitation and to prevent further harm.

Feminist theory centers community care as a radical and political act (Padamsee, 2011). A feminist approach to design that is rooted in historical understanding of systems of oppression also urges designers to consider the effects of intergenerational trauma, in which the oppression and violence experienced by past generations are carried and embodied by younger generations. Black feminist political scholar Deva Woodly describes the long-term trauma of Black women's oppression as operating "in the interlocking registers of gender, race, and class and is both carried as a bodily and psychic memory and reinforced by daily experiences of devaluation, discrimination, domination, and exclusion" (2019). Centering marginalized experiences in the design process is not enough; designers' responsibility must expand to include promoting healing by listening to working alongside communities.

3.4 Embrace Complexity + Plurality

The design process is traditionally one of simplification, aiming to reduce complicated problems down to a single manageable hurdle. (Consider how many deeply rooted social problems, like gender discrimination in the workplace, have been attempted to be solved with a "toolkit.") The process is intended to result in one final, enshrined solution to a problem. This approach is demonstrated in universal design, a methodology in which one accessible solution is believed to be capable of meeting every human's needs. In addition to being completely impractical, a timeless and universal stance in cross-cultural design is dangerous because it demotes cultural, social, regional and national differences in experiences and outlooks (Bardzell, 2010).

Feminist theory rejects the notion of a single way of doing or thinking - hence the oft-used term "feminisms." Postmodernist feminists stress plurality rather than unity, in the same way they reject conceptions of women as a homogenous group. They "disavow universalized and normalized accounts of women as a group on the basis that a feminism framed by such accounts becomes itself complicit in subordination" (Beasley, 1999). In this way of thinking, universalism can only assert similarities, and marginalize what is seen as dissimilar.

In design, that means there can be no one-size-fits-all process or solution. Societal problems are messy and confusing. Trying to resolve them is frustrating and uncomfortable. A feminist approach to design is marked by an embrace, rather than simplification, of the complicated realities of modern society. To design for the common good, design processes must produce a plurality of open-ended, responsive outcomes that address the complexity of both individual experiences of discrimination and underlying causes of systemic oppression.

3.5 Think Radically + Act Incrementally

Hand in hand with embracing the complex realities of societal problems is acknowledging the perseverance it takes to chip away at them. Designers tend to have too much faith that their tools and their processes will illuminate a problem and lead them to a solution. This way of thinking causes designers to think both too small and too big. On one hand, they tend to design solutions for today's problems rather than tomorrow's, and by the time a design intervention is implemented it's already outdated because the constraints and circumstances are changing so rapidly. On the other hand, designers try to accomplish too much, attempting to completely eradicate a problem in one fell swoop, or create one single solution for broad swaths of people, thus becoming discouraged by the daunting nature of it all. Designing for the common good requires more radical thinking and more incremental action.

Radical feminism is based on the idea that sexism is so entrenched that we need to completely dismantle social structures, from abolishing the very idea of gender to establishing separate male and female societies. Radical feminism advocates for a revolutionary model of social change, not in terms of a single cataclysmic moment but rather as the consequence of the cumulative effect of many small-scale actions (Beasley, 1999). This revolutionary practice is undertaken with an emphasis on small group organization rather than formalized centrally administered structures.

Drawing on the tenets of radical feminism, designers must be more speculative in their approach to problem-solving, not just aiming to create a solution but to build an entirely new world in which the problem doesn't exist. Sexism, racism and other systemic types of oppression are so deeply intertwined with our worldviews, it can be difficult to picture what the world looks like without them. But that type of radical imagination is what we need in order to design interventions that affect change. Although progress does not come easy, the limitations of reality should not correspondingly limit our vision of a better future. Designers must continually strive to develop radical, speculative futures in which systemic oppression is abolished and justice is delivered.

At the same time, designers must also stay grounded and honor the lived experiences of marginalized people today. This will require them to temper their arrogance a bit, and realize that, while they cannot save the world with their designs, they can make a difference by implementing reasonable changes wherever possible that improve the lived experiences of real people. The long-term impact of design would be increased with a focus on small-scale actions and building relationships. To design for the common good requires a sustained effort across multiple communities, systems and generations.

4 Conclusion

Feminist scholar and poet Audre Lorde famously wrote, "For the master's tools will never dismantle the master's house. They may allow us temporarily to beat him at his own game, but they will never enable us to bring about genuine change" (1984). By the same token, we cannot design for tomorrow's problems using today's tools. Existing frameworks and methods for design are inadequate in addressing issues of systemic oppression and mitigating designers' potential to cause harm. New ways of knowing and doing are needed, particularly those that engage critically with institutionalized oppression and power structures. Designing with a feminist lens opens space for critical reflection on the power designers hold, and a systematic approach for ethically operating that power to honor the lived experiences of real people. It brings to light the hidden relationship between design and patriarchy and calls for a radical re-imagining of design's role in society. A feminist framework for design is not about fixing things, selling things or "innovating," but about liberating people. The principles proposed here are merely a beginning of a collective reimagining and revolutionizing of design praxis. In the feminist spirit of challenging the status quo, designing for the common good will require us to continually work together to develop new ways of making, thinking, doing and being.

References

- Ahmed, S. (2017) *Living a Feminist Life*. Duke University Press. Durham and London.
- AIGA Design Census. (2019). Retrieved from: <https://designcensus.org/data/2019DesignCensus.pdf>
- Bardzell, S. (2010). "Feminist HCI: Taking Stock and Outlining an Agenda for Design." Presented at the CHI 2010: HCI For All Conference, Atlanta, GA.
- Beasley, C. (1999). *What is Feminism?* Sage Publications. London.
- Buckley, C. (1986). "Made in patriarchy: Toward a feminist analysis of Women and Design." *Design Issues*, 3(2), 3-14. <http://doi.org/10.2307/1511480>
- Butler, J. (1990). *Gender Trouble*. Routledge. London.
- Case, M. R. and Craig, A. V. (2020). *Introduction to Feminist Thought and Action*. Routledge. New York.
- Collins, P. H. (2002). *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*. Routledge. New York.
- Costanza-Chock, S. (2018). "Design Justice: towards an intersectional feminist framework for design theory and practice." *Catalyst*, Design Research Society, University of Limerick, June 25-28.
- Crenshaw, K. (1989). "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics." *University of Chicago Legal Forum* 1989(1).
- Criado Perez, C. (2019) *Invisible Women: Data Bias in a World Designed for Men*. Abrams Press: New York.
- Davis, M. (2018). Design Futures: "Core Values Matter." Retrieved from: <https://www.aiga.org/aiga-design-futures/>
- Davis, M. (2018). Design Futures: "Accountability for Anticipating Design Outcomes." Retrieved from: <https://www.aiga.org/aiga-design-futures/>
- Hollant, R. (2019). "rh_sharing_w/my peeps." Design Plus Diversity Conference, Columbia College Chicago, August 1-3.
- hooks, b. (1984). Feminism: A movement to end sexist oppression. In b. hooks (Ed.), *Feminist theory: From margin to center* (pp.238-240). London: Pluto Press.
- Khandwala, A. (2019). What Does It Mean to Decolonize Design? AIGA Eye on Design. Retrieved from <https://eyeondesign.aiga.org/what-does-it-mean-to-decolonize-design/>
- Lorde, A. (1984). "The Master's Tools Will Never Dismantle the Master's House." *Sister Outsider: Essays and Speeches*. Ed. Berkeley, CA: Crossing Press.
- Padamsee, Y. M. (2011). "Communities of Care, Organizations for Liberation." *Transform Harm*. Retrieved from: <https://transform-harm.org/communities-of-care-organizations-for-liberation/>
- Reinharz, S. and Davidman, L. (1992). *Feminist Methods in Social Research*. New York: Oxford University Press.
- Rothschild, J. (1999). *Design and Feminism: Re-Visioning Spaces, Places and Everyday Things*. Rutgers UP, New Brunswick, New Jersey.
- Sarikakis, K. (2009). "Feminist theory and research." In Stacks, D. W. & Salwen, M. B. (Eds.) *An Integrated Approach to Communication Theory and Measurement*. New York: Taylor & Frances.
- Shalk, M., Kristiansson, T., Maze, R. (2017). *Feminist Futures of Spatial Practice: Materialisms, Activisms, Dialogues, Pedagogies, Projections*. Art Architecture Design Research: Germany.
- Sprague, J. (2016). *Feminist Methodologies for Critical Researchers*. Lanham: Rowman & Littlefield.
- Tyson, L. (2006). *Critical Theory Today: A User Friendly Guide*. Routledge, New York and London.
- Velazco, C. (2018). "Facebook can't move fast to fix the things it broke." Engadget. Retrieved from: <https://www.engadget.com/2018-04-12-facebook-has-no-quick-solutions.html>
- Wachter-Boettcher, S. (2017). *Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech*. W. W. Norton & Company.
- Westmarland, N. (2001) "The Quantitative/Qualitative Debate and Feminist Research: A Subjective View of Objectivity." *Forum: Qualitative Social Research* 2,1.
- Woodly, D. (2019). "Black Feminist Visions and the Politics of Healing in the Movement for Black Lives." University of Victoria Colloquium. Victoria, British Columbia.

Exploring Feminist Modes of Hacking as a Commoning Design Practice

Keywords: Feminist Hacking, Intimacy, DIT, Free Technology, Sexual Health.

Marie Dietze^{a*}

^a*Berlin University of the Arts /
Weizenbaum Institute*
^{*}m.dietze@udk-berlin.de

Free Open Source Technology culture and Feminism share a broader set of values that encompass and celebrate principles of open exchange, collaborative participation, access and transparency. As a practice that understands complex interdependencies such of subject-object, nature-culture, an intersectional and new materialist approach potentially offers a contribution to all stages of an action-based design research process. As a case study, three disparate workshops were carried out, that tied to a tradition of feminist activist strategies by creating intimate environments – safer spaces – emphasizing on collectivity and facilitating emancipatory efforts. In order to provide space to explore infrastructural relations of commercial technology development, sovereignty and agency we emphasized on sexual health as a techno-political territory. Finally, this paper will reflect on a feminist mode of hacking as emancipatory practice from a design research perspective and how it can enrich the discourses around technology for an expanded concept design.

1 Creating Space for Otherness

Based on demands for decentralization, privacy and freedom of information the informal online- and offline Hacking community has been working on developing alternative Information and Communications Technology (ICT) to enable and facilitate an unrestricted access to knowledge and technological production (Levy, 1994). The invention of the World Wide Web, Commons Based Peer Production (CBPP) and the Free Culture movements have created a virtual terrain of communities and production which is marked by values as sharing, openness, collaboration and decentralization. This philosophy came to the fore as post-capitalist value system that challenged a trend towards proprietary software systems for the cause of freedom of information and to expose vulnerabilities or malfunctions that compromise the rights of users or citizens.

Yet, acknowledging openness as more than copy-right arrangements (Nafus, 2012), an expanding global community of Feminist hackers challenges a simplifying understanding of democratization of technology. By practicing modes of radical inclusion through formulating and acting upon explicit feminist values, they oppose neoliberal modes of production in phygital territories. From modes of collaboration, dynamics of volatile (re-)production processes to embodiment and materialization: these aspects pose fundamental questions for design and design research. Socio-economic expectations and fantasies of techno-scientific futures are part and parcel of our research culture and therefore have great influence on how and which knowledge gets produced (MacKenzie & Wajcman, 1999). To open up new perspectives and investigate the heterogeneous set of practices that counter the homogenizing tendencies in technology development, this research drew on interviews with techno-feminist activists, artists and software developers but also from informal conversations, auto-ethnographic experiences and self-reflection. By merging the feminist methodology of collective consciousness raising towards technology with critical making, it explored a design practice, that prioritizes values such as pluralism and intimacy.

1.1 Hack Spaces & Democratization of Production

The emergence of 'Hackerspaces' as open, community- and volunteer-run spaces has been re-territorialising 'digital commoning practices' (Avlona, 2019). Here people write code, share and develop mechatronics. Others tinker, disassemble, repair or personalize products and *hang out*. Optimally they could be seen as shared living rooms, as inter-spaces between the private and the collective, to offer both shelter and space for productive confrontation (Wuschitz, 2014). Hacker spaces are rooted in a Do-It-Yourself (DIY) ethos that emphasizes on detachment from passive consumption. DIY potentially encourages individuals –'lay people'– towards acts of self-sovereignty, to consistently questioning limitations of the given and be able to adjust towards own needs. As antithesis to the established cycle of *professional* design and mass production, DIY challenges a notion that the rules and normality of predominant

culture are inevitable as being synonymous with rules of nature (Duncombe, 1997). As strategy to re-appropriate power, DIY can be a way to construct and experiment with new forms of social organizing (Holtzman et al., 2007).

1.2 Open-Closed

While both virtual and space-based initiatives are pioneering in the dismantling of the dominant legal and technical structures, and despite its widespread self-understanding of a community beyond skin color, nationality, age, or religious bias (Levy, 1994; Chaos Computer Club, n.d.) the hacker scene faces a lack of diversity. In recent years a growing body of research has discussed both the simplifying notion of openness and implicit barriers to Free Tech culture (Nafus, 2012, Wuschitz, 2014; Fox et al., 2015; Lewis, 2015). The technical accessibility doesn't take into account barriers as differing societal approval in traditionally divided roles and activities or a dominant culture tending to attract only certain kind of people while it pushing others away (Toupin, 2014; SSL Nagbot, 2016). Both in virtual and in physical spaces, openness can also be challenged in terms of which (and whose) issues are fostered and advocated. Another widely-held belief among Free Tech culture is the logic of meritocracy. The notion of people being advanced merely based on merit –e.g. how well one can hack– again effectively disregards the ranging privileges enjoyed by different individuals (Toupin, 2014). Understanding technological change as a chain of violent ruptures and not acknowledging implicit dynamics that foster social inequalities, pose crucial problems of inclusion despite the lionized pledge to openness.

1.3 Emergence of Feminist Hackspaces

When acknowledging structural oppression in society, one way to create a space with no oppression, requires borders between that space and society at large. A situation that is detached from societal status quo is one way to enable empowerment and autonomy. Members of such space might learn to see that previous feelings of misfit or alienation are not necessarily their individual- but based in a structural societal problem. 1960s Consciousness Raising groups used this learning process to then think about how to turn these issues collectively into political claims (Hanisch, 1969). This separatist activity has been used in all phases of feminist territorial decolonization and has proven itself to be very fruitful.

Facing the struggle with acknowledging and attempting to resolve issues like privileges and meritocracy has pushed feminist hackers and geeks to install spaces that explicitly apply feminist values and strategies (Toupin, 2014). Through their method of creating environments, that temporarily exclude dominating factors, they evade the sisyphian one-sided care work of the open field and by that explicitly address the shortcomings of that culture. These are additional spaces that aim to make the technoscape more multifaceted so that people in their differences can find an unfiltered environment to unfold without judgement.

1.4 Feminist Do-It-Together Practices

The observations drawn are based on an ongoing mapping of feminist hacker spaces and interviews conducted with initiators of such communities that are committed to female and queer people's access, visibility and agency in tech. Recognizing the increasing efforts by different (governmental, corporate or independent) actors, I have narrowed down my research and focused primarily on those groups that pursue an explicitly activist agenda. One challenge but key aspect when investigating into feminist hack collectives is that the implementation of this value set looks very different from collective to collective and changes constantly over time. Additionally, as movement, these initiatives are not a fixed pledged group. They are spread over a wide scope of detached project spaces that meet at some local, temporal or contentual nodes. Third and importantly, search engines only find those who want to be found in this way. My dataset grew while conducting the interviews with respective initiatives who would refer to other nodes of their network.

By claiming to 'take back the tech', many initiatives breach the perception of computer science as male disciplines, emphasizing on the field's female legacy. A concern is to re-/establish technology as queer field which shouldn't be shaped solely through a male heteronormative lens. The spaces, whether they be virtual, physical and temporary ones, emphasize on solidarity and breaking of isolation through discussion rounds or Do-It-Together (DIT) workshops. There is a clear desire towards a politicized holistic perspective on technology. Therefore, projects are committed to technology on a wide spectrum from programming to crafty textile, wet-labbing, wood and metal work to civic science. The reinventing and ever-changing meets the concepts of openness and freedom which reassesses stability through flexibility that is rooted in the Free Tech movement. That being said, intersectional hackers are aware of the 'tyranny of structurelessness' (Freeman, 1970) where the lack of formal structure does not prevent the formation of informal ones which benefit those who are already in a position of privilege. For the vulnerable nature of collective work, uncomfortable situations are likely to occur and ask for respect and care. One way of formalizing a moral code is a 'code of conduct' that outlines expected and unacceptable behavior as well as clear measures of intervention. Feminist hacking is about the joy of tinkering to gain a deeper understanding. It is a practice to challenge assumptions and break open systems of oppression by making those explicit. Ultimately it is about blurring the binaries (TransHackFeminist Convergence Report, 2015): male vs. female, theory vs. practice, techies vs. non-techies, who produces vs. who consumes.

2 Case Study: Everyday Intimate Technologies and Sovereignty

Informed by a new materialist feminist approach to hacking, three disparate workshops were conducted within a close collaboration with my colleague, social scientist and software programmer Marie Kochsiek.

In order to provide space to approach the intersection of commercial technology and body politics we emphasized on ovulation and the menstrual cycle as a techno-political territory. As strategy to explore politics of the daily interactions with technology it emerged productive to apply principles of 1960/70s Consciousness-Raising to technology. Through that we hoped to enable the questioning of narratives and power relations in modern health technologies, particularly in so called 'FemTech', a term that refers to products, services and software that target 'women's reproductive' health[1].

To avoid behaviour that may harm participants we set up a code of conduct. Though outlined as open to change whenever needed, this set of guidelines would help to establish shared values for the course of the workshop and beyond. As entry point to each workshop we identified three main urgencies in relation to the overarching topic of everyday intimate technologies and sovereignty: Commercialization of intimate body data, self-quantification and self-determination, and essentialization of fertility for womanhood. By dissecting and analyzing our interfaces with digital and analogue devices, we explored barriers, convenience, implicit or explicit gender stereotyping, taboos et cetera.

2.1 MiniHack

Even though the sharing and creating of sexual-health related content has existed since the early days of the web (Lupton 2015), period tracking apps have only evolved in the recent years to being part of the current default set of health apps. This context led us to speculate on ways to detect arguably obscure bodily processes like ovulation, in a (physically and data-wise) non-invasive way. The Mini-Hack was framed as a conscious demarcation towards the concept of Hackathons, taking in discussions by Porway (2013) or D'Ignazio et al. (2016) who argue that the brief time span of hackathons is resulting in a focus on efficiency and forces superficial solutions to complex problems. The reduction of complex problems into oversimplified but solvable technical ones, is a process that could be identified as Morozov's 'solutionism'(2014), where problems that have no technological solution are not being discussed either. As an event that requires immense personal surrender and temporal

[1] 'female technology' almost exclusively describes products and services focused on the needs of cis- rather than trans women and effectively excludes trans men. Additionally, 'Fem-Tech' frames experiences of half the population as sub-category, defining them not in themselves but as relative to a standard. This construction of 'the Other' has already been shown by Simone de Beauvoir (1949; trans. 2011) and continues to today's technologies with the framing of non-cis-male lived experiences as niche or 'edge-cases'.

resources, hackathons are thus also an epitome of the neoliberal ethos of inconsiderate disruption and meritocracy. Therefore, the MiniHack was supposed to be framed as a space of collaboration, care-based intimacy and a mode of working that is more focused on downshift and exchange rather than efficiency.

Because this MiniHack was supposed to encourage speculation, we chose the format to be fairly open, and not set focus on one specific technology. The group consisted of designers and researchers, software developers and hackers, and took place at the Berlin Open Lab, a joint project space of the Technical University Berlin and the University of the Arts Berlin. To create a space that could enable an environment in which attendees would feel free to talk and speculate off one's head, we exclusively invited people who are or have been ovulating at some point in their lives. Participants were welcomed and introduced to the MiniHack's topic in a short keynote. After that, participants would break out onto three working areas to tackle respective urgency: Self-knowledge and self-quantification; essentializing of fertility; commercializing of intimate data. Materials provided on the tables were pen and paper, ovulation tests, Arduinos and sensors, sanitary towels, panty liners and eggs. Finally, the participants would gather back in our common area to present their ideas. Both the form and media, as well as the format of presentation were entirely free to choose.

The prototype of the DIY ovum-freezing and IVF (in vitro fertilization) kit 'Eggchange', combined with door-to-door deliver and pick-up service, resulted from a discussion of one group circling around their experiences with both milder and more severe social pressure to build a (biological) family by becoming a mother. The group continued to prototype a playful, creative approach to period tracking: The 'Mumumusic'-app transforms both the threat of the collection of intimate data and the tabooed dealing of menstrual health into a joyful experience of collectivity. Here, users could assign a sound or beat to each day of their menstrual cycle. Sharing it with others could create a melody. In 'Mumumusic' other contemporary media formats that foster 'prosumption' (Beer & Burrows 2010) appear: the trend of music streaming services, here as a social platform for generating, sharing and merging content with others. Raising issues of capitalization of intimate data, another group quickly appropriated exploiting processes and created a sarcastic concept around a very particular data tracker: the 'Blood Diamond'. In the spirit of a mood ring, this piece of jewelry would visually indicate when to speculate on the stock exchange. The group intended to reverse the invisible harvesting and interpretation of information to 'biological needs' to encourage an active engagement and to create value for the person the data is generated from. The third group was concerned with promises of self-quantification. Here, possibilities of qualitative approaches to observing hormonal changes (e.g. in urine) were discussed. Over a longer period of

time these observations could serve as an initial orientation of relative changes without comparison to standardized values.

Though framed as three urgencies, the groups respective ideas resembled an intertwining of these challenges. Identifying the close interconnectedness of self-quantification and self-regulation in context of narrow gender scripts and purposes of surveillance capitalism (Zuboff, 2019). Dealing with an intimate issue does not necessarily need to be stamped with secrecy. It could also be considered as an individual experience adding to a shared reality. Considering of platforms to share (anonymized) information about sexual health is one way of depicting multiplicity in togetherness and lowering stigma. The open format of the MiniHack allowed to think of technologies and processes beyond universality and questions of practicability.

2.2 Let's Spit Hormones – Self-Observation & Self-Determination

Building upon the observation and discussions from the MiniHack where the conversation circled around ownership of the body and politics of knowledge, the workshop that followed explored technology's narratives of precision and the image of empowerment through self-tracking. The 'quantified Self' (Wolf, 2009) movement uses manual and sensor-enabled 'life logging' to aggregate vast amounts of information about their bodily functions and personal life. This converges with an ethos that citizens, customers or others that receive services are increasingly supposed "to be put in control, enjoy more autonomy and self-determination about their choices, and be able to represent and act upon their legitimate interests" (Morley et al., 2019). As of today, there are hundreds of free, ad-supported, easy-to-use apps that track menstruation and fertility while inviting users to check and log their mood, diet, exercise, sex life, hair and skin condition, smell of vaginal discharge and so forth. This trend has been critiqued by authors such as Lupton (2015) or Levy (2015) as it promotes voluntary self-surveillance with significant implications to issues of privacy, self-regulation and the reproduction of normative stereotypes. Additionally, promises attached to 'datafication' might outsource bodily intuition to commercial companies.

Self-observation and a vagueness of qualitative self-knowledge could serve as an alternative to the notion of precision and universality that portend by quantification. Exemplary for this approach is the steady self-examination of breasts for lumps to detect breast cancer early on. A method of self-observation of hormonal changes is the analysis of ferning: raising estrogen level will lead to an increase in salt crystals visible in a sample of dried saliva (as well as in tears and vaginal secretion) when magnified through a lens (Günther et al., 2015). Because salivary ferning is typically observed in the context of menstrual cycle and therefore almost exclusively in relation to fertility, we put a strong emphasize on the practice for autonomous self-learning. After all, estrogen is a human hormone.

Let's Spit Hormones took place in the context of the Eclectic Tech Carnival, a feminist skill sharing event with focus on Free Open Soft- and Hardware. In a contextual keynote introduction we set a focus on self-tracking and body knowledge. Participants would be handed kits with a finite variety of materials to design upon and try out different ways of magnification with lenses of products like a LED reading lamp, mobile phone, laser pointer or a DVD drive. Attaching these lenses to one's own device is an easy way to turn it into a microscope. The attendance to the workshop was open to everyone in respect to peoples' assigned sex and their gender identity but in consideration to the code of conduct that we have agreed upon at the beginning. The prototypes to monitor hormonal changes were collaboratively build in groups of two to four participants. For some, their imagined implementation would aim for observation on a personal level, to make self-observation a routine or integrate it in their personal life. Others thought of a more artistic political approach and used the images to turn intimate information in a visually encrypted way to the outside.



Fig. 1: A participant demonstrates the assembly of their DIY cardboard microscope. A clear piece of plastic cup would be used as sample holder in front of the lens.

In this workshop to 'know thyself' was prototyped as a form of routine for self-examination for a more direct and qualitative understanding of subjective body sensations. Although the DIY practice aimed for gaining a subjective understanding of the 'self', it drew from methods for measuring the biological body from science. Employing these methods in their original forms but re-configuring the setting and how these methods are enacted, as well as contextualizing the making of the microscope added a value and opened discussion on artifacts as medium of knowledge and perspective.

2.3 Make Your Own Menstrual Cup

After an open ideation setting (MiniHack) and handing out a kit (Let's Spit Hormones) in this format we would focus on the potential of scaling down an industrial fabrication process to perform it as crafts; the value of hands-on work in a safer space; a humorous appropriation of a tabooed object which invites to reflect upon the politics inherent to objects. Deciding to use DIY injection molding as method to investigate questions of sexual health literacy was an associative connection after finding a freely accessible CAD file for a menstrual cup mold (Prospect3dlab, 2019) and casual chats with people sharing the workshop space. Injection molding is a common process in industrial manufacturing of metal, glass, most (thermo-) plastic and silicone products. The STL-file from Prospect3dlab consisting of 3 parts has been used as a blueprint. For making adjustments and allowing varying sizes the molds have been re-build and were pre-printed before the workshop.

The group consisted of designers, Software Developers, an architect, tinkerers and a twelve-year-old child. For this session we did not exclusively invite 'menstruating' people, yet we consciously invited people we would trust to respect and value the vulnerability of individual questions and perspectives. The workshop started with an introduction to the little-known history and industrial making of menstrual cups followed by a step-by-step manual to DIY injection molding. Being able to do it yourself almost inevitably holds the promise of personalization. In the break we offered one laptop with connection to a regular paper-printer. Everyone gathered around it to comb the internet for images that could be put into a personalized menstrual cup. It was a vast mix deriving from an unrestrained association game, ranging from anything related to blood (vampires), pop-culture (musicians), internet-culture (memes) to recollections of childhood memories (science fiction icons).



Fig. 2: Participant of 'Make Your Own Menstrual Cup' mixing silicone components with glitter particles and fluorescent pigment.

It was clear from the start that we would not provide a sterile environment in order to produce functional menstrual cups. We would gather and spend time to make a product which is not actually usable, an absurd thing in itself. But the cups hold their own function in the material, the glittering, glowing in the dark silicone. It is taboo and pop culture in one and avoids any claim to utility. Moreover, the *engagement* with materiality and tools, the *exchanging* of ideas, ingredients and jokes revealed themselves as vehicle for the tracing back, questioning the paradigm of efficiency. The material and the practice are a method towards a topic that is possibly afflicted with a sense of shame and an approach to own it. Making the (tabooed) object by oneself, providing it with one's own narratives, shifts the agency of all these discourses and the production of meaning to the person that makes. Creating objects that alter the deployment or perception of technology, that are not even trying to be functionally useful, can be a counter strategy to technology's promise of efficiency and practicability.

3 Feminist Approaches as Commoning Design Research Practice

The three workshops on the topic of everyday intimate technologies and sovereignty are based on the assumption that technology is a societal project and therefore inseparable to the social. As designers we are not untouched by our respective environments: Communities, schools of thought, by the presence or absence of privileges and the material world we inhabit. This perspective leads me to advocate for a design practice that is constantly looking for and negotiating common ground while fostering agency and appreciating dissent. As a step into this direction, I would like to put forward a set of values that I draw from the case study central to this paper.

3.1 Design as Space of Representation

The framing of a societal project entails that technology goes beyond the (digital-, physical-, phygital-) artifact, its' interfaces and the interactions with it, but includes the people and environments that *create*. In that respect it is necessary to take the social aspect into account and make sure to enable a milieu where people can trust each other and be open to share and create knowledges together. Therefore, a design process inspired by feminist modes of hacking might be particularly concerned with the production and consumption of space. Putting great attention on space *for* speculation, can open up questions on spatial matters *as* speculation: for re-thinking and dialogue on new (or notorious) technologies or what is considered a technological practice and what is not. Speculative circumstances potentially create other meanings and impacts towards what is being produced in it. Conscious separatism in finite safer spaces can enhance critical thinking, encourage reflection for intimate exchange, vulnerability and bring up topics that might have no space elsewhere. Negotiating roles in such environments is necessary to break organizational constructs and informal structures. Being the formal initiator can shift to being perceived as expert or teaching position demanding participants to deliver or harvesting

desires and ideas. It confines all attendees automatically in assigned roles and creates expectations that might not be constructive for emancipatory purposes. In order to activate all people in the room, roles need to be negotiated. A fruitful collaboration draws from uplifting of everyone's pre-knowledge, and therefore responsibilities, to equal parts. The contexts that we as initiators offer is only valid if it allows and encourages the attendees to engage.

3.2 Design as Decentralized, Power-Critical Practice

For the design- and HCI community it already has been valuable to peek over to the optimistic vision of Free Technology movement (Smyth et al., 2018) which's communities "seemed to resemble a great babbling bazaar of differing agendas and approaches." (Raymond, 2000). Out of this vibrant versatile engagement would emerge a coherent, stable, yet flexible system. But, as laid out above, openness which constitutes itself through an open door or a functionally downloadable file doesn't entail automatically an approachability. Feminist autonomous infrastructure's measure is therefore not whether something is virtually accessible, but the interactions in which it is developed by whom and how participation can actively and sustainably be encouraged. Thus, for design as commoning practice I suggest acquiring values of Free Technology endeavors with a feminist understanding of difference that draws from intersectionality (Crenshaw, 1991).

3.3 Design as Process of Radical Self-Learning

Engaging with Open Soft- Hard- and Wet-ware stimulates an exchange and materializes the contexts in which the discourse take place. Through unorthodox design, technical artefacts can be freed from restrictive social scripts and reinforce a notion of the self as an agent rather than a passive consumer. Insecurities and vulnerability, which are connected with the risk of exploring new paths and learning new skills, are compensated by a common physical safer space. With the focus on historical and social locatedness of technological narratives, the collective political and intellectual work can transform a source of oppression into a source of knowledge. In this manner, feminist hacking is a way of radical learning.

Design research is a discipline that draws knowledge to a great extent from a practice. Prototyping is used to challenge and to re-assemble existing models. Hence, the analyzing, abstracting and shaping of interactions, and therefore the (re)production and distribution of social meaning –knowledge– can be considered as an inherently political act. In that respect there is already an emancipatory potential in practicing design and optimally has some family resemblance with the practice of hacking and vice versa. This practice is neither innovation oriented nor blind action. Capturing the multilayered entanglements of the material world can only occur through an engagement with the matter itself. To scale down production processes and engage with the material level is a path to raise a number of debates, such as on ecology, capitalism, interdependencies and power hierarchies, and the specific role that

design plays here. Prototypes and experiments coming out of these processes are moments of autonomy embodied in artifacts.

Approaching a practice-based design research process from an intersectional feminist point of view means limitless (im-)possibilities because it avoids one-sided narratives of social life. Practicing feminist values entails novel kinds of sociotechnical possibilities and hope drawn together by coherence of care, creativity and radical inclusion. Inclusion must not be rooted in condescension but focus on acknowledging of preconditions to the production of knowledge.

References

- Avlona, N.-R. (2019). "Open Technologies: Their History, Laws, and Gender" A University of Nicosia Research Foundation workshop for the project Phygital [http://phygitalproject.eu/]. University of Nicosia.
- Chaos Computer Clubs. (n.d.). CCC | Hacker Ethics. Retrieved December 3, 2018, from <https://www.ccc.de/en/hackerethik>
- Crenshaw, K. (1991). Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. *Stanford Law Review*, 43, 59. <https://doi.org/10.2307/1229039>
- D'Ignazio, C., Hope, A., Metral, A., Brugh, W., Raymond, D., Michelson, B., Achituv, T., & Zuckerman, E. (2016). Towards a Feminist Hackathon: The "Make the Breast Pump Not Suck!" *The Journal of Peer Production*, 8 *Feminism and (un)hacking*. /issues/issue-8-feminism-and-unhacking/peer-reviewed-papers/towards-a-feminist-hackathon-the-make-the-breast-pump-not-suck/
- de Beauvoir, S. (2011). *The Second Sex* (C. Borde & S. Malovany-Chevallier, Trans.). Vintage Books. A division of Random House Inc.
- Duncombe, S. (1997). *Notes from Underground: Zines and the Politics of Alternative Culture*. Verso. Retrieved December 22, 2019, from https://monoskop.org/images/5/58/Duncombe_Stephen_Notes_from_Underground_Zines_and_the_Politics_of_Alternative_Culture_1997.pdf
- Fox, S., Ulgado, R. R., & Rosner, D. (2015). Hacking Culture, Not Devices: Access and Recognition in Feminist Hackerspaces. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15*, 56–68. <https://doi.org/10.1145/2675133.2675223>
- Freeman, J. (1970). The Tyranny of Structurelessness. *WSQ: Women's Studies Quarterly*, Volume 41, Numbers 3 & 4, Fall/Winter 2013, 231–246. <http://muse.jhu.edu/content/crossref/journals/wsqr/v041/41.3-4.freeman.html>
- Günther, V., Bauer, I., Hedderich, J., Mettler, L., Schubert, M., Mackelenbergh, M. T. van, Maass, N., & Alkatout, I. (2015). Changes of salivary estrogen levels for detecting the fertile period. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 194, 38–42. <https://doi.org/10.1016/j.ejogrb.2015.08.007>
- Hanisch, C. (1969, February). *The Personal Is Political*. Retrieved October 21, 2019, from <http://www.carolhanisch.org/CHwritings/PIP.html> Holtzman et al., 2007
- Levy, S. (1994). Hackers: Heroes of the computer revolution. Delta.
- Levy, K. E. C. (2015). Intimate Surveillance. *Idaho Law Review*, 51, 15.
- Lupton, D. (2015). Quantified sex: A critical analysis of sexual and reproductive self-tracking using apps. *Culture, Health & Sexuality*, 17(4), 440–453. <https://doi.org/10.1080/13691058.2014.920528>
- MacKenzie, D. A., & Wajcman, J. (Eds.). (1999). *The social shaping of technology* (2nd ed). Open University Press.
- Morley, J., & Floridi, L. (2019). The Limits of Empowerment: How to Reframe the Role of mHealth Tools in the Healthcare Ecosystem. *Science and Engineering Ethics*, 26(3), 1159–1183. <https://doi.org/10.1007/s11948-019-00115-1>
- Morozov, E. (2014). *To Save Everything, Click Here: The Folly of Technological Solutionism* (First Trade Paper Edition edition). Public Affairs.
- Nafus, D. (2012). 'Patches don't have gender': What is not open in open source software. *New Media & Society*, 14(4), 669–683. <https://doi.org/10.1177/1461444811422887>
- Porway, J. (2013, March 7). *You Can't Just Hack Your Way to Social Change*. <https://hbr.org/2013/03/you-cant-just-hack-your-way-to>
- Prospect3dlab, Petrov. (2019). *Menstrual Cup- Silicone Mold by Prospect3dlab*. Retrieved May 15, 2019, from <https://www.thingiverse.com/thing:3478622>
- Raymond, E. S. (2000). *The Cathedral and the Bazaar*. <http://www.catb.org/esr/writings/cathedral-bazaar/cathedral-bazaar/index.html>
- Smyth, M., Hansen, L. K., Schuler, D. C., Woods, M., Dourish, P., Helgason, I., Kresin, F., Balestrini, M., Unteidig, A. B., Lawson, S., Gaved, M., Taylor, N., & Auger, J. (2018). Maker Movements, Do-It-Yourself Cultures and Participatory Design: Implications for HCI Research. *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*, 1–7. <https://doi.org/10.1145/3170427.3170604>
- SSL Nagbot. (2016). Journal of Peer Production Special Issue on "Feminism and (Un)Hacking" Editors' Introduction: Exploring new gender horizons of possibility. *The Journal of Peer Production*, 8. Retrieved January 25, 2019, from <http://peerproduction.net/issues/issue-8-feminism-and-unhacking-2/feminist-hackingmaking-exploring-new-gender-horizons-of-possibility/>
- Toupin, S. (2014). Feminist Hackerspaces: The Synthesis of Feminist and Hacker Cultures. *The Journal of Peer Production*, 5. Retrieved January 23, 2019, from <http://peerproduction.net/issues/issue-5-shared-machine-shops/peer-reviewed-articles/feminist-hackerspaces-the-synthesis-of-feminist-and-hacker-cultures/>
- TransHackFeminist (THF!) Convergence Report* (p.13). (2015). https://feministhacktivism.noblogs.org/files/2015/01/THF_report_Eng_low_res.pdf
- Wolf, G. (2009, June 22). Know Thyself: Tracking Every Facet of Life, from Sleep to Mood to Pain, 24/7/365. *WIRED*. Retrieved November 15, 2019, from <https://www.wired.com/2009/06/lbnp-knowthyself/>
- Wuschitz, S. (2014). *Feminist Hackerspaces. A Research on Feminist Space Collectives in Open Culture*. Vienna University of Technology.
- Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for the Future at the New Frontier of Power*. Profile Books.

Acknowledgements

The case study central to this paper was conducted within the context of the research group 'Critical Maker Culture' at Berlin University of the Arts / Weizenbaum Institute with great support of Dr. Michelle Christensen and Dr. Florian Conradi. Again, I want to emphasize that methods and ideas are drawn from the close collaboration with Marie Kochsiek and countless conversations and discussions with peers.

Fluid Worldviews: Designing within the Common Good

Keywords: Participatory Design,
Design for Development, Design Ethics,
Buen Vivir, Plurality, Pluriverse.

Ricardo Sosa^{a*},
G. Mauricio Mejía^b,
Joni Adamson^b

^a*Auckland University of Technology*

^b*Arizona State University*

*ricardo.sosa@aut.ac.nz

This paper formulates a fluid approach to design for and within the common good that stems from the need to redefine the nature of design activity beyond corporate orientations and the role of designers beyond experts who control or lead the creation of new ideas for future products and services. We reflect on the core characteristics of designing by drawing from indigenous philosophies to sketch a tentative alternative approach to different understandings of design activities. The key premise here is that conventional design activity has a strong corporate ethos, so simply re-orienting it for the common good is insufficient. What is needed in this area is, instead, to more fundamentally re-examine and imagine other ways of conducting design activities, and what it can be, and how it can be conceived and carried out. A fluid design ethos seems at this point a comprehensive and sophisticated attitude towards a plurality and a pluriversality to shape design in the third decade of the twenty-first century.

1 Creating Space for Otherness

The origins of design as a professional activity are linked to the establishment of formal tertiary education programmes in the Global North in the first half of the twentieth century. For the last hundred years, modern design professions have been instrumental to advance the mass consumption of industrialised products and services in the global markets. Such commercial use of design has been largely developed in rich countries where most design, as other creation activities of intellectual *properties*, concentrates mainly in a handful of corporations that dominate the trade economies worldwide. Today, design schools across the globe embody the paradigm of corporate or commercial design as the quintessential way of learning and practising design activity. Working for big transnational corporations is customarily heralded by professional designers as a marker of career success, and design schools increasingly focus on a rhetoric of employability, celebrating their alumni who are hired by big corporations. At the centre of this dominant corporate view, design activity is directed (at least in principle) at 'satisfying human needs' -as long as this translates into growth of sales and profits for those who hire and pay the designers' wages.

For several decades now, alternatives to corporate design (that which is primarily dictated by user needs that align with profit) have emerged. One such alternative is 'design for the common good', an *orientation* of design activity that seeks to promote positive outcomes for all rather than being centred on 'users' who accumulate material goods and on 'clients' (and shareholders) who accumulate profits. Today, an increasing number of well-intended designers opt to *re-orient* their craft 'for the common good'. However, the ways in which design activity is taught, conceived, and put into practice in these laudable re-orientations inherit traits and relationships from corporate design that need to be critically examined and challenged. We propose here an alternative approach to expand these corporate traits and relationships to work on the common good. We tentatively formulate heuristics for designing for and within the common good and conduct an exploratory critical analysis of the design of two services/systems to articulate and illustrate a more expansive and fluid approach. The motivations behind this work include an ethos of plurality (Arendt, 2013) and pluriversality (Escobar, 2018) moved by curiosity as much as a goal of emancipation and mutual liberation (Freire, 2000) to include many worldviews to diversify and enrich the monolithic epistemologies underlying modern design activity.

To this end, we reflect on the core characteristics of designing by drawing from indigenous philosophies to sketch a tentative alternative approach to different understandings of design activities. The key premise here is that conventional design activity has a strong corporate ethos, so simply re-orienting it for the common good is insufficient. What is needed in this area is, instead, to more

fundamentally re-examine and imagine other ways of conducting design activities, and what it can be, and how it can be conceived and carried out. The rationale is thus that the type of design activities that aims *for* the common good, has a distinct character beyond what it is used *for*, in how it is imagined and practised in the first place. We make the inference that modern design education is ill-prepared to educate designers who venture outside corporate design careers, and a new type of design education is needed to more adequately build their capacities to contribute to more sustainable and just futures. Further, this approach could provide insights on the need of designing “a world where many worlds fit” as noted by the Zapatistas of the Selva Lacandona to respond to emergent socially-oriented design communities such as participatory design, transition design, and decolonizing design.

2 Design for the Common Good

The grammatical framing of “design *for* the common good” centres the role of designers as change agents who generously re-orient their professional (i.e., corporate) skills for more worthy purposes including ‘social innovation’ (Gerrard & Sosa, 2014). This inherits the notion that designers hold the power to adequately imagine and define new solutions (i.e., products, services, systems) *for* others, in this case *for* the common good and wellbeing of society rather than to increase profits for an elite who controls the means of production and distribution of goods. Design *for* X (the common good, development, the base of the pyramid, etc) carries the teleologically narrow view of design, which is framed as a service relationship occurring in contractual arrangements between designers and clients (Nelson & Stolterman, 2012). Applying this so-called “core social contract” (Nelson & Stolterman, 2012 p.47) into the common good runs the risk of perpetuating a *patriarchal* ethos so fundamental of corporate design and characterised by the following features: designers who have “godlike” generative abilities (p.12); a contractual relation centred on satisfying the expectations of clients and the expressive goals of designers (p.41); a need for designers’ empathy to understand the users (p.54); a desire to negotiate, control, and/or represent the needs of clients and all stakeholders affected by the design outcome (p.55); and the creation of design outcomes that are ‘expected unexpected’, namely “in contracting with a designer one has the double intention of wanting the expected and desired outcome, but also hoping to be surprised with an unexpected benefit that transcends original expectations” (p.42).

When this ‘design way’ is assumed as a universal definition of design and is applied to projects ‘for the common good’, imperative ethical questions emerge such as: Who holds the power to determine what the common good is?; Whose expectations?; Who creates or leads the creation of solutions?; How are the experiences and emotions of people accessed in the pursuit of ‘empathy’?; When does a ‘design contract’ end and where is responsibility located?;

and ultimately, What constitutes 'design activities' in contexts that prioritise the common good? Well-intended designers working on projects that aim for the common good see their work as benign. However, a closer analysis of power relations, relationality, dominance, and hierarchy reveals potential risks, injustices, and negative consequences by inheriting mainstream 'design ways' that have strong patriarchal undertones. In a nutshell, we question whether patriarchal design ways can be reoriented for the common good, or whether and how we understand, practice, and teach design in ways that can be more critically re-examined for potential improvement.

Especially in socioculturally diverse contexts, the designers and the communities they intend to serve may have markedly different paradigms and worldviews. In such cases, without genuine creative partnerships, pursuing the common good becomes highly problematic. Well-intended designers from the Global North or from the privileged class who bring their conventional 'design ways' into underserved or remote communities are deeply misguided, whether they choose to contribute with design solutions or with their *professional* tools and methods (Reitsma, Light, Zaman, & Rodgers, 2019). Those who get to decide what design is and what common good is, are engaged in colonial agendas and bound to create inappropriate, unfair, and unintended negative consequences. This is a typical case when policy designers want to catalyse access to food systems in indigenous areas hoping to benefit communities, but they fail to do so. For example, the United States Department of Agriculture (USDA) with its Food Distribution Program on Indian Reservations (FDPIR) has aimed to improve the availability of healthy food in indigenous communities, but it ignores relational indigenous worldviews that should include food sovereignty over decisions involving spiritual and mundane relationships between humans and non-humans, including seeds, plants and animals (Hoover, 2017, p.36).

Our approach is to rebuild and expand design activities for plurality and for pluriversal worlds (Escobar, 2018). To this end, we pay attention to relational indigenous worldviews to challenge the monolithic and dominant 'design way' originated in corporate design activity and to expand notions of the design for the common good as well. The goal here goes beyond the however noble or misguided purpose of enacting design in indigenous contexts. The goal is rather to inform a journey that begins with the realisation that modern design activity inherits problematic features from its corporate origins and moves towards the emancipation and mutual liberation (Freire, 2000) of such a dominant way of understanding design. It is possible that this work leads into other ways of doing design that are more apt for a diversity of situations where the common good drives design activities. This is the rationale behind the concept of what we call a 'fluidity' of worldviews, and describe as a state of dynamic engagement with design that allows people to navigate between worlds.

3 Relational Indigenous Worldviews

In designing for sustainable transitions and plural cultures, (Escobar, 2018) argues that designers need to reorient their practices from the rationalistic tradition of patriarchal capitalism to a relational ontology (pp.x-xi). Here we suggest that in order to reimagine other possible 'design ways' in a pluriversal world, we can learn significantly from indigenous philosophies (Bockstael & Watene, 2016; Watene, 2016). These ancient ontological and epistemological systems precede modern-day corporate design by several centuries; for example, ancient water saving systems (cisterns) and canals are vastly superior to monolithic modern dams. Whilst heterogeneous, some common key principles from indigenous philosophies can be distinguished to inform alternative 'design ways' to expand the modern monolithic design paradigm. Indigenous philosophies such as Latin American *Sumak Kawsay*, or "good way of living" (*Buen Vivir*), Polynesian *Tikanga (Va)*, or African *Ubuntu* prioritise relationships, community, place, wellbeing, and redefine notions of time (Dussel & Ibarra-Colado, 2006; Gudynas, 2011; Gutiérrez Borrero, 2015).

Informed by indigenous philosophies that convey efforts to achieve harmony "between humanity and nature, between the material and the spiritual... and between different identities and realities" (Solón, 2018), we propose a *fluid worldviews* design approach. In this approach, design takes place *for and within* the common good thus reframing and expanding the narrow "core social contract" in the modern design paradigm espoused by contemporary design schools. Fluidity across worlds, enables the flow back and forth between cultures and nature, material and spiritual, and between different identities and realities (Hoover, 2017). As a result, fluidity expands and extends mainstream design enabling the co-existence of several ways of understanding and practising design activities.

We propose an initial set of four differential heuristic criteria for a fluid worldviews approach to designing for and within the common good. The following are initial descriptions of the four heuristics explaining how a patriarchal design practice can be *expanded* to a fluid design practice as shown in Figure 1.

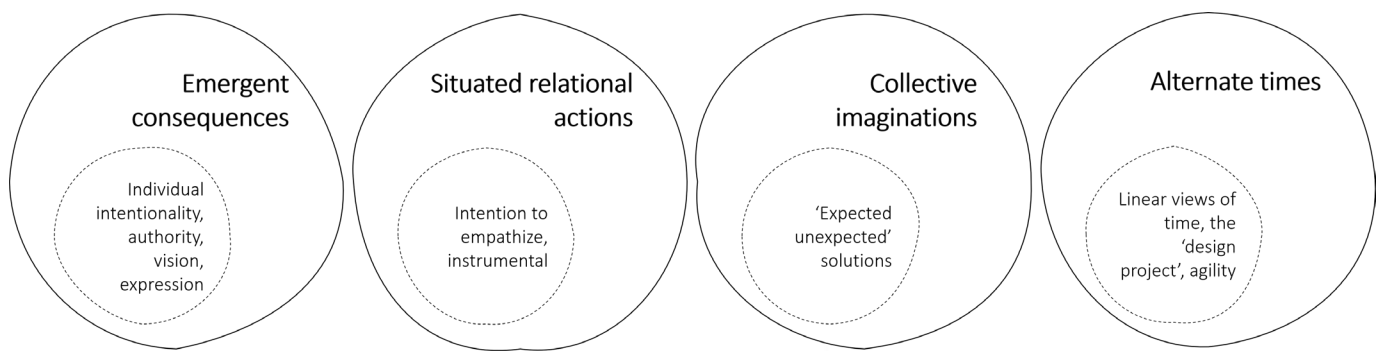


Fig. 1: Heuristics in designing for and within the common good.

Emergent consequences for designing based on considering social practices in the context of use and adaptation. In a fluid approach, design is carried out by all actors who pay attention to a situation and engage in changing it towards different futures while being aware of the deeper causes and broader consequences of change. This de-centres the designers as the sole individual 'design genius' and expands design activities to include a network of *people who design*: those who initiate and maintain acts of creative self-determination. This expansive turn acknowledges that outcomes are emergent and reciprocal: people have ideas for change that shape them back (Willis, 2019). This can be associated with views of design that integrate social enactments in context (Kimbell, 2012) and views of design that include the agency of the material world and the whole of society over time (Ihde, 2006). Emergent and reciprocal consequences extend well beyond the traditional scope of design and expand the role of individual authority, vision, and personal expressiveness of experts who anticipate and prescribe solutions and scenarios. In fluid design practice, design activities expand both by *who* designs ('all involved') as well as by *when* design takes place ('all the time'). Beyond short-term satisfaction and individual convenience, design fluidity broadens the priorities to collective relationality, well-being, dynamic balance, and being with Nature.

Situated relational actions for respect and solidarity with humans and non-humans. In fluid approaches, designers do not attempt to translate the human needs and wants of others, but act in solidarity with others in mutual relations including emotional and spiritual sensibilities for all humans and non-humans. Situated relational actions expand the patriarchal intention to empathise and the designers' aspiration to 'understand' people, which often leads to superficial archetypes. In response to the oversimplification of design empathy, (Dalla Costa, 2020) proposes the concept of 'situated experience' to acknowledge and respect the lived experiences of the communities where design artifacts and solutions will be enacted. Empathy in corporate design environments is a tool to

manipulate or exploit emotions of so-called customers or users. Fluidity goes beyond the ‘from-user needs-to-client profit’ nexus and dislocates design from its position of instrumentality and control (*for*) to a different ‘contract’ (engagement) of being *for and within* the common good.

Collective imaginations for the aggregate manifestation of curiosity and exploration of possibilities. In a patriarchal ethos, a designer is hired to apply their individual creativity to synthesise ‘expected unexpected’ solutions. In fluid approaches, designers and stakeholders share creative agency to collectively figure out the ‘imagined unimagined’: ideas from a ‘third space’ that was inaccessible to individuals prior to the design encounter. People designing together are part of the discovery process including their creative action to imagine and build the designs, expand, adapt, modify and combine them over time and not only during a ‘design project’. This heuristic builds on creative participatory approaches that draw from local traditions of creation (Sosa, 2020). Collective imaginations also rely on participants being aware of the dominant rhetoric of ‘creativity’ and ‘innovation’ that orient and tame change to maintain the status quo, asking participants for their own dialogues and discourses of change and tradition.

Alternate times for extricating design activities from linear views of time where the past is deemed as transcended by a deductible present oriented towards a future of ‘progress’ (Winter, 2020). Fluidity in design makes visible and extends such a particular notion of tense and learns from indigenous philosophies to acknowledge other possible connections between design activities and time. For example, ‘Kia whakatōmuri te haere whakamua’ in Te Reo Māori translates to ‘I walk backwards into the future with my eyes fixed on my past’ (Rameka, 2016). For the Mesoamerican original civilizations, cyclical time presents a distinction to how we can understand design creativity, such as the Quinto Sol (Sosa, 2020). This time heuristic shapes the previous three in fundamental terms: the emergence heuristic indicates that design activities are not constrained to conceiving new ideas and specifying their production and deployment, rather design continues to be active during and after a product or service is ‘used’ (Ahmed, 2019; Kimbell, 2012). As such, fluidity expands the factitious notion of the ‘design project’ taken for granted in the corporate paradigm. Time also helps appreciate the conceit of design methods such as ‘rapid ethnography’ used to extract and simplify rich and complex socio-cultural realities. Lastly, the co-construction of ‘third spaces’ takes time and requires trust-building and relationships based on mutuality. A view of design where understandings of time are fluid, expands key priorities that originate in corporate design and are often transposed to social design including the drive for ‘agility’ and scalability, the protection of ideas as property, and the hiring

of consultants who ‘parachute’ into organisations and communities without the bare minimum awareness and sensibilities.

4 Critical Analysis of Health and Wellbeing Services

4.1 Design Case 1. Arizona Health Impact Program

An exploratory critical analysis of the design characteristics of two health and food systems or programs is conducted to illustrate the tensions between more patriarchal and more fluid design orientations.

The Arizona Health Impact Program (HIP) is a state program that applies a reward system to improve the health of employees and reduce care costs. State employees can register in the program to achieve “physical, financial, personal and professional well-being goals all the while having fun and reaching milestones along the way.” Points are assigned by undertaking specific activities that include physical examinations, tracking weight management and physical activity, and completing “lifestyle change programs” such as diabetes prevention and tobacco cessation. Employees who enrol participate in quarterly prize drawings and those who accrue a certain amount of points in a year, “may be eligible to receive” a cash reward. The program includes a mobile phone app that automatically synchronizes with popular wearable devices to monitor user activity.

The program is said to be designed applying a ‘Human-Centered Design’ approach by a private company (Telligen Inc) for the Arizona Department of Administration (ADOA). In the enactment of the service, it is possible that employees choose and complete some activities at least partially based on a trade-off between personal effort, costs, and the points assigned to each activity (Figure 2). In explaining their design process², the company claims that they make “design decisions [that] consistently benefit the user” explaining that they base these decisions by experts on “interviews, workshops, surveys, and site analytics”. The origins and management of said user data are interesting because upon enrolling, users agree that every contribution they make to the “message boards, chat rooms, personal profiles, forums, and bulletin boards” is fully the responsibility of users “including its legality, reliability, accuracy and appropriateness”. Yet, when contributing their data, users grant the company and their affiliates and service providers “the right to use, reproduce, modify, perform, display, distribute and otherwise disclose to third parties any such material”.

HIP HEALTH IMPACT PROGRAM

JANUARY 13 - DECEMBER 31, 2020
ENROLL TODAY! TOTALWELLBEING.AZ.GOV

WHAT IS HIP?

The Health Impact Program (HIP) is a voluntary, comprehensive well-being program to help you achieve your physical, financial, personal and professional well-being goals all the while having fun and reaching milestones along the way. This award-winning program is brought to you by the State of Arizona Department of Administration-Benefit Options.

NEED AN INCENTIVE? HOW'S \$200?

Though we hope the biggest incentive is achieving your best health, in addition, we have great things in store for you—such as quarterly prize drawings. Best of all, if you earn 500 total points during the program period, you may be eligible to receive up to \$200 in your paycheck.*

EARNING POINTS - GET TO 500!

There are many easy ways to earn points! First, you can earn points for the \$0 cost preventive screenings already included your medical, dental and vision coverage. That's right—earn points for an annual physical exam, dental cleaning, eye exam and more. Then, you can add more points with physical challenges and well-being activities. See the points chart on the back of this flyer.

NEW! EARN AND TRACK POINTS ON THE GO

Our new app syncs with the HIP portal on totalwellbeing.az.gov to put your HIP info at your fingertips. Plus, the portal auto-syncs with many wearable devices such as Fitbit and Runkeeper, which means less tracking for you. Download the "MyHealth By Telligen" app from your app store.

2020 PROGRAM | JANUARY 13-DECEMBER 31, 2020
GET TO 500 POINTS & EARN AN INCENTIVE UP TO \$200*

POINTS	ACTIVITY	DETAILS
200	ANNUAL PHYSICAL EXAM	annual physical exam with medical insurance provider
200	WEIGHT MANAGEMENT	partners include Real Appeal, Naturally Slim and WW**
200	DIABETES PREVENTION <small>(NEW!)</small>	the National Diabetes Prevention Program is a 12-month lifestyle change program shown to reduce the risk of Type 2 diabetes**
175	ONLINE HEALTH ASSESSMENT <small>(25 MORE PTS!)</small>	questionnaire takes just 15 minutes on the HIP website
150	PHYSICAL ACTIVITY	track physical activity via the "Manage Your Minutes" challenges on the HIP website, up to 150 points annually
150	DISEASE MANAGEMENT PROGRAM	available through medical insurance carrier
150	HEALTHY PREGNANCY PROGRAM	available through medical insurance carrier
150	TOBACCO CESSATION PROGRAM	current tobacco users only, through UA/ASHline
100	MINI-HEALTH SCREEN	with convenient yearly workplace screening
100	COLONOSCOPY	with medical insurance provider
100	MAMMOGRAPHY	with workplace MOM screening or medical insurance provider
100	WELL-WOMAN EXAM	annual well visit with medical insurance provider
100	PROSTATE CANCER SCREEN <small>MANUAL (PHYSICAL) EXAM & BLOOD TEST (PSA)</small>	with workplace POPP screening or medical insurance provider

Fig. 2: Flyer of the Arizona HIP program including the points assigned to health activities.

The HIP case shows a strong orientation of patriarchal design prevalent in 'human-centred' (anthropocentric) creed. The design of this 'gamified' service is based on several assumptions and generalisations made by experts about what may incentivize people to look after their health and what their idea of 'having fun' may be. The program is framed as a solution designed in detail that prescribes a model of wellbeing and a specific set of ranked incentives to comply with change of individual actions. These actions target mainly 'performance indicators' that are amenable and easy to measure and track at the individual level, including through technological means. The HIP activities and points are decided by experts who claim to use user data to inform their decisions. This data is extracted from users through various means including by appropriating and turning people's information and contributions on the HIP website into a merchandise and/or intellectual property owned by the company and its affiliates. The design deprives people from all creative agency and reduces them to a role of compliance through 'nudges' including potential monetary gains through a lottery draw. Emergent enactments are not possible in such systems where the diverse needs of people go unacknowledged. Unintended scenarios and relationships between people are ignored. Assigning responsibility only to individuals means that the systemic conditions that daily act against their health and well-being are ignored the HIP program, erasing the politics and the economic dimensions of junk food and food monopolies, for example.

The rhetoric of empathy in the HIP program denotes a superficial and instrumental angle because it is oriented towards an archetypal persona and their means of enjoyment. This erases all the socio-economic factors that impede a healthy life but count

towards economic growth as measured in GDP metrics. The core incentive in the HIP program is individual monetary gains including zero-sum draws, and the goal seems to be the efficiency of health resources, rather than deeper and long-lasting lifestyle transformations in the community. The program might appear innovative by its use of 'gamification' and digital technologies (an app, wearables, a website), but the rather prosaic point scheme indicates that diverse stakeholders were not part of its envisioning. Atypical employees are likely to have less access; for example, those with lower digital or health literacy, minorities, or with lower incomes. Timewise, the HIP program is defined linearly in annual framings suitable for financial corporate reporting. This imposes a uniform cycle for measurements and impedes flexibility for personal and collective health goals that may not fit into a calendar year cycle. Any changes to the program rules (points, rewards, lottery draws) are predefined and 'locked in' during that period to maintain fairness to those enrolled.

4.2 Design Case 2. Geisinger Fresh Food Farmacy

Geisinger is a regional healthcare provider located in Pennsylvania and New Jersey, USA serving rural counties where patients earn lower than average incomes. In 2016, Geisinger opened the first 'Fresh Food Farmacy'^[1]. The concept of this program is to educate and provide tools to enable patients to manage their own well-being (Hess, Passaretti, & Coolbaugh, 2019). Patients that have health conditions such as diabetes and are food insecure enrol to meet one-on-one with a registered dietitian and are given recipes on how to prepare healthy meals with fresh produce that they collect from a Fresh Food Farmacy location. Patients also have access to other preventive services such as nutrition classes, cooking advice, and referrals to other wellness services. The program is set up as a charity and works in partnership with local food banks, markets, and foundations. Geisinger's Medical Director, Dr. Feinberg, explains that they ask the patients to try some foods and they explore new recipes together to help patients enjoy the food they learn to prepare. In 2019, when Geisinger opened another location, the VP of Health, Allison Hess, said "we have taken what we've learned from our patients and processes in our Shamokin location."

The design ethos of this program shows a partial orientation toward heuristics of fluidity. While the program does prescribe a particular set of solutions and adheres to a mainstream vision of health, it adopts a holistic, personalised, and preventative approach. In doing this, they consider the requirements of the individual patients as well as their families and educate them with recipes that fit their needs. Emergent enactments are at least to some extent accounted for as care providers, patients, families, partners, and staff negotiate food options, learn from each other, and improve and

[1] Geisinger Fresh Food Farmacy website: <https://www.geisinger.org/freshfoodfarmacy>

adapt the program. Beyond a simplistic take on empathy applied to all participants, the program shows plurality in the understanding of different lived experiences, and at least potentially, cultural dimensions of these communities. The name of 'farm-acy' denotes a conceptual redefinition of food intake as a core component of wellbeing potentially extending the reach of the program to other realms of activity such as farming, food distribution, food preparation, etc. This denotes an acknowledgment of health restoration and disease prevention beyond the use of technology and therapeutics solutions. Some of the patients' stories show everyday experiences and challenges that articulate a variety of voices and inform the continuous design and redesign of the program. Situated relational actions are approached by food being directed to patients as well as to their families, the integrated services with dietitians and nurses and communication with physicians (Hess et al., 2019). While the program seeks long-term financial savings with patients who require less medication and health services, it supports, at least to some extent, more collective and plural visions of health and food security. Timewise, beyond short term (annual) rewards, the Geisinger program aims at reconnecting people with food that is appropriate for them and their local contexts.

5 Discussion

This paper formulates a fluid approach to design for and within the common good that stems from the need to redefine the nature of design activities beyond corporate orientations and the role of designers beyond experts who control or lead the creation of new ideas for future products and services. The key premise here is that re-orienting conventional design activity for the common good is insufficient. Instead, it is necessary to imagine other ways of understanding and engaging in design. As a result, the type of design activities that aim *for* the common good, presents a distinct character not only in what it is used *for*, but also in how it is imagined and practised within.

A bold attitudinal change is needed to configure the roles of the designers as participants that work introspectively to see and unlearn their colonising and colonised worldviews, and work with others to learn social practices such as those that afford common good. A fluid design approach requires a long-term commitment and engagement with the stakeholders that are affected by the design outcomes. Designers should ask themselves if that commitment is possible, otherwise, in a responsible decision, they can decline to engage in the situation.

A recurring question while examining the two cases studied above is how may one make these programs less patriarchal, less about chronological notions of progress, and more fluid? On the one hand, one can imagine relatively simple strategies such as incorporating genuine participation, aiming actions at community rather than individual decision making, including iterative check-

points to capture changing inputs and information, etc. In this direction, one can also think of integrating more problem framing and problem naming activities to account for and honour the diversity of views of wellbeing, issues that people struggle with, and their own ways of defining progress. However, on the other hand, we recognise that fluidity is not a goal *per se*, but rather see fluidity as the capacity to transit between a multitude of complementary 'design ways'. Rather than seeing fluidity as prescriptive, we understand it as an ethical mandate of inclusivity and adaptability enacted through critical, creative, collective, and relational design practices.

Fluidity manifested itself as an emergent outcome of the study presented here. This work initiated with a realisation that what we have until recently taken for granted as 'the design way' (Nelson & Stolterman, 2012) inherits a patriarchal ethos due to its origins in corporate and commercial ends. An impulsive initial response to this was to imagine what a 'matriarchal' design way would constitute as a counterweight. However, this led us to a rather facile binarism. In a journey through principles of matrilineality and rematriation, we came to appreciate the need "to restore a living culture to its rightful place on Mother Earth" (Hoover, 2017). We believe this can be achieved not necessarily with returns to ancient ways of living, but with 'alternative modernities' where people from multiple cultures coexist and form alliances for participation and collective welfare (Adamson, 2012). A fluid design ethos seems at this point a comprehensive and sophisticated attitude towards a plurality and a pluriversality to shape design in the third decade of the twenty-first century. Future work will be directed at formulating design pedagogies that are informed by and oriented to cultivate fluid design practices.

References

- Adamson, J. (2012). "¡Todos Somos Indios!" Revolutionary imagination, alternative modernity, and transnational organizing in the work of Silko, Tamez, and Anzaldúa. *Journal of Transnational American Studies*, 4(1), 1-26.
- Ahmed, S. (2019). *What's the Use?: On the Uses of Use*: Duke University Press.
- Arendt, H. (2013). *The Human Condition*. Chicago University of Chicago Press.
- Bockstael, E., & Watene, K. (2016). Indigenous peoples and the capability approach: taking stock. *Oxford Development Studies*, 44(3), 265-270. doi:10.1080/13600818.2016.1204435
- Dalla Costa, W. (2020). Design (Re)Thinking: Situated Experience and Spatial Agency in Indigenous Architecture. In B. Bell & F. Ferdous (Eds.), *All-Inclusive Engagement in Architecture* (pp.96-111): Routledge.
- Dussel, E., & Ibarra-Colado, E. (2006). Globalization, organization and the ethics of liberation. *Organization*, 13(4), 489-508.
- Escobar, A. (2018). *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*: Duke University Press.
- Freire, P. (2000). *Pedagogy of the oppressed*. New York: Continuum.
- Gerrard, V., & Sosa, R. (2014). Examining participation. Paper presented at the Participatory Design Conference.
- Gudynas, E. (2011). Buen Vivir: Today's tomorrow. *Development*, 54(4), 441-447. doi:10.1057/dev.2011.86
- Gutiérrez Borrero, A. (2015). Resurgimientos: sures como diseños y diseños otros. *Nómadas (Col)*(43), 113-129.
- Hess, A., Passaretti, M., & Coolbaugh, S. (2019). Fresh Food Farmacy. *American Journal of Health Promotion*, 33(5), 830-832. doi:10.1177/0890117119845711d
- Hoover, E. (2017). "You Can't Say You're Sovereign if You Can't Feed Yourself": Defining and Enacting Food Sovereignty in American Indian Community Gardening. *American Indian Culture and Research Journal*, 41(3), 31-70. doi:10.17953/aicrj.41.3.hoover
- Ihde, D. (2006). The designer fallacy and technological imagination. In J. Dakers (Ed.), *Defining Technological Literacy: Towards an Epistemological Framework* (pp.121-131): Springer.
- Kimbell, L. (2012). Rethinking Design Thinking: Part II. *Design and Culture*, 4(2), 129-148. doi:10.2752/175470812X13281948975413
- Nelson, H. G., & Stolterman, E. (2012). *The Design Way: Intentional Change in an Unpredictable World*. Cambridge, USA: MIT Press.
- Rameka, L. (2016). Kia whakatōmuri te haere whakamua: 'I walk backwards into the future with my eyes fixed on my past'. *Contemporary Issues in Early Childhood*, 17(4), 387-398. doi:10.1177/1463949116677923
- Reitsma, L., Light, A., Zaman, T., & Rodgers, P. (2019). A Respectful Design Framework. Incorporating indigenous knowledge in the design process. *The Design Journal*, 22(sup1), 1555-1570.
- Solón, P. (2018). *Vivir Bien: Old cosmovisions and new paradigms*. Great Transition Initiative (February 2018), <http://greattransition.org/publication/vivir-bien>.
- Sosa, R. (2020). Indigenous Worldviews to Inform Participatory Creativity. Paper presented at the Proceedings of the 16th Participatory Design Conference 2020-Participation (s) Otherwise-Volume 2.
- Watene, K. (2016). Valuing nature: Māori philosophy and the capability approach. *Oxford Development Studies*, 44(3), 287-296. doi:10.1080/13600818.2015.1124077
- Willis, A.-M. (2019). Introduction. In A.-M. Willis (Ed.), *The Design Philosophy Reader*: Bloomsbury Publishing.
- Winter, C. J. (2020). Does time colonise intergenerational environmental justice theory? *Environmental Politics*, 29(2), 278-296.

Calling Upon the Common Designer: An Interactive Roundtable Exploration of Design Education & Practice

Bridging the Skills Gap of Engineering Students to Engage with 21st Century Challenges: A Designer's Approach

Marius Aeberli, Pierre-Xavier Puissant,
Marc Laperrouza

Practices of Making:

**Exploring Design-Based Making
Within Positive Youth Development**

William Nickley

**Caring for the Commons.
Teaching Design through the History
of Environmentalism**

Meret Ernst

**The Turn of Design Towards
Common Good**

Raffaella Fagnoni

**Out of the Storm. A Design Education
Multi-Methodological Approach
on the Topic of Migrations**

Silvia Gasparotto

Bridging the Skills Gap of Engineering Students to Engage with 21st Century Challenges: A Designer's Approach

Keywords: Design, Engineering
Education, Wicked Problems,
21st Century Challenges.

Marius Aeberli^a,
Pierre-Xavier Puissant^{a*},
Marc Laperrouza^a

^aCollege of Humanities, EPFL

*pierre-xavier.puissant@epfl.ch

In this paper, we acknowledge a need for a new type of engineer to tackle today's complex, open-ended and ill-defined socio-economic and environmental challenges. In light of the centrality of technology in today's societies, we advocate that there is a strong value in adopting a design-centric approach to foster 21st-century skills acquisition in engineering education.

We present and discuss various pedagogical experiments that we implement at Ecole Polytechnique Fédérale de Lausanne (EPFL) towards that end. These initiatives bring engineering students together with students from different backgrounds to work in interdisciplinary teams toward the resolution of real-world problems.

We finally highlight the numerous challenges posed by the attempt of leveraging the designer skill set to rethink the engineering curricula, such as the clash between the room necessary to implement divergent pedagogical experiences and the structural rigidity of academia.

1 Introduction

The world changed more during the past hundred years than during any preceding century (Galloway, 2007). This dramatic increase in the pace of development caused new challenges to emerge. While these challenges are not completely new per se, they are more complex, systemic and interconnected than ever.

21st century challenges are, by essence, wicked problems: they are defined by several characteristics, the two main ones being the fact that they are ill-defined (in the sense that not all information necessary to their solving is accessible) and open-ended (there is no “right or wrong” answer, only a “better” or “worse” state of the system) (Conklin, 2006). These problems ask for new, disruptive approaches in order to be framed and addressed.

A key component of these problems, if not major, is the technologies they involve. As such, all the challenges faced in our era “have had, has or will have an engineering dimension” (Morell, 2010). In the US, per example, “engineers and scientists comprise 4% of the workforce, but the fruit of their labor provides a disproportionate amount of jobs for the other 96% of workers” (Stawiski, et al, 2016). Engineering is at the very core of what brought human civilization to this point - for the best and the worse.

In light of the centrality of technology in today’s societies, the engineers of tomorrow will be much “needed to support the progress of sustainable development across the world” (World Federation of Engineering Organizations, 2018) and will “play an important role in creatively solving global and complex challenges” (Samavedham, et al, 2008).

However, most engineering curriculums still rely on a classical paradigm of science and engineering education, aiming to serve industrial growth and expansion by supplying a workforce with conformity and standards (Dey, et al, 2015). Thus, questions arise about the current adequacy of these paradigms to equip students with relevant skills to be able to deal with wicked problems. The engineer of tomorrow does “not only need to be knowledgeable in his/her own discipline, but also needs a new set of soft skills” (Morell, 2010).

“21st-Century Skills” is a term frequently used to talk about these skills that are critical to navigate in the modern world. Supporters of this idea suggest that schools should be more concerned with what students can do with knowledge rather than the amount of knowledge itself (McComas, 2013). While many of these skills have been around for years, there is no single set of 21st-Century Skills and lots have been suggested. But, some key-competencies arise in a global consensus such as: Critical Thinking, Creativity, Communication, Adaptation, Collaboration and Problem Solving (Hanover Research, 2011).

However, despite a global call “to innovate both on the curriculum and the learning experience” (Morell, 2010) in engineering education, most engineering schools still fall short innovating: “engineers [...] are not developing curricula that would train engineers to anticipate and focus on the rapid changes by which the 21st century will be at least partially defined.” (Galloway, 2007).

In a 2004 survey of the US National Academy of Engineering, 70% of the industry and academia respondents indicate that, in their opinion, engineering education was not sufficiently flexible to adequately meet the needs of 21st century engineers (US National Academy of Engineering, 2004). While recent reports indicate that the gap is slowly being bridged by leader institutions, mapping promising avenues (Graham, 2018), these remain worldwide exceptions: academic literature on the subject still consensually converges toward the fact that traditional curricula fail to prepare students for their professional challenges.

2 Proposition

Most of the designers have direct experience of working on ill-defined problems, involving multiple stakeholders with different perspectives, without clear requirement, with no "right" or "optimal" solution. They know that these problems or challenges cannot be solved by the application of a unique, known, universal method and require creative solutions.

The claim that design is characteristically faced with wicked problems whereas science is not, won't be discussed here (Farell, et al, 2013). Instead, we'll focus on how designers can contribute to reaching the SDGs, infusing design mindset, methods and tools within engineering curriculum to foster engineering students' soft skills acquisition.

Considering design beyond its historical tangible medium role and importing principles of design in “non-design” organizations, such as businesses or public services is a popular innovation strategy since the mid-90s, but with contested results. Design thinking is a good example of this. While the efficiency of design thinking methodology to solve complex issues is widely debated (Kolko, 2018), its use as a pedagogical tool tends to get a more positive feedback (Ineka, 2014): in education, design thinking is sometimes referred to as “design-based learning”, and is perceived as a “model for enhancing creativity, endurance, engagement and innovation” (Dolak, et al, 2013). The benefit of design thinking in pedagogy refers to its character which “enables students to work successfully in multi-disciplinary teams and enact positive, design-led change in the world” (Rauth, et al, 2010). Thus, design thinking may be considered as a great tool to be used in the teaching and learning process to develop twenty-first century skills.

Nevertheless, design should not be restricted to design thinking only. We assume as designers, that other methods and tools can be used as pedagogical instruments in education to develop twenty-first century skills too. At EPFL, we had the chance to join the College of Humanities in order to imagine, prototype and test new learning experiences. In the following section, we detail three of our experiments to expose some of the key challenges we face.

2.1 Bringing the 'Learning by Doing' in the Classroom

Engineering education is mostly classroom or auditorium based, and supposes a predefined course of action in which a teacher delivers knowledge to passive students that assimilate it, over the semester, and are then asked to prove that they understand and remember it (Felder, 2012). This approach is unlikely to deliver the critical skills to question and articulate this knowledge toward the resolution of real-life challenges: knowledge becomes truly valuable when embedded in experience (Boy, 2013). While some examples of such experiences exist, exploratory hands-on practice mostly fails the engineering curricula.

We think that bringing actionable skills require learning experiences that prompt them: they should be open-ended, project-based, challenging, and invite students to be prospective: while the emphasis should be put on the process of learning through doing, they should aim at delivering a designed result: “the work has intellectual depth because it has formal depth” (Kolko, 2018).



Fig. 1: Prototyping session during the “Creativity & Participatory Design” course.

“Creativity & Participatory Design” and “Prototyping” are semester-long courses given at EPFL that embrace a conventional formal format: the 2 hours weekly course happens in a classroom. They are credited, but optional - as part of the Social Sciences and Humanities course catalogue for EPFL students across all faculties. EPFL students work in interdisciplinary teams with business students from Hautes Etudes Commerciales (HEC) Lausanne. The course is project based: firstly, students are asked to conduct design research on a

sustainability and/or socio-economic topic. They are introduced to various design research tools such as: Contextual Inquiry, Observational Research, Unstructured Interviews, Surveys and Analytics. Then, they are asked to synthesize their findings in order to creatively frame the problem and to imagine a set of various potential solutions. They are finally asked to build low-fidelity prototypes (such as paper-prototypes or simple wireframes) to test them with potential users. Every weekly session is used as a touchpoint to provide participants with feedback and design process guidance. External stakeholders, such as experts or extreme users are regularly invited to challenge participants' assumptions.

From one year to another, this format is overall very appreciated by students enrolling in the course, who highly relate to its underlying philosophy and principles. Engagement, expertise and soft skills of the teachers appears to be key in facilitating the process. The participatory nature of the course and the room given for prospective creativity and proactive hands-on development of the projects allowed students to become, in their words, the protagonists of their own learning.

Engineering education still too often happens intra-muros, in silos (Shirey, 2018), and when engaged in an ill-defined problem-solving process, mainly relies on assumptions, without investigation of context and people (Swenson, et al, 2020). But navigating complexity entails building a nuanced and complementary understanding of the different stakeholders composing it by “becoming more interested in the human context yielding the brief” (Findeli, 2001).

Since there is no “unique” and “right” way to tackle wicked problems, we assume that making students from different disciplines work together in interdisciplinary teams would allow them to experience how crucial it is to navigate different perspectives. A real-life learning experience, engaging real stakeholders, might allow to develop a human-centered mindset.

2.2 Breaking the Interdisciplinary Silos



Fig. 2: Role Playing session during the “nVisioning Tomorrow” summer school.

“Visioning Tomorrow” is a non-accredited 5 days summer school for engineering students from EPFL, run with Logitech, a swiss hardware company. Thanks to this format, free of the usual rigid academic time-schedule and location constraints, the program is run in a large maker space out of the campus, and is open to other institutions: business and social sciences students from the University of Lausanne (UNIL) and design students from the Ecole Cantonale d’Art de Lausanne, Lausanne (ECAL). This program offers participants to work in interdisciplinary teams with a human-centered design methodology to explore creative ideas of new products or services, outline user experiences and test them with potential users. In comparison to the two courses described above, the initial contextual design research phase is here more condensed because of the program’s exploratory nature. However, a stronger focus is put on the prototyping stage and testing thanks to an easier access to technical facilities and large space to build testing setups (including service prototyping with full-scale space models, role playing, A/B testing).

In the first edition of this format, the facilities at hand, as well as the high quality and amount facilitation of the process proved again to be essential to the general drive, while equipping the students with the right methods and tools at the right time appeared to be instrumental in keeping a pace that ensures the progress of the different teams and allows to reach high-quality results in a time-restricted process. The students very much engaged in, understood and appreciated the human-centered, real-world approach of the program. They realized how key interdisciplinarity was, in “sharing competencies towards a common goal” - in their words.

2.3 Embracing Real-World Complexity

Problem-solving in engineering education mostly consists of applying well-established formulas, in hypothetical models, on well-defined problems (Douglas, et al, 2012). But, engaging with wicked problems is different: the “best fit” is found through a non-linear, iterative cycle of probing and refining, as an infinite set of “better” and “worse” answers exist. As designers know, being able to “identify a new question” or “frame the problem differently” is key, which requires to “understand the dynamic morphology of a system” (Findeli, 2001) in order to explore the real challenges at hand.

Due to its very nature, complexity cannot be simulated in a classroom setup and requires real-world experience.



Fig. 3: User Testing session during the “INSSINC” program.

The India Switzerland Social Innovation Camp (INSSINC) is a two weeks non-credited social innovation design program that immerses interdisciplinary teams of students (EPFL, UNIL and ECAL) in Bangalore to work on real problem statements with the support of a grassroots organization. Following a time-capped design process, the teams have to conduct an end-to-end design intervention in the context of an ill-defined problem. They run several field design research sessions, meet various experts and stakeholders, explore multiple ideas, and test them through prototyping with beneficiaries in order to validate it. This immersive program deeply challenges students with first-hand experience, with human faces, of the complex, dynamic and networked nature of wicked problems. It takes them out of their comfort zone, and questions individual responsibilities as designers in a designed world.

Tendencies that emerged during the first edition of the program were confirmed in the second edition: despite an initial, uncomfortable feeling of unpreparedness, participants felt like it was “part of the experience” and agreed on the fact that immersion, far from their comfort zone and the academia, was crucial to develop the ability to adapt to new contexts and constraints of multiple nature (time, facilities...). This dive in real-world complexity, with real stakeholders, gave them the opportunity to contextualize their prior knowledge in a concrete way, and participants mentioned they acquired “social and human skills” in addition to professional and transversal skills.

3 Findings

Putting these various pedagogical experiments to test, through the years, allowed us to pinpoint crucial bottlenecks to be considered and dealt with in the implementation of such an approach in the engineering school context.

Engineering students appreciate being engaged in learning experiences oriented toward the “making” of things. With very few other opportunities to build things within their curriculum, the notion of “prototyping” - here, understood as “building a product” - constitutes a strong initial motivation. However, while participants show great enthusiasm in building technical artifacts, they sometimes show less interest in engaging in the “thinking” part of things: working with naive assumptions, jumping to the first idea at hand, and fearing user-testing.

This is reinforced by the very different nature of open-ended design-based learning in comparison to what they've been trained to. “Doing things right” remains a priority for them, asking the teacher for a “right-or-wrong” guidance, at the expense of an exploratory mindset.

But, breaking an iterative, non-linear process into manageable bits to fit into the rigid academic timeline is a hard task. The space required to engage in exploratory ways, to test and iterate potential solutions is difficult to create, considering the current academic priorities of the engineering curriculum. Active facilitation, intervention of external stakeholders and experts, technical facilities, and field immersion require much more resources than more traditional courses.

Integrating interdisciplinarity in a program requires collaboration between different faculties or even schools with a process of alignment on key-features, such as credits, learning goals, assessment methods and agendas. Activities and facilitation must be adapted to support student’s collaboration through disciplines.

Connecting an academic experience to real-world problems requires the setup and the maintenance of a whole supporting partnership network to ensure access to relevant expertise, fields, people and logistic support. Partners expectations, learning objectives, and students' performances need to be aligned and balanced.

Finally, supporting students both on learning and designing levels, in an interdisciplinary environment requires experienced facilitators, who are hard to identify and recruit. Creating an attractive professional environment for these non-academic profiles requires institutional recognition. The lack of facilitators turns into a critical scaling bottleneck: the more students we have, the more facilitators we need.

4 Discussion

As highlighted above, adapting engineering education for the 21st century comes with a lot of challenges, at multiple levels. Still, in our experience, offering a first “safe” immersive, interdisciplinary, design experience in a real-world context to engineering students is key in practicing 21st century skills.

But, while there is an increasing interest and request both from the students and teachers for new ways of teaching and learning, it meets with the highly rigid and traditional academic structure. The prototyping of new pedagogical formats requires room to play with existing institutional structural constraints (timeline, assessment, credits, ...) and the scaling or replication of successful initiatives. However, this is made difficult by the misalignment of such an approach with the vision and strategic constraints of a very large number of stakeholders.

In this regard, “transforming engineering education to embrace the 21st century engineer requirements” is a wicked problem in itself, and should be addressed as such.

The above-mentioned misalignment and challenges often result from a strong misconception of the nature and benefits of design for an institution such as the engineering school. Design is often perceived as cosmetic varnish to be put on things to make them “beautiful” or “user-friendly”, or envisaged in its managerial-declined form through corporate design thinking. But most do totally ignore the human-centered component, the research side of the design practice, and fail to consider the design approach as a valid way to learn and produce knowledge. Because they fall in the common preconceptions of what “design is and designers do”, we spend considerable energy advocating designers’ ability to create innovative learning experiences and shape processes, strategies, and visions.

Assuming engineers’ key responsibility in modern society, it seems fair to posit that engineering school should be when and where engineering students are equipped with the knowledge and skills necessary to engage with 21st century challenges. In this paper, we presented you with our intervention in the specific context of EPFL, paving the way to a better inclusion of groundbreaking pedagogical experiences in the engineering curricula towards that end.

But as our intervention unfolds, a lot of broader questions arise which will require debate and further investigation. Furthermore, our initial assumption could be questioned: since the primary role of the engineering school is to break the complexity of the world into intelligible bits for students to grasp them, shall we expect from it to present students with problems that there is no definitive answer to? Should this training happen elsewhere and if yes, when, and how?

References

- American Society for Engineering Education. (2015) Emerging Paradigms in Engineering Education: ASEE/PSW-2015 Conference Proceedings.
- Boy, G. A. (2013). From STEM to STEAM: toward a Human-Centred Education, Creativity & Learning Thinking. *Proceedings of the European Conference on Cognitive Ergonomics (ECCE '13)*.
- Conklin, J. (2006). *Dialogue Mapping : Building Shared Understanding of Wicked Problems*. Chichester: Wiley Publishing.
- Dey, P. P., Romney, G. W., Rezaei, A., Enriquez, A. G., Sinha, B.R. & Amin, M. (2015). Emerging Paradigms in Engineering and Science Education. *Proceedings of the American Society for Engineering Education (ASEE/PSW 2015)*.
- Dolak, F., Uebernickel, F. & Brenner, W. (2013). Design Thinking and Design Research Science.
- Douglas, E. P., Koro-Ljungberg, M., McNeill, N. J., Malcolm, Z. T. & Therriault, D. J. (2012). Moving Beyond Formula and Fixations: Solving Open-ended Engineering Problems. *European Journal of Engineering Education*, 37(6), 627-651.
- Farell, R. P. & Hooker, C. (2013). Design, Science and Wicked Problems. *Design Studies*, 34(6), 681-705.
- Felder, Richard M. (2012). Engineering Education: a Tale of Two Paradigms.
- Findeli, A. (2001). Rethinking Design Education for the 21st Century: Theoretical, Methodological, and Ethical Discussion. *Design Issues*, 17, 5-17.
- Galloway, P. D., (2007). The 21st-Century Engineer: A Proposal for Engineering Education Reform. *Civil Engineering Magazine Archive*, 77(11), 46-104.
- Graham, R. (2018). The Global State of the Art in Engineering Education. Retrieved from <https://www.rhgraham.org/resources/Global-state-of-the-art-in-engineering-education---March-2018.pdf>
- Hanover Research. (2011), A Crosswalk of 21st Century Skills. Retrieved from <https://www.montgomeryschoolsmd.org/uploadedFiles/about/strategicplan/21stCenturySkills.pdf>
- Ineka, L. (2014). Design Thinking in Pedagogy. *Journal of Education Culture and Society*, 2, 63-74.
- Kolko, J. (2018). The Divisiveness of Design Thinking. *Interactions*, 25(3), 28-34.
- McComas, W. F. (2013). *The Language of Science Education: an Expanded Glossary of Key Terms in Science Teaching and Learning*. Rotterdam: Sense Publishers.
- Morell, L. (2010). Engineering Education in the 21st Century: Roles, Opportunities and Challenges.
- Rauth, I., Jobst, B., Köppen, E. & Meinel, C. (2010). Design Thinking: an Educational Model toward Creative Confidence. *Proceedings of the 1st International Conference on Design Creativity (ICDC 2010)*.
- Samavedham, L. & Ragupathi, K. (2008). Facilitating 21st Century Skills in Engineering Students. *Journal of Engineering Education*, 1(42), 96-97.
- Shirey, K. (2018). Breaking the Silos of Discipline for Integrated Student Learning: A Global STEM Course's Curriculum Development. *Engineering*, 4(2), 170-174.
- Stawiski, S., Germuth, A., Yarborough, P., Alford, V. & Parrish, L. (2016). Infusing Twenty-First-Century Skills into Engineering Education. *Journal of Business and Psychology*, 32, 335-346.
- Swenson, J. E. S., Johnson, A. W., Rola, M. & Koushyar, H. (2020). Making Assumptions and Making Models on Open-ended Homework Problems. *Proceedings of the ASEE's Virtual Conference 2020*.
- US National Academy of Engineering. (2004). *The Engineer of 2020: Visions of Engineering in the New Century*. Washington DC: The National Academies Press.
- World Federation of Engineering Organizations. (2018). WFE0 Engineering 2030 : A Plan to advance the achievement of the UN Sustainable Development Goals through engineering - Progress Report No. 1. Retrieved from https://www.wfeo.org/wp-content/themes/wfeo/_mail/files/WFE0-ENgg-Plan.pdf

Caring for the Commons. Teaching Design through the History of Environmentalism

Keywords: Commons as Social Practice,
Design History, Environment,
Systems Approach.

Meret Ernst^{a*}

^aHGK FHNW

*meret.ernst@fhnw.ch

The current environmental crisis poses unprecedented challenges as systemic mega-risks for any society. Mainly caused by industrialisation, this makes design an inextricable part of it. How can design nevertheless help overcome this crisis? Design students ask similar questions, projecting their unease onto their future professional field. This paper proposes to centre design education on environmental approaches, contextualising them in system design. It assumes that educating can improve by connecting ecological issues to Commons' social practice, thus profiting from the term's explanatory power and reflecting caring practices within limited resources. Burckhardt's Strollology advocates for a sensual and contextualised experience of environments transforming the abstract concept into an aesthetic experience. It belongs to a broader «environmental history of design» conscient of design's entanglement in the current crisis. The overall aim of such history-based education extends in framing design as a critical discipline, thus enabling students to grasp the intricate relations between design and its defuturing potential.

Crucially, what begs to be understood is that the future is not that which has to be completed, but rather that which must be secured against all that would negate it. Tony Fry (2015).

1 The Environmental Costs of Design

The current environmental crisis encompasses climate change and the loss of biodiversity. As systemic mega-risks, it poses unprecedented challenges for any society. There is ample scientific evidence to suggest that human activity, in particular the release of greenhouse gases into the atmosphere, is causing the climate to warm up, thus long-term altering Earth's climate and weather patterns. According to the Intergovernmental Panel on Climate Change (IPCC), the anthropogenic climate change can be historically located. It is primarily caused by the industrialisation and its implication on the environment^[1].

Design as an inextricable part of industrialisation finds itself in the middle of this crisis. According to a traditional understanding that still widely grounds design education, its methodology remains defined by industrialisation. Therefore, design holds responsible for the damage caused, as Victor Papanek summed up pointedly when he decried designers as “dangerous breed” by “creating whole new species of permanent garbage to clutter up the landscape, and choosing materials and processes that pollute the air we breathe” (Papanek 1974, p.14). Hence, Design does not create the future, according to its distorted self-image, but took it away: “In particular, industrial society has brought these, and a myriad other defuturing things and forces, into being.” (Fry 2015, p.9). This defuturing potential of design, rooted in history, prevails despite the environmental turn in the Human Sciences (Sörlin 2014) and despite sustainable development as being defined, according to the Brundtland Report of 1987, as one “that meets the needs of the present without compromising the ability of future generations to meet their own.” (WCED, 1987).

Design mediates technology, resources, and policies, thus defining our relation to “nature”, as individuals and society, affecting existing and creating new environments of all sorts. Therefore, it is deeply integrated into sustainable and unsustainable ways of everyday living, defining behaviour, access, or norms (Mazé, 2013). As such, design is always political. In its quality as interface, design forms part of the histories of economics, technology, environment, media, culture, or consumption. Given this entanglement, the question arises if design can overcome to be part of the problem causing anthropogenic climate change and instead contribute to

[1] IPCC Glossary uses the term ‘industrial revolution’ to refer to the time after 1750, when industrial growth began in Britain, spread to other countries like the US and led to a substantial increase in fossil fuel use and greenhouse gas emissions. – Historicizing anthropogenic climate change analyses it as a driver of historical change and explores the climate system's intellectual and scientific roots and its modifications. Sörlin Lane, 2018; Weart, 2008.

resolving it thanks to its epistemic?

Design educators are often confronted by students asking such questions at the end of their basic studies when they have learned the skills and methodological principles of designing. They express their discontent in the guise of asking what social and environmental responsibility designers should and can take on. Thus, their unease relates to the foundations of the professional field for which they are being trained.

1.1 Environmental Design History

Environmental issues have been long recognised by design as crucial in exploring alternatives beyond the paradigm of industrial production. Therefore, centring design education on environmental sustainability could lead a way to tackle students' concerns. The overall aim of such (coercively!) history-based approach of educating lays in conveying design as a critical discipline, thus enabling students to understand the intricate relations between design and its defuturing nature.

The ecological costs of mass production and industrialised societies did not go unnoticed in design. William Morris's utopia *News from Nowhere* (Morris, 1890) painted a lavish counter-world in which design-as-crafts integrates into a successful life of individuals in equal society. Late 19th century and modernist urban planning reacted against unsanitary conditions in overpopulated cities (Sennett, 1995), integrating medical insights and functionalist approaches. Social reform movements as the "Lebensreform" criticised the damaging effects of industrialisation, pioneering self-optimisation that disregarded social contradictions, therefore considered, in hindsight, both as modern and anti-modern movement alike. The first fully industrialised war equalled mass production to mass destruction, paving the way for more industrialised mass murder to come in the killing fields of the 20th century. Industrialised agriculture harming nature (Carson, 2002) inspired the US's environmental movement gaining momentum by the 1970s inspiring upcoming Green Design, Sustainable Design or Ecodesign (Madge, 1997). Based on Marxist thinking, authors criticised the role of design in conspicuous consumption contributing to environmental degradation (Haug, 1971), whilst Green consumerism of the 1980s tried – often vainly – to conciliate ecological thinking with consumption, leading up to Greenwashing. Systemic thinking (Fuller, 1969) or integrative approaches (Papanek, 1972) altered design practice considering all sorts of environments, promoting Service and Social Design. Ecodesign gained momentum in the 1990ies, both in practice with Life Cycle Assessment charting energy and material flows through a product system and re-thinking the base of design methodology. The Brundtland Report stated that "sustainable development requires that those who are more affluent adopt lifestyles within the planet's ecological means" (WCED, 1987, p.15) encouraged vice-versa designers willing to work for "The oth-

er 90 percent “. Nevertheless, designers upholding the importance of sustainability in all aspects were still exotic in these days. In the last two decades, the global view on ecology driven by climate crisis intensified the criticism of an industry that externalises environmental damage and privatises profits, propagating approaches like Circular Economy and Corporate Social Responsibility in industry and questioning designers’ decision-making anew.

Therefore, this paper profits from the recent debate on how environmental history intersects with the histories of design[2]. It adapts to the notion that the relation can be described as a long-standing and ongoing “conversation between design and ecology” not limited to ecological design (Fallan, 2019, p.5). Although many more examples have to be considered in reworking the history of design through its intricate connection to ecology and more specifically, to environmentalism, the following concentrates on the ‘era of ecology’ (Radkau, 2011) taking off in the 1970s. It first reads environmentalism through the debate on the Commons in the late 1960s cautious to giving back agency to individuals, groups or societies in designing, using and sustaining Common-pool resources. It forms the base to explore how design history can be told as the history of caring for the Commons. It aims to uncover a more embracing, collective, and political understanding of sustainability without giving up the epistemic knowledge design acquired to act sustainably and therefore “to possess some of the competence that could help solve those problems” (Fallan & Jørgensen, 2017, p.103).

2 Systems and More

The unwillingness to accept that economic growth, resources and needs have to be balanced in a finite system, has caused lasting effects for future generations. The Earth overshoot Day, implemented in 2006 by Global Footprint Network, constantly gliding backwards in our calendars serves as a vivid reminder of how imbalanced in a system we are living.

2.1 Relating Biosphere and Technosphere

System is one of the keywords in the history of design[3] as well as in Ecology. British ecologist Arthur Tansley defined Ecology as the science of ecosystems in 1935, opening up the field of inquiry to different types of relations between organisms and inorganic factors (Willis, 1997). By the 1960s, Ecosystem as the basic unit in ecology was widely accepted. Applied mathematics and the use of computers in systems analysis advanced the study of the development, dynamics and disruption of ecosystems, therefore

[2] Fallan & Jørgensen, 2017, put the topic on the list of design history’s research agenda, at Design History Society’s Annual Meeting: Making and Unmaking the Environment, Oslo, 7-9 September 2017.

[3] The turn towards systems and systematic methods influenced the design discourses and practices around 1960, revealing an ecological framing of the relationship between man and computer-as-machine. Cf. Mareis Rottmann (2020).

connecting the biosphere with the digitised technosphere.

Computational power enabled scientists to explain the current state and imminent future of planet Earth; others, as the Club of Rome's seminal study *Limits to Growth* (1972) made clear, were well aware of the defuturing history of overconsumption, at a time when the utmost system boundary became apparent with the view from outer space. Once and for all, it made obvious how vulnerable Earth appeared in the dark vastness of space. Its most famous image was taken on December 7, 1972, by the Apollo 17 spacecraft crew on its way to the Moon. Licensed as public domain, AS17-148-22727 made a vast journey through popular and counter culture, edited and soon known under its poetic title *Blue Marble Shot*.

2.2 System or Whole Design

A similar, earlier digital image taken in 1967 by the ATS-3 satellite was used for the Whole Earth Catalog released in 1968. Stewart Brand, a Stanford biologist by training, promoted with its mixture of counterculture magazine and product catalogue self-sufficiency, ecology, alternative education, do-it-yourself, and holistic approaches. Containing essays, book reviews and product evaluations, the catalogue declaimed its origin in R. Buckminster Fuller's whole system ideas by promoting his books. However, while Fuller had called for "the apolitical 'Comprehensive Designer,' tackling the world's social and ecological imbalances as a technical problem of the grandest sort " (Sadler, 2008, p.111), counterculture favoured the ubiquitous non-professional, slightly esoteric and bricoleur type of designer-maker with an ecological conscience. Against the eager problem-solutionists of System Design, it embraced a contrary, but a somehow related holistic understanding of how to act in a system. Both were intrigued by the idea of a Spaceship Earth, which had to be put into the equation of sustainability in Fuller's view. Their reaction of how to survive on the Blue Marble differed, however. Whilst Fuller welcomed the forced discovery of intellect as common resource driven by the "designed omission of the instruction book on how to operate and maintain Spaceship Earth and its complex life-supporting and regenerating systems "(Fuller, 1969, p. 54), Whole Design relied on methods taken directly from craft and industry.

Intellect and planning capacities, or creative thinking and empathy? The dichotomy was false from the beginning^[4]. Both approaches were limited by the pervading solution paradigm. As the first strived for solutions in global scale, believing in technology mending the flaws of unquestioned progress, the second addressed counter-culture communities up to prepper culture, seeking to position themselves outside the system as final solution. In doing so, both rested upon a persistent division between Nature and Culture

[4] Buchanan explains the renewed interest in the relationship of systems thinking and design through a more complex account of Systemic Thinking. Buchanan 2019.

without considering their thinking's historical, epistemic and social embeddedness (Latour, 2001). However, both Whole Design and System Design – or ecocentrism relying on bioethics, diversity, and natural morality, versus technocentrism focusing on rationality, efficiency, and progress (O'Riordan, 1976) –, still pervade design education addressing issues of sustainability providing role models for students. Deconstructing these approaches' underlying oversimplifications – fundamentalist recognition or intellectual hubris – may help students gain an informed and differentiated understanding of attitudes and practices.

3 The Problem with the Tragedy of the Commons

Another term in debating survival on planet Earth may offer a third way^[5]. It takes into account a political understanding of sustainability as practice. With his widely debated article "The Tragedy of the Commons" (Hardin, 1968), biologist and dubious nativist Garret Hardin combined Malthusian political economy and Cold War systems science with a gruesome neo-liberal "life-boat-ethics". (Oakes, 2016, p.238). His grim outlook on overpopulation and human unwillingness to cooperate in preserving the Commons made him popular in environmental and political science and economics alike. However, Hardin's notion of the Commons and their use was determined by an irritating lack of historical accuracy. (Cox, 1985).

The need to discuss systems and rules was pervasive when the environmental movement was emerging, and the limits of natural resources were calculated. The need to collectively limit the damage of overexploitation was increasingly recognised in industrialised countries on a political and societal level. (Radkau, 2011, 124ff). How to preserve common goods like unpolluted water, fresh air, non-toxic soil, or the wilderness? Rules to preserve the Commons – as well as breaching and sanctioning them – are historically contingent. They have been formulated at all times both as systems of coexistence and as religiously or morally based intentions.

3.1 Designing the Commons

As an institutional practice, commons determine for instance the alpine *Allmende* still in use in Switzerland today. It served as one example that Elinor Ostrom (1990) scrutinised in her comprehensive study of the Commons' underlying principles. The study (that got her the Nobel Prize in Economic Sciences in 2009) debates how important actors are in determining sustainable use regulations to prevent the oversimplified notion of the "Tragedy of the Commons".

[5] The concept of the Commons has resurfaced in the debate on alternative societies, social movements, and urban transformation contesting the rise of neoliberalism in historiography, artistic research, or urbanism in the 21st century, cf. Linebaugh 2009; Locher 2016; Spaces of Commoning, 2016.

Drawing on many case studies, Ostrom analysed long-enduring Common-Pool resources (CPR) in all parts of the world. Their existence extends from 100 to more than 1000 years. As an organisational scientist, she was interested in developing a broader theory of institutional arrangements related to CPR's effective governance and management. Why is it that some are sustained, and others deplete over time?

Ostrom evaluated, amongst others, the case of Törbel, a village of about 600 people located in the upper Valais. The villagers sustained both private and communal tenure over a long period balancing ecological sustainability and economic growth under harsh environmental conditions. One of the success factors was the villagers' involvement in designing the CPR's use and considerable autonomy in crafting their institutions. (Ostrom, 1990, p.60) As the case in Törbel and other alpine communities show, democratically voted statutes of using common land is a crucial factor. It implies organising maintenance work, distributing manure on the summer pastures, and declaring fines for misuse of the common property. The duties, in turn, are related to the number of cattle sent by each owner. (Ostrom 1990, p.62f).

The residents who own communal land "spend time governing themselves. Many of the rules they use, however, keep their monitoring and other transactions costs relatively low and reduce the potential for conflict." (Ostrom 1990, p.65) These three factors – commitment, monitoring and low cost of monitoring – are strategically linked. As monitoring produces private benefits for the monitor and joint benefits for others, Ostrom thus finds a historically grounded argument against the neo-liberal reading of the "Tragedy of the Commons". However, alpine commons had a harsh social downside, as ethnologist Arnold Niederer showed in his extensive studies on the Alpine commons since the 1950ies. The relations between the people were indeed personal, yet entirely unsentimental. There were always clans, concentrations of power, irreconcilable enmities despite the democratically agreed regulations. The community often proved to be an instrument of structural inequality, where the economically powerful benefited from the free work of the have-nots. (Niederer, 1956).

3.2 Destroying the Commons

The Commons were not an Alpine peculiarity as Ostrom shows with cases in Japan, Africa or Indonesia. In England, the Commons famously got under pressure from thriving industrialisation, which in turn drove the utopians of the 19th century to phantasise a socialist, proto-post-industrialised environment of prospering Commons in an untouched nature (Morris, 1890). In fact the 'enclosure movement' took down a complex and long tradition of communal land using since the late Middle Ages. It too, was available only to individuals who inherited or were granted the right to use it. (Cox 1985, p.49) In the 1700s, after the British parliament passed the

Enclosure Acts, the English common became privately owned. Wealthy urban merchants and farmers fenced in the countryside to create larger farms, thus enhancing land productivity. The 'enclosure movement' with its negative implications for the rural population, especially for women and children (Humphries, 1990 p,18), ultimately forced smaller farmers to search for new subsistence in the rapidly growing cities and colonies. It was an essential factor in creating the armies of workers for the factories.

The Commons' ownership and regulation changed considerably in the 20th century. Their decline in the global south inadvertently helped to secure comfort in the rich parts of the world, increasing social inequality. It leads up to the robbery of common property in African countries by corporations exploiting rare earth elements needed for our electronic devices and by financial groups that are privatising and taking profit of CPR's such as water worldwide. Still, the Commons' principle marks a third path between privatisation and nationalisation, a way to use resources more efficiently and sustainably than through private profit economy or government order giving back agency and care to those directly involved. In view of the current environmental crisis, we all are.

Conceiving functioning commons entails understanding systems, actors and entitlement. It requires designing a balanced participation system and monitoring for the greater good. If resources are limited or threatened by overconsumption, consensually established and critically designed rules are needed. International treaties as the Kyoto Protocol from 1997, the voluntary commitment to reduce carbon emissions worldwide, can be interpreted as regulation of the dilemma of the Commons developed by all parties involved.

4 Opening up the Field: Burckhardt's Strollology

Whereas the Commons' history conveys the importance of designing sustainable systems of use to prohibit overuse, Lucius Burckhardt's Strollology opens up the field for sensual and aesthetic experience, thus exemplifying the abstract idea of the 'environment'. It involves bodily movement and sensual comprehension of space in time, observing and gauging social relations, local practices, public spaces and the visual.

The social dimension gives Design its impact and meaning, as Burckhardt formulated in his extensive writings. Design is not 'beauty', but 'society', not 'object' but 'process' and hence 'decision-making'. Witness to this is his core hypothesis "Design is invisible". Beneath the visible aspects of our world, often opaque socio-economic relations are waiting to be detected by designers and architects. Sustainability urges design, architecture and urban planning to overcome the reductionism of purely functional and aesthetic factors at the same time opening up the built and

designed environment to sociological and aesthetic analysis (Burckhardt, 2015).

Strollology must be put in the context of the environmental movement in Europe around 1980, decrying the scandal of destroyed ‚nature‘ observed in urbanised areas. Soon, commercial and political interests should be accommodating ecological issues in the ‚Green wave‘. Similar to ‚Design is invisible‘, Burckhardt posited that “Nature as such is invisible” (2012a, p.221) and therefore, his method challenged the perception and description of it. He insisted on ‚strollological aesthetics‘ as a primary exercise to recognise ecological aspects as profoundly dependent on a historically constructed and cultural perception of landscape as nature:

“Nowadays, under the catchphrase ‚ecology,‘ we discuss the various strategies deployed to save resources, preserve species and protect natural cycles from destruction yet, ultimately, the objectives we pursue do not derive from ecology but are of an aesthetic nature.” (Burckhardt, 2012a, p.212).

Deconstructing the uncontested aesthetic dimension of environmental issues is one of the critical aspects of Burckhardt’s method as is his view that we “have to come to grips with the idea that nature is part of the social process, and not an object to be exploited.” (2012a, p.221) Strollology can be the starting point for a more grounded attitude towards the perception of the environment, analysing the hiatus between the ongoing, economically motivated “ugly-fication” of urbanisation on the one hand and the politically intended protection of the environment in the form of conservation areas and Cultural Heritage on the other hand. “Strollology examines the sequences in which a person perceives his surroundings”, systematically slowing down the experience and putting things in context. Burckhardt insists on the responsibility of planners, architects and designers alike to convey information:

“What is required here rather, is design intelligence, intelligence that conveys a dual message: information about the context as well as about the object in question.” (Burckhardt, 2012b, p.248)

Strollology makes design students aware of the societal importance of perceiving the environment in the act of movement, hence coming to terms with the abstractum of ‚the environment‘ in a bodily way. The method is fundamentally political in its insistence of actors implied in designing the context for all.

From a different angle, Victor Papanek was convinced that the “ultimate job of design is to transform man’s environment and tools, and by extension, man himself.” However, only in recent times, “science, technology, and mass production have made this

5 Unlearning Design: Methods, Tools, Workshops

more nearly possible.” (Papanek, 1985, p.28). In the meantime, this has come true in a detrimental way he did not predict.

Papanek, who excelled as an educator more so than as designer, dedicated his seminal work *Design for the Real World* to his students “for what they have taught me”. He took care in reflecting his didactic tools dismissing traditional design courses, most of which he considered outdated and wrong in their limited scope of aesthetic-economic purpose (1974, p.100). Against this, he posited an ecological understanding of education in that “ education is a process in which the environment changes the learner, and the learner the environment. ” (1985, p.287). His teaching consisted of conveying students how to use tools transforming the environment in a socially and ecologically sustainable, integrated way, bringing about an alternative to the specialisation aimed for in traditional design education. Instead, Papanek conceived the designer as a generalist, mediator or enabler – a trope that he continually refers to –, positioning her as a node in a network. Papanek propagated an “ integrated design (a general unified design system)” demanding designers to “ establish at what level of complexity the problem belongs” (1985, p.295). This approach had to consider the historical, social, cultural, and ecological context of design and education. Papaneks rhetoric still appeals today, as much as it is time-bound and related to the systems debate in the early 1970ies.

Papaneks critical stance towards education inscribes itself in a tradition of counter-school movements, or anti-academism, leading from Bauhaus and Blackmountain College to radical and short-lived, but influential alternatives like Global Tools, a designers’ and architects’ network of independent, radical design laboratories situated around Florence. They tried to liberate the design process from the constraints of industrial design, efficiency and specialisation conceiving it as a culture-creating moment for everybody. A means to an end were primary tools and recourse to natural material and long-forgotten pedagogical principles, aimed at restoring manual activities traditionally associated with craftsmanship and lost in the division of labour, as noted in their Bulletin No. 1 Global Tools 1974[6].

The critical legacy of the 1970ies sparked the debate on design criticality from the 2000ies onwards. It opened up a way to speculate anew on the relation between design, environment and taking care of the future. Educating plays a crucial role in this critically updated version of Speculative Design. Criticality, therefore, is the driving force of design that has to reinvent itself in the face of crisis.«Design that isn’t critical and doesn’t speculate about the

[6] “The terminology, assumptions, methods and structures of the school are curiously simple: as if formulated by those who intend to bridge the alienating gap that has formed between the works of the hand and that of the brain.” cf. Borgonuovo & Franceschini, 2015, p.9.

futures we want to build for ourselves and future generations is not design at all.» (Laranjo, 2020).

6 Conclusion

In an attempt to centre design education on sustainable grounds, literally and figuratively, the Commons can serve as one of many more possible examples grounded in the environmental history of design. The concept connects actors in complex societal contexts that influence the environment through their behaviour. Analysing its embeddedness in historically changing societal and economic systems leads students to investigate design methods critically. Care of the Commons claims more than coming up with a onetime solution adapted in exchange with stakeholders and designed by experts in charge of defining the process, as Human Centred Methods aptly do. Instead, any design process should begin with consensually developing and sustaining rules of longterm use adaptive to the environment. It entails a much more political approach to design and its potential effects on the environment.

Taking care for environments requires even more, as Burckhardt's Strollology unveils. The environmental crisis is not only human-made; it is also conceptualised and categorised by humans. As long as we integrate it into an aesthetic continuum of unquestioned perception, we feel no pressure to act against it. The comprehensive climate crisis, through which we anticipate the end of life on Earth as a realistic scenario, breaks this aesthetic continuum, however. It denies us a point outside the system from which we could view the morbid spectacle from a distance, disinterestedly. Papaneks insistence on the designer as generalist, alternative design approaches' faith in re-positioning the body, renouncing the use of prostheses of technosphere to designing, are all historically contingent. Still, they resonate in reconsidering how enabling it is to reflect on tools and methods in search of sustainable grounds.

As empowering as insights from the past may be for today's students inciting them to take over responsibility for their education and opening their minds to ecological concerns, they also need to be analysed in terms of how they depend on former debates. Retooling the disciplines of design "has therefore always to ask whether it is about better understanding the past or building up a new future." (Colomina, 2015, p.6). Epistemic curiosity opens both ways.

References

- Borgonuovo, V. & Franceschini S. (2015). When Education coincides with Life. The Foundation. In *Global Tools 1973-1975*. Borgonuovo, V. & Franceschini, S. (Eds.), (pp.12-34). Istanbul: Salt.
- Buchanan, R. (2019). Systems Thinking and Design Thinking: The Search for Principles in the World We Are Making. In *she ji The Journal of Design, Economics, and Innovation* 5(2): 58-104.
- Burckhardt, L. (2012a). Aesthetics and Ecology [1990]. In Fezer, J. & Schmitz, M. (Eds.), *Lucius Burckhardt Writings. Rethinking Man-made Environments* (pp.212- 225). Vienna: Springer-Verlag.
- Burckhardt, L. (2012b). Strollological Observations on Perception of the Environment and the Tasks Facing Our Generation [1996]. In Fezer, J. & Schmitz, M. (Eds.), *Lucius Burckhardt Writings. Rethinking Man-made Environments* (pp.239 – 248). Vienna: Springer-Verlag.
- Burckhardt, L. (2015). *Why is Landscape Beautiful?: The Science of Strollology*. Ritter, M. & Schmitz, M. (Eds.). Basel: Birkhäuser.
- Carson, R. (2002). *Silent Spring* [1962]. Boston: Houghton Mifflin Company.
- Cox, Susan J.B. (2002). No Tragedy on the Commons. In *Environmental Ethics. An interdisciplinary journal*, 7(1): 49-61.
- Colomina, B. (2015). Learning from Global Tools (Foreword). In *Global Tools 1973-1975*. Borgonuovo, V. & Franceschini S. (Eds.), (pp. 6-9). Istanbul: Salt.
- Fallan, K. (2019). *The culture of nature in the history of design*. London / New York: Routledge Taylor and Francis Group.
- Fallan, K. & Jørgensen, F. A. (2017). Environmental Histories of Design: Towards a New Research Agenda. In *Journal of Design History*, 30(2): 103-121.
- Fuller, R. Buckminster (1969). *Operating Manual for Spaceship Earth*. Carbondale, IL: Southern Illinois University Press.
- Fry, T. (2015). Whither Design / Wether History. In *Design and the Question of History*. Fry, T. Dilnot, C. & Stewart, S. C. (Eds.), (pp. 3-130). London: Bloomsbury .
- Hardin, G. (1968). The Tragedy of the Commons. In *Science*, 162(3859):1243-1248.
- Haug, W. F. (1971). *Kritik der Warenästhetik*. Frankfurt a.M.: Suhrkamp.
- Laranjo, F. (2020). We don't need Speculative Design education, just better design education. Retrieved November 16, 2020, from <https://speculativeedu.eu/interview-francisco-laranjo/>
- Linebaugh, P. (2008). *The Magna Carta Manifesto: Liberties and Commons for All*. Oakland, CA: University of California Press.
- Locher, F. (2016). The environmental commons: communities, practices and institutions (CFP). Retrieved November 10, 2020, from <https://networks.h-net.org/node/14491/discussions/117326/cfp-environmental-commons-communities-practices-and-institutions>
- Madge, P. (1993). Design, Ecology, Technology: A Historiographical Review. In *Journal of Design History*, 6(3): 149-166.
- Madge, P. (1997). Ecological Design: A New Critique. In *Design Issues*, 13(2): 44-54.
- Mazé, R. (2013). Who is sustainable? Querying the politics of sustainable design practices. In *Share This Book: Critical perspectives and dialogues about design sustainability*. Mazé, R; Olausson, L.; Plöjel, M.; Redström, J. & Zetterlund, C. (Eds.), (pp.83-122). Stockholm: Axl Books.
- Morris, W. (1890). *News from Nowhere*. Williams, R. (Introduction). Facsimile, ed. 2017. Farnborough: Thames & Hudson Ltd.
- Niederer, A. (1956). *Gemeinwerk im Wallis. Bäuerliche Gemeinschaftsarbeit in Vergangenheit und Gegenwart*. Basel: G. Krebs.
- Oakes, J. (2016). Garrett Hardin's Tragic Sense of Life. In *Endeavour*, 40(4): 238-247.
- O'Riordan, T. (1976). *Environmentalism*. London: Pion.
- Ostrom, E. (1990). *Governing the Commons. The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- Papanek, V. (1974). *Design for the Real World: Human Ecology and Social Change*. St Albans: Paladin.
- Papanek, V. (1985). *Design for the Real World : Human Ecology and Social Change*, 2nd edition completely revised. London: Thames & Hudson.
- Patt, A. (2017). Beyond the tragedy of the Commons: Reframing effective climate change governance. In *Energy Research & Social Science*, 34(2017): 1-3.
- Radkau, Jo. (2011). *Die Ära der Ökologie. Eine Weltgeschichte*. C. H. Beck, München.
- SDG (2015). *The 2030 Agenda for Sustainable Development*. Retrieved September 25, 2020, from <https://sdgs.un.org/>
- Sennett, R. (1994). *Flesh and stone: the body and the city in western civilization*. London: Faber & Faber.
- Sörlin, S. (2014). Environmental Turn in the Human Sciences : Will It Become Decisive Enough? Institute for Advanced Study, Princeton, NJ. Retrieved November 10, 2020, from <https://www.ias.edu/ideas/2014/sorlin-environment>
- Sörlin, S., Lane, M. (2018). Historicizing climate change—engaging new approaches to climate and history. In *Climatic Change* 151(1): 1–13.
- Spaces of Commoning (2016). *Spaces of Commoning: Artistic Research and the Utopia of the Everyday*. Baldauf, A., Gruber, S., Hille, M. et al. (Eds.). Vienna: Akademie der bildenden Künste Wien, Sternberg Press.
- WCED (1987), *Our common future*. World Commission on Environment and Development (Ed.). Oxford / New York: Oxford University Press.
- Weart, S. (2008). *The Discovery of Global Warming. Revised and Expanded Edition*. Cambridge: Harvard University Press.
- Willis, A.J. (1997). The Ecosystem: An Evolving Concept Viewed Historically. In *Functional Ecology*, 11(2): 268–271.

Acknowledgements

Thanks to the students of IAeP, Seminar 8: *Design und Ökologie. Geschichte einer eng verstrickten Beziehung*, Winter 2020, with whom I could discuss some examples and ideas of critical design history.

The Turn of Design Towards Common Good

Keywords: Design as Common Good,
Design for Common Good,
Civic Consciousness, Common Interests,
Rekindle Humanness.

Raffaella Fagnoni^{a*}

^aUniversità IUAV di Venezia
^{*}raffaella.fagnoni@iuav.it

As Mulgan claims (2020) we are experiencing an unprecedented crisis of imagination. We are able to conceive apocalyptic scenarios or great technological developments, but we are unable to develop a better society. What can design do for this? As designers, we should promote ideas to tidy up the world we live in, cultivate and teach the fundamentals of civic awareness. The text introduces a critical thinking on these issues and then analyses some research projects and practices concerning commons. Final thoughts are developed, rough syntheses to explore what are the purposes, tools, results of design as common good: design of systems to enable changes; purposeful attitude on critical issues; bottom-up generative practices. A mapping proposes the concepts obtained by relating experiences. Design as a common good means taking the community into account. It should be an enzyme healing our way of living, educating, practicing.

1 Introduction

When Robespierre declared that “everything which is necessary to maintain life must be common good and only the surplus can be recognized as private property,” he was not only reversing premodern political theory [...] he was, finally, subjecting revolutionary government to “the most sacred of all laws, the welfare of the people, the most irrefragable of all titles, necessity.” Hannah Arendt (Staszowski&Tassinari, 2020, p.76).

If our world is not yet ready to talk about design as a common good, we can use design to act for common good and speculate through design. The commons’ notion origins probably in the medieval peasant practices, and today, by commons, we can mean “social system formed by three basic interconnected elements: a commonwealth; a community of commoners; the praxis of communing (De Angelis, 2019, p.124). Everything, in our world, could be held in common, but we live with the background of individuality, the borders, isolated from others. Marketing heartens this solipsistic selfishness, playing on the ego and the desire for status, which contrasts with the idea of sharing. Design cannot continue to repropose the destructive patterns of behaviour imposed by the anthropocentric model. Only retrieving the imagination - “the faculty of making present what is absent, the faculty of re-presentation” (Arendt, 1970/2020, p.156) - and civic awareness we will succeed at developing better living. “We must find a way to preserve and repair, in Wendell Berry’s words, ‘the world that we have set on fire.’” (Auger et al, 2020, p.86).

This is the starting point that should bring Design discipline towards a Semantic Turn (Krippendorff, 2005) for design that is both practical and philosophical. Design is a political agent, it is not a neutral and democratic one (Monteiro, 2019; Escobar, 2018; Manzini, 2015; Winner, 1979; Papanek, 1971). It may have the capability to challenge our economical, ecological, political crises and the responsibility for the creation of more sustainable futures. “Being designer is being a gatekeeper, the humankind’s last line defence against monsters”. (Monteiro, 2019, p.11) This responsibility is connected to the intention and action itself of transformation that distinguishes design (Buchanan, 1985; Krippendorff, 2005).

The intention of transforming the current scenarios and of projecting the futures involves decision making. But who has the power to make decisions and to define the ways of living in which we are or will be in the future? If we want to pursue what Escobar calls ‘futures that have a future’ (2018) we need more civic consciousness. Can we use design as an enzyme transforming living, education, civic consciousness, while focusing on common interests? Civic consciousness should drive innovation and social policies. It is the key to identifying people’s real needs. Civic sense is closely related to the common good, and, furthermore, it could be itself a common good, considered as willingness to work for the

regeneration of the physical and social quality of the reality in which we live. Its existence implies the presence in society of a widespread and shared confidence. Trust that if I behave in a correct way the same will be done by others. (Manzini, 2019).

Thinking about the commons introduces new rules for relations between people and needs, and thus concerns fundamental aspects of design: it brings into this relationship a different connection with the goods that can satisfy them. The commons bring forward the notion of access. It overcomes the historical opposition between public and private that characterised modernity, the industrial revolution and its market laws. Access, in fact, allows the interest in the use of the good to be satisfied regardless of its exclusive ownership. Thus, if what counts is used and not possessed, the relationship it establishes with the individual matters much more than the good itself. (Carullo, 2014) Designers committed to this mode of working, participate in a larger ecosystem where they are constantly negotiating with other problem sharers. This approach allows us to critically situate “the role of the designing commoner – one who works within the problem, as a participant within a broader ecosystem that includes nonhuman entities”. (Onafuwa, 2020, p.76-77).

Many authors have been involved in these thoughts, claiming by a paradigm shift that displaces traditional product-oriented design processes towards designing solutions to complex and often intractable social, environmental, and even political problems (Buchanan, 1992; Cross, 2011; Maldonado, 1970; Manzini, 2016); someone seeing design process as a mean for social sustainability (Fuad-Luke, 2009) or as a deed for resilient small, local, open and connected system (the SLOC of Manzini) or even, a device offering new perspectives on migration (Moretti, 2019). As Maffei recently claims, the focus of design shifts away from objects, from the solving of problems. We must redefine the design role withing the challenges threatening the planet. We must reconsider the idea of humanism and our role as constructors of the world’s destiny. A world with limited resources and a biodiversity crisis that must necessarily imagine a circular future and a multispecies vision. (2020, p.47) This is the meaning of design as common good. A task that could oppose the “inner emigration” of Hannah Arendt, the loss of humanness as a rejection of reality (1968). “Design seems to become a lubricant for any social process imaginable” (Gerritzen&Lovink, 2019, p.14) but also the outcome of a process of collective intelligence (Di Lucchio&Imbesi, 2017) combining the designers’ personal intelligence with the collective knowledge and needs of the society.

2 Designing the Commons

Design is a multifaceted concept. Design is everything that implies a planning and evolves scientifically through phases of research, conception, prototyping up to production and monitoring of results. It uses an approach made up of processes and tools to develop tangible or intangible results. Consider design as common good introduces the issue of access that overcomes the public/private dichotomy. It concerns social issues and social innovation. It concerns with the openness of design itself. It means to activate new processes for the common interest. It concerns with the use of educational activities and research experiences to act and experiment with these matters. We should teach that civic engagement as a designer is necessary: designers must be good citizens and nurture civic sense.

In order to illustrate this thesis, the present work started with an examination of the basic concepts, delving into their meanings. Words, charged with meaning and therefore with power, offer a different and higher potential than the simple one of communicating, transmitting messages, telling stories. As Carofiglio says “words have the power to translate transformations that can be the tool to change the world” (2010). Understanding how words are used over time is therefore of great importance: the meaning of a word is obtained by studying the history of its use. A word means what its use has historically made it mean. (Koenig, 1970, p.63)

Some of the experiences conducted or participated in by the author were then examined to consider their purposes, methods, tools and results. Six has been selected as summarized below: two student projects, two workshops, and two research projects commissioned and funded by public institutions.

The 6 projects were chosen following these criteria:

- have been developed recently (2018 to date);
- link design to social issues;
- focus on shaping processes rather than products;
- have an ethical purpose;
- are practices for spreading consciousness and civic collaboration;
- try to offer a contribution through design to the challenges threatening the planet.

The next phase carried out a mapping work, extracting concepts and relating them. Tables and diagrams provide a summary of this work.

3 Six Design Projects

The design comes into play as an enabling factor: designers act as figures involved in integrated processes, facilitators of processes (Manzini, 2015), subjects engaged in directing approaches and tools to reconnect resources and needs. These six stories, reviewed in the following paragraphs, tell the design's ongoing change of perspective diffused in recent years. The educational activities and academic research or projects very often are focusing on social and commons matters, the students feel a strong appeal towards the challenges for the future as SDG. Designers play an active role in defining the design problem, differently by the old usual design practice where designers answer to a client's brief. (Simon, 1969).

The table below maps and describe nature, design problem and approach of the selected projects.

Title	Nature	Design Problem	Approach/methods
Frame© and Fabric{action}	Student thesis	Designing events/actions to put back in circulation abandoned places.	co-design emphatic involvement opensource
There is no plan Bee	Student thesis	What design can do for bee? Designing self-producing modules for city farming, regenerate soils, safeguard bees.	vision/scenario multidisciplinary survey prototyping
Sos _XYZ2019	Workshop (private financing)	Designing methodological tools, processes, products and services to reactivation of cultural centres.	co-design making/hacking prototyping XYZ method
Re-Designing Services. Social Hub	Workshop (private financing)	Designing tools for a codesign activities for redesigning three no-profit social services	co-design service design design thinking
Surpluse©	Applied research (public/private financing)	Designing the reuse and repair centres, a pilot project for changing people's perception of waste.	action-research prototyping
Cambiovia	Interreg EU research (public funding)	Taking care of inland territories. Designing products chains, labels, services, narratives for local communities.	ethnographic research action-research prototyping service design co-design systemic design

Table 1: *The six design projects.*

3.1 Frame©[1] and Fabric{action}[2]

Frame© is not only a pair of glasses. Thanks to digital production, it connects personal identification with the product, which can be shaped and customized according to the user's desire and taste. It has been used also as data-tool during the event Fabric{Action}, organized by three master degree graduates (February 24th, 2018) in an abandoned historic villa of the disadvantaged neighbourhood of Sampierdarena, Genoa. The project aimed to stimulate the better reuse of the place and to activate citizens in the process. During the event, special "fassamano" modular frames printed in PLA were distributed to the public. Each person could freely choose two formal elements with which to compose their glasses and could then be portrayed with the same pair of glasses on their eyes. A filter for seeing appropriately designed posters, but also a way of expressing one's opinion; in fact, each shape had been associated with a specific objective linked to the future of the neighbourhood. Through this atypical and fun method, design has managed to connect citizens to the territory, collecting data in a simple and engaging way, allowing everyone to feel personally part of the neighbourhood and involved in its future evolution. The portraits of the citizens testify the final use desired by people: the hope for the reuse of the villa as a cultural centre.



Fig. 1: Frame© during Fabric{Action}
(Ph. R. Fagnoni).

Frame© has been also spread through the web, permitting all the user to compose and receive at home their bespoke pair of glasses. A virtual interface permits to calculate all the parameter needed to adapt and customise the glasses to each user.

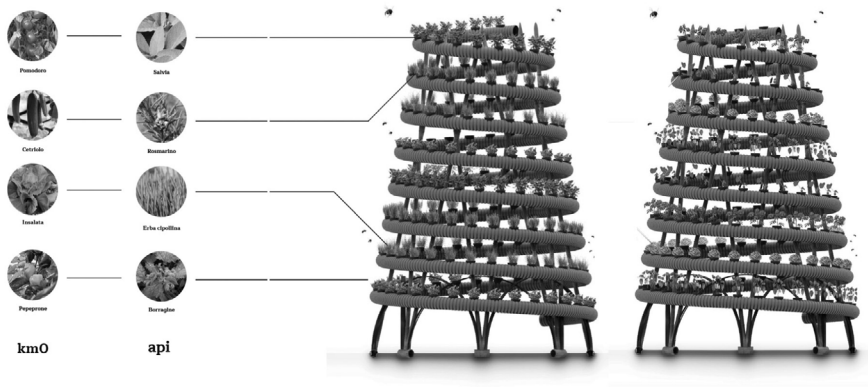
[1] Annapaola Vacanti master's degree thesis, Product and Event Design course, University of Genova, 2018 (<https://www.frameopensource.org/>) tutor: R. Fagnoni.

[2] Sara Guagliardi, Alizè Tincani master's degree thesis, Product and Event Design course, University of Genova, 2018. (<https://www.infogenova.info/eventi-a-genova/412-fabric-action-sguardi-e-visioni-su-sampierdarena>) tutor: R. Fagnoni.

3.2 There is no Plan Bee^[3]

Three-fourths of the world's flowering plants and about 35% of food crops depend on pollinators to reproduce: more than 3,500 species of native bees help humanity to increase farming yields. However, due to climate change and pesticides, possible extinction scenarios for these insects have been reported. How can design address this problem? What can design do for bees? The project stems from conversations with students, encouraging them to act as conscious citizens proposing an ecological turn. The environmental decline is the outcome of the anthropocentric vision that has so far steered the choices with disastrous influences on the planet. The consequences of these choices also fall on bees, which risk endangering the entire food system.

Fig. 2: *There is no plan bee.* (G. Foppiani).



The project focuses on the possibility to reuse abandoned places applying sustainable solutions through simple elements which allow the adaptation of the space to be used as a place for agriculture and food production. The project designs easily self-producing modules for vertical farming with hydroponics and a series of plantings and cultivations on the ground, to regenerate the soil and attract bees. At the same time, it gives citizens the chance to activate bottom-up design practices enabling a kind of circular city, thus contributing to social innovation. The system designed for cultivating can be easily self-produced, made by low-cost or waste materials, combining simple joints and easy to find materials. The design role concerns about how to scale-up solutions in everyday life: services, social innovations or product-service systems that bring about social change.

[3] Giovanni Foppiani's graduation thesis, at ISIA, Florence, 2020, tutors: R. Fagnoni, S. Pater-nich. (<https://www.isiadesign.fi.it/index.php>).

3.3 La Scuola Open Source (SOS)[4] and XYZ2019

SOS is a private association, which has recently become a worker cooperative. A community of digital craftsmen, makers, artists, designers, programmers, pirates, dreamers and innovators, a solidarity ecosystem for social, cultural and technological research and imagination. A rich portfolio of educational activities combines who needs to learn something and who offers teaching[5]. Their XYZ original format reached now several editions. It concerns a methodological tool for knowledge sharing, an immersive, cooperative, multidisciplinary research and co-design lab. The focus is on crossing common problems to find connective solutions, inspired by the hacker learning process and principles.

The XYZ2019 edition involved almost 100 people, working together with the inhabitants in the former convent, a disused complex in Cerreto Sannita. A couple of local citizens, with their association Convento Meridiano, obtained the thirty-year concession for reusing the spaces, and funded the project winning the fifth edition of the Culturability call. The goals were ambitious: to co-design the communication strategy and the visual identity system (X), to reorganize spaces and work on IoT grafts (Y), to develop a governance model, design services, and deepen the economic sustainability (Z) of Convento Meridiano: kindergarten, cinema, laboratory and space of possibilities; an epicentre of social and cultural transformations.



Fig. 3: Life and work at XYZ2019, Cerreto Sannita (Ph: R. Fagnoni).

[4] Their manifesto is available here: <https://www.lascuolaopensource.xyz/en> The author knew them in 2015, while they were growing their program by working several handed, in a closed Facebook group. Their first business plan has resulted in the actual SOS configuration. The author* participate in some activities, and as tutor in the group (Z) at XYZ2019.

[5] Following six thematic areas: teaching, research, care, hackerspace, communication, sustainability. <https://www.lascuolaopensource.xyz/en/teachings>

The participants, selected by their design's aptitude rather than expertise's, created a very heterogeneous team: students, philosophers, pedagogues, engineers, designers, economists, makers/hackers. Sketches below try to describe and model this experience, offering methodological thinking on the heuristic, experimental, intuitive, analogic practices and tools used during XYZ2019. The design process (Progettare nel Caos) follows a step-by-step course, during which XYZ groups and subgroups act and proceed with multifarious interactions and connections. It is not an uncontrolled disorder but a generative context. It appears as a kind of harmonious anarchy in which the individual subjects, following a stream of effectiveness, organize themselves by units and positions during the work evolution. All the produced outputs are downloadable on the SOS webpages[6].

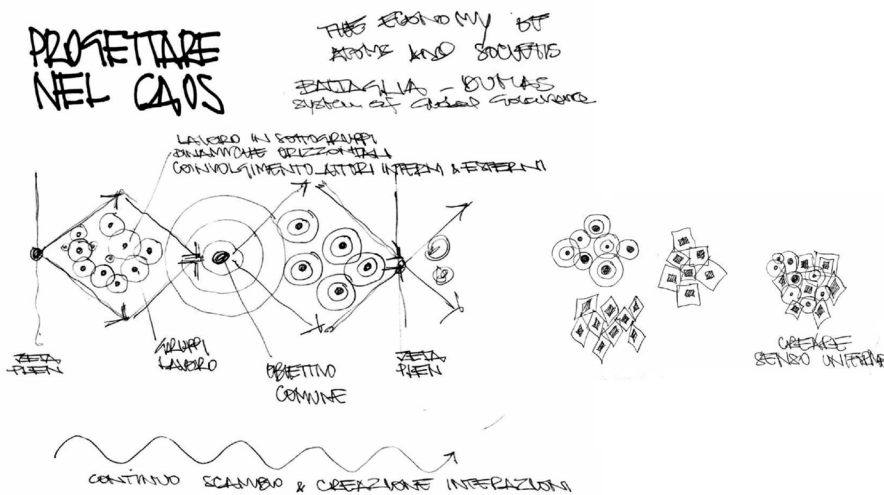


Fig. 4: Processes and flows. An articulated relationships system assumes a chaotic behaviour when it does not follow strictly linear laws of evolution and development. Participants behaviours, after a certain time lapse, are atypical and almost unpredictable. Flows seem to lack a correlation between the subsequent steps; however, they are never random forms. [sketch: R. Fagnoni]

The XYZ2019 experience has results that are both tangible and intangible. The tangible ones can be directly verified by measuring the effectiveness of what has been produced: the artefacts and services remain as assets of the group that manages the Convento Meridiano who are using them. The intangible results emerged by the lived experience: the sense of empowerment of each member of the group; the immersivity in the local context; the higher performance in a mix of skills; the trust in people; the positive rebel attitude (as designers/makers/hackers). All the practices focus on human relations and obtain as an added result to the expected final outputs also the design of a community, moving between proximity and collision. On one hand, the state and the quality of being close, proximity, permits participants to share and integrate skills in the multidisciplinary group, with stakeholders and by living the place. On the other hand, the dynamic encounter between people

[6] <http://www.lascuolaopensource.xyz/blog/noi-siamo-gli-output>

and activities, that often collide, intensifies the energy. The affective and aesthetic components become a fundamental insight into an immersive designing mood.

3.4 Re-Designing Services. Social Hub^[7]

In today's society overwhelmed by an overdose of products with planned obsolescence, we are witnessing the dematerialisation of objects and the enhancement of services.

The workshop 'Re-designing services. Design tools for social activities (2019) took place at Social hub, a local social enterprise incubator. The aim of the project was to disseminate the principles and approaches of service design to all those social organisations that wanted to enhance and shape their activities. The basic principle is that of the short-circuit of knowledge, which is vital in co-creation processes. A collaborative design event that brings together people interested in innovative, design-based approaches to creativity and problem-solving.



Fig. 5: *Re-designing Services. Workshop at SocialHub, Genoa (Ph. G. Tagliasco).*

The workshop was an opportunity to experiment with new tools developed by the organising team. Journey maps, system maps, stakeholder maps, service blueprints, are difficult to understand during co-design processes, often perceived as separate and unstructured elements rather than components and insights of what strongly links them: time declined through experience. The challenge was to make the tools used in service design more inclusive, designing an ad hoc kit with a tool-guide, a tool-trip and tokens useful to customise. A visualisation system was created as a customised tool for co-design processes related to the creation of new social services. The proposed toolkit follows the narrative-temporal line of the user's process, and it also highlights the

[7] Activities developed by R. Fagnoni, C. Olivastrì and G. Tagliasco, Department of architecture and Design, Genoa University, in partnership with Social Hub. Agreement entrusted in 2018.

flows, the exchanges and skills to be activated at each step of the experience. The tool also makes it possible to follow and keep track of all the phases of the creation of the service-project, as well as the continuous variation of the subjects that revolve around it. Starting from local needs, this approach aims to imagine new opportunities towards a systemic vision. The workshop led to the start-up of redesigning the process for three different services: an assistance and literacy service on the use of software and web tools (web angels); a service for the management of a common space in a disadvantaged district; a service to offer free environmental tourist facilities on the use of a beach.

3.5 SURPLUSE©^[8] - Reuse and Repair Centers

Born within the FORCE European Horizon 2020 programme (Cities cooperating FOR Circular Economy, 2016-21) the project aims to test a model for spreading virtuous behaviour: raising people's awareness about the importance of reuse, of the life cycle of products and disseminating a new product aesthetic. "Surpluse©" focuses on social innovation and the circular economy, chasing the objective of minimising the waste of resources, by testing the possibilities offered by re-use centres.

The first phase studied and developed a format to relaunch a widespread culture of reuse and repair, at a territorial level, as an alternative to the system of ecological islands: the "Surpluse©" centers, where harvesting, upcycle and sale activities are carried out. Three different types of centers (Small, Medium, Large) have been designed, with adequate facilities to better manage the reuse of objects brought by citizens and different activities.

The second phase developed the dedicated brand, "Surpluse©", through a collaborative design workshop. This focused on one of the most important challenges: changing people's perception of waste. The "Surpluse©" centers are not places where people throw away objects that they want to dispose (ecological islands) but places where objects can find a new life, by leveraging on the beauty and aesthetics of the imperfect, balancing wear and tear with the patina of tradition and authenticity preserved in second-hand items. The "Surpluse©" brand bases on these values: its neologism recalls both excess, deficit, added value, but also use, wear and tear; it testifies the possibility of a second life rising from the narratives that animate the stories of inanimate objects.

The third phase designed a modular furniture element for the set-up, following principals of circular economy and sustainability both socially and economically. It measures 45 cm on each side, and can be used as a seat or shelf, or composed, placed side by side and

[8] Project developed by R. Fagnoni, C. Olivastri, X. Ferrari Tumay, commissioned by AMIU, Genoa municipality waste company. Agreement entrust to the Department Architecture and Design, University of Genoa, in December 2018.

rotated with respect to other modules, to become a display unit, a worktable, a dynamic shelving unit, assuming different configurations. The production was entrusted to a third sector association that deals with the pathways of social inclusion and work for adolescents. The materials come from the city's ecological islands: the wood originates mainly from cupboard or wardrobe doors, with different wood finishes, traces of time and wear that make them unique pieces.



Fig. 6: Surpluse©. (Ph. C. Olivastri).

Due to the pandemic, the first center opened on 7 October 2020. A new culture of reuse and awareness of the issue emerges through the care of the image. The aim of seducing and educating society towards new aesthetic canons and new forms of beauty can be achieved by the values linked to the stuffs' second life. The reuse centers are part of a network, and this reinforces the concept of an attentive and active community. "Surpluse©" is a pilot project: strengths and weaknesses will be better assessed next. We highlight:

- Aesthetics of the product. It hasn't pure canon but social purposes, carries imperfection but testifies to the values of inclusion.
- Waste reduction. "Surpluse©" centers offer training opportunities, courses and workshops that can provide an engagement for unemployed people.
- Education. Citizens are more interested in the object to be recovered than in the process. Through the aesthetics of the reuse and the activities that take place there, citizens are made aware of the issue of the supply chain.

The Interreg project CamBioVIA (CAMmini and BIOdiversity: Enhancing Routes and Accessibility for Transhumance) aims at taking care of inland territories, small villages and protected parks, threatened by processes of abandonment, environmental problems and depopulation, lacking in services but rich in cultural heritage and traditions. The survey's phase focuses on the stories of small farmers who work in these territories and to practice the age-old tradition of transhumance and generate biodiversity by producing high quality food with a very strong territorial link.

Using the approach of action-research, the phases alternate investigations and analysis with heuristic experimentation. Design intervenes together with other disciplines (economics, agriculture, zootechnics) to offer enhancing opportunities through the reconstruction of narratives (ethnographic research), to give voice to a heritage of isolated stories and to recompose them in design scenarios. The purpose is to promote pride and awareness for the citizens of these territories, to activate network by designing the value chain that these processes feed, and to encourage the spread of a sensitivity that recognizes these cultural and environmental heritages. Moreover, to support territorial and employment growth starting from the development of local supply chains, improving their protection and shortening the distances (physical and cultural) of the territories involved: these areas are populated by farms, cheese factories, farmsteads, mountain pastures, in an unfavourable environment due to harsh geomorphological characteristics. Unfriendly areas where today people and animals, perhaps thanks to the isolation imposed by the mountainous terrain, have maintained a strong link with nature. The local communities contributed to the maintenance of the territory, their ecosystem and the cyclical and continuous production of biodiversity and high environmental quality. Loneliness (not only physical) appears as one of the most hardships, attributed to a social, economic and political context that pays little attention to the needs of these areas. This inevitably induces depopulation and abandonment. Other inconveniences are the lack of services and equipment, the poor profitability of artisanal management of the agri-food chain, and particular problems of individual companies, producers, farmers, breeders.

[9] Thought in 2018 with Daniela Minetti, Regione Liguria (project leader) for the Interreg Italy-France Maritime Programme 2014-2020, co-financed by the European Regional Development Fund (ERDF). The project aims to maintain, protect and enhance the natural heritage of the cooperation area, with particular care to the territories of transhumance. Project team: R. Fagnoni, I. Zignego, C. Olivastri, C. Morozzo, G. Zappia, A. Ronco Milancaccio, X. Ferrari Tumay. Assignment entrusted to the Department Architecture and Design, University of Genova, 2019.



Fig. 7: The framework of the CambioVIA project. (Ph. R. Fagnoni).

These issues are addressed with the systemic design approach, which aims to connect heritages to create a narrative that can spread awareness and self-respect, key elements to change people's behaviours and flourish good practices.

The CamBioVIA research will end in 2022. The expected results mainly concern: material results, such as data harvest, participation processes, narratives, communication artifacts, events. Immaterial results: growing the pride to be gatekeeper communities, services, network, better governance as some for the immaterial ones.

4 Conclusions

This paper started with a synthetic literature review, developed some critical thoughts and then went on to use six projects to highlight the main founding traits of the concept of design as a common good. Some synthetic tables have been developed and this investigation has made it possible to draw the concepts useful for mapping the main convergences of design as a common good, through a series of descriptors:

- Design problem > sense (what does distinguish it?).
- Goals > capabilities (what does it address?).
- Approaches > methods/processes (how does it advance?).
- Governance > subjects/stakeholders (who and how does manage it?).
- Challenges > ecosystem/scenario (what does it relate the design and commons?).

Title	Outcomes	Challenges	SDG 2030 (Sustainable Development Goals)	Designing commons
Frame© and Fabric{action} Student thesis	data visualization artifacts and tools prototypes narratives about places	social inclusion reuse of abandoned places urban regeneration	Goal 11. Sustainable cities and Communities	common interests common places
There is no plan Bee Student thesis	product study model city farming scenario set-up for hydroponic cultivation	extinction scenarios self-produced food climate change urban regeneration reuse of abandoned places	Goal 3. Good health and well-being Goal 12. Sustainable consumption and production patterns	common interests common places
Sos_ XYZ2019 Workshop	making /hacking of products and services bespoke design training model methods and tools narratives about reusing abandoned places	reuse of abandoned places opensource creative communities social Innovation cultural epicentres	Goal 11. Sustainable cities and Communities	common interests common process common services common practices
Re-Designing Services. Social Hub Workshop	spreading codesign and service design training model methods and tools service design kit	access to services social inclusion social innovation	Goal 11. Sustainable cities and Communities	common process common services
Surpluse© Applied research	pilot project, first repair and reuse centre making /hacking of products and services	circular economy waste reducing responsible consumption	Goal 11. Sustainable cities and Communities Goal 12. Sustainable consumption and production patterns	common services common good
CambioVia Interreg EU research	product redesign and rebranding packaging/augmented label redesign of the local food chains narratives about slow and local living	reduced inequality community welfare enhancing local economies agri-food and craft chains	Goal 11. Sustainable cities and Communities Goal 12. Sustainable consumption and production patterns	common system common sense common good

Table 2: *The six design experiences: outcomes, challenges and designing related to commons.*

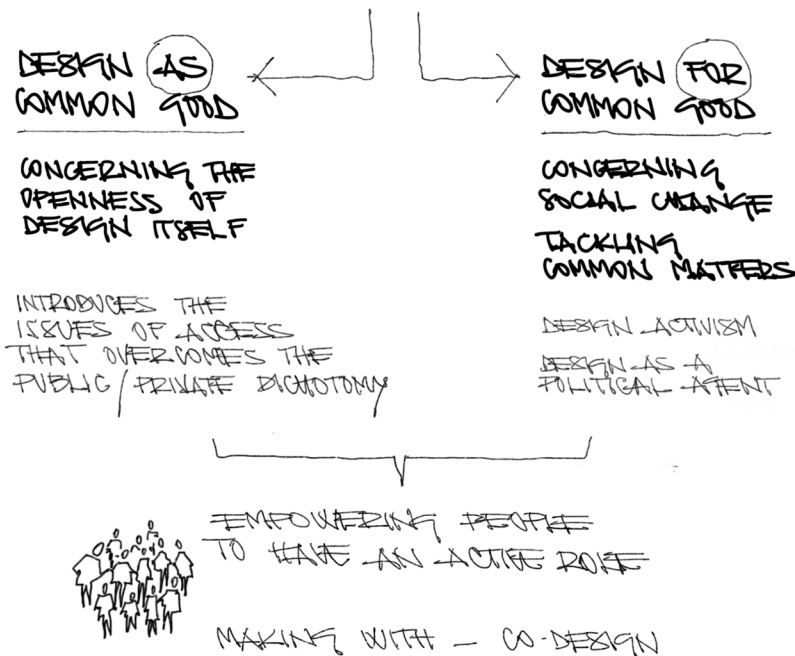
Some of the projects deal with design *for* common goods: Frame© and Fabric{action}, There is no plan bee, Surpluse©©, CambioVia. They concerning social issues and design as a political agent, a systemic design tackling common matters (such as sustainability, abandoned places, waste, healthy food, inland territories). Sos_XYZ2019 and Social Hub, on the other hand, face design *as* common good, highlight the social, community and virtuous

purpose of the project. Design activates new processes for common benefit.

The commons have a good impact on education: students are sensitive and respond enthusiastically to projects on these issues, they are aware and proactive. As a matter of facts, courses and research dealing with these topics are increasing. The hope is that such initiatives can find further development in a widespread mobilization. The cultural and environmental actions here proposed as symbolic gestures claim for public aids, proportional to the dramatic social crisis we are going through. In conclusion, the figure below summarizes the concepts of design *as* and *for* common good.

EVERYTHING WHICH IS NECESSARY TO MAINTAIN LIFE MUST BE COMMON GOOD ONLY THE SURPLUS CAN BE RECOGNIZED AS PRIVATE -- (H. ARENDT)

Fig. 8: Design as/for common good (R. Fagnoni).



Design as common good frames the concept of the designing commoner as the one who works within the problem. Through things, artefacts, services and so on, design devises a form of togetherness (Avila, 2020) tends to maintain us in relationship with others. Up to date the ordinary norm has been based on humans (done by humans and for humans) that privileged minority on our planet. But today we are challenging a change, including in the design discourse all the humans, and other than humans.

The presented analysis strengthens the concept that design as a common good is a design that takes the community into account. Community is a word derived from the Latin "communitas" and traced back to the Greek "koinonìa". Embedded in the word "communitas" is the notion of "munus" linked to "cum". "Munus" means 'the necessary gift', due and recognised by the community, but also the task, the obligation and duty. However, "munus" is also the gift in a relational perspective of exchange, a tribute of affection and courtesy. "Munus" is taking seriously the tasks we have to perform, which are not in our interest, but in the interest of the community. "Cum-munus", then, is the "munus" that unites. It means that the sense of community does not lie so much in belonging to an identity, but rather in the reciprocity of the obligation to give. It indicates the relationship that is established between several subjects (humans and other than humans) through a spiritual bond that joins them, of ideas, of feelings, of affections. The feeling of being integrated into a community is the poetic part of human existence. Together with the aesthetic aspect, it is an integrated element of the poetic part of life. (Morin 2019, p.12). It contrast with the prosaic part, the one where we do things out of obligation, without pleasure, with a denotative attitude, objectifying things.

Design as a common good is aimed at the community, it is the feeling of a force that involves, the possibility of giving and giving oneself. It exploits aesthetics (above all of the processes) to make feel a sense of communion (cum-munus). On one hand, "cum-munus" as an obligation, or rather the duty to exploit the opportunity, offered by the crisis, to respond to the global change by performing the change in the project, rethinking it as a common good and not as self-referential action guided by private profit. On the other hand, "cum-munus" as a gift that the project offers to the community, working from within to change course towards more sustainable models.

These thoughts are still rough concepts and raise some open questions to discuss, about the economic management, specific methods to be adopted to design the common good, if and how the process changes, the client/resource funding relationship.

In a world that desperately needs to be redesigned (Maldonado, 1970), if we want to pursue what Escobar calls "futures that have a future" (2018) we need more civic awareness, calling us for to deal with contingent realities. The world has changed, and design cannot continue to produce the destructive patterns. The turn of design towards common good will have to provoke new modes of thought and action, open up public spaces of participation, make the shift up bio-local scenarios and economies. It is an urgent task for rekindling humanness on challenges threatening our life and our planet.

References

- Antonelli, P. Tanir, A. (2019). *Broken Nature*, XXII Triennale di Milano, Electa.
- Arendt, H. (1968). *Men in Dark Times*. NY: Harcourt Brace.
- Arendt, H. (1970/2020) Imagination. Republished in Staszowski, E. and Tassinari, V. *Designing in Dark Times*. London, NY: Bloomsbury Publishing (pp.156-163).
- Auger, J. et al (2020). Common World. In: Staszowski, E. and Tassinari, V. *Designing in Dark Times*. London, NY: Bloomsbury Publishing (pp.85-89).
- Avila, M. (2020) Togetherness. In: Staszowski, E. and Tassinari, V. *Designing in Dark Times*. London, NY: Bloomsbury Publishing (pp. 306-309).
- Buchanan, R. (1985). Declaration by Design: Rhetoric, Argument, and Demonstration in Design Practice. *Design Issues*, 2, 4-22. <https://doi.org/10.2307/1511524>
- Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues* 8 (2), 5-21. <https://doi.org/10.2307/1511637>
- Carofiglio, G. (2010). *La manomissione delle parole*. Milano:Bur.
- Carullo, R. (2014). Beni Comuni e Design: grammatiche delle moltitudini. *Commons and Design: grammars of the multitudes. diid disegno industriale industrial design* 57, 12-16.
- Casarotti, L. (2019). Cosa sono i beni comuni? In *Jacobin Italia*. <https://jacobinitalia.it/cosa-sono-i-beni-comuni/>
- Cross, N. (2011) *Design Thinking: Understanding How Designers Think and Work*. Oxford, UK: Berg.
- De Angelis, M. (2019). Commons. In A. Kothari et al. (Eds.) *Pluriverse: A Post-Development Dictionary*. New Delhi: Tulika Books (pp. 124-127).
- Di Lucchio, L. and Imbesi, L (Eds.). (2017). *Design as Collective Intelligence*. Champaign, IL: Common Ground Research Networks. <http://doi:10.18848/978-1-61229-809-2/CGP>.
- Escobar, A. (2018). *Design for the pluriverse. Radical Interdependence, Autonomy, and the Making of Worlds*. Durham and London: Duke University Press.
- Fagnoni, R. (2019). Actionscapes e actionsmood. Pratiche del design per l'educazione civica. In G. Sinni, (Eds.) *Design for Civic Consciousness*. Macerata:Quodlibet. (pp.212-219)
- Fagnoni, R., Pericu, S., Olivastri, C. (2017). Reagente. A label for social innovation. *The Design Journal*, 20:sup1, S3413-S3424. <http://dx.doi.org/10.1080/14606925.2017.1352845>
- Fagnoni, R. Olivastri, C. (2019). Hardesign vs Softdesign. *Agathón, International Journal of Architecture Art and Design*, 5/2019, 145-152. <https://doi.org/10.19229/2464-9309/5162019>
- Fuad-Luke, A. (2009). *Design Activism: Beautiful Strangeness for a Sustainable World*. Taylor&Francis Ltd.
- Gerritzen, M. & Lovink G. (2019). Made in China, Designed in California, Criticised in Europe. Amsterdam: Institute of Network Cultures.
- Hussain, W. (2018) The Common Good. *The Stanford Encyclopedia of Philosophy*. Edward N. Zalta (ed.). <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- Köenig, G.K. (1970). *Architettura e comunicazione*. Firenze: Libreria Editrice Fiorentina.
- Krippendorff, K. (2005). *The semantic turn: A new foundation for design* (1st ed.). CRC Press. <https://doi.org/10.4324/9780203299951>
- Maffei, S. (2020). Cosa è il design?/What is design? *Sistemico/Systemic. Domus 1051*, 46-47.
- Maldonado, T. (1970) *La Speranza progettuale*, Torino: Einaudi. English version: *Design Nature and Revolution: Toward a Critical Ecology*, (1972) NY:Harper&Row.
- Manzini, E. (2015). *Design, everybody designs*. Boston: MIT Press.
- Manzini, E. (2016). Design Culture and Dialogic Design. *Design Issues*, 32 (1), 52-59. http://doi:10.1162/DESI_a_00364
- Manzini, E. (2018). *Politiche del Quotidiano*. Roma: Edizioni di Comunità.
- Manzini, E. (2019). Senso civico come bene comune. Che cosa ci insegna l'innovazione sociale. In G. Sinni, (Eds.) *Design for Civic Consciousness*. Macerata:Quodlibet (pp.21-27).
- Margolin, V. & Margolin, S. (2002) A "Social Model" of Design: Issues of Practices and Research. *Design Issues* 18 (4), 24-30. <https://doi.org/10.1162/074793602320827406>
- Margolin, V. (2002) Design for a Sustainable World. In: *The Politics of Artificial: Essay on Design and Design Studies*, Chicago-London: University of Chicago Press.
- Monteiro, M. (2019). *Ruined By design, How designers Destroyed the World and What We Can Do to Fit IT*. Independently published.
- Moretti, M. (2019) *Socio- Social- Design*. Mantova: Corraini Edizioni
- Morin, E. (2019). *Sull'Estetica*. Milano: Raffaello Cortina. (Or. Ed. *Sur l'Esthétique*, Paris: Robert Laffont, 2016)
- Mulgan, G. (2019). *Social Innovation: how societies find the power to change*. Policy Press
- Mulgan, G. (2020). *The Imaginary Crisis (and how we might quicken social and public imagination)* UCL, Demos Helsinki and Untitled (<https://www.demoshelsinki.fi/wp-content/uploads/2020/04/the-imaginary-crisis-web.pdf>)
- Murray R., Caulier-Grice J., Mulgan G. (2010). *The Open Book of Social Innovation*. The Young Foundation, Nesta.
- Onafuwa, D. (2020). Common Good. In: Staszowski, E. and Tassinari, V. *Designing in Dark Times*. London, NY: Bloomsbury Publishing. (pp.76-80).
- Papanek, V. (1971). *Design for the Real World: Human Ecology and social Change*. NY: Phanteon.
- Raworth, K. (2017). *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*. UK: Penguin Random House.
- Rawsthorn, A. (2018). *Design as an attitude*. Zürich: JRP Ringier.
- Resnick, E. (2019). *The Social Design Reader*. London, NY: Bloomsbury Visual Arts
- Resnick, E. (2019). Developing Citizen Designers: our Civic Responsibility. In: G. Sinni (Ed.) *Designing Civic consciousness*. Macerata: Quodlibet. (pp.38-45)
- Rodotà, S. (2013). *Il terribile diritto. Studi sulla proprietà privata e sui beni comuni*, Bologna, IT: Il Mulino. (Original work: 1981)
- Rodotà, S. (2018). *I beni comuni. L'inaspettata rinascita degli usi collettivi*, Napoli: La scuola di Pitagora Editrice.
- Sanders E. & Stappers P.J. (2008). Co-creation and the new landscapes of design. *Co-Design*, 4:1, 5-18, <http://DOI:10.1080/15710880701875068>
- Simon, H.A. (1969). *The science of artificial*. Cambridge: Mit Press. (third ed. 1996) https://monoskop.org/images/9/9c/Simon_Herbert_A_The_Sciences_of_the_Artificial_3rd_ed.pdf
- Sinni, G. (Ed.). *Designing Civic Consciousness*, Macerata: Quodlibet.
- Staszowski, E. and Tassinari, V. (2020). *Designing in Dark Times*, London, NY: Bloomsbury Publishing.
- Sustainable Development Goals. (2015). Sustainable Development Knowledge Platform. <https://sustainabledevelopment.un.org/?menu=1300>.
- Winner, L. (1979). The Political Philosophy of Alternative Technology: Historical Roots an Present Prospects, 1(1), 75-86. [https://doi.org/10.1016/0160-791X\(79\)90010-1](https://doi.org/10.1016/0160-791X(79)90010-1)

Acknowledgements

Special thanks to the guys of La Scuola Open Source and to all the young people who feel involved in undertaking challenges of our threatened planet.

Out of the Storm. A Design Education Multi-Methodological Approach on the Topic of Migrations

Keywords: Design for Migration, Social Design, Design Thinking, Lateral Thinking, Design Education.

Silvia Gasparotto^{a*}

^aUniversity of the Republic of San Marino,
Republic of San Marino

*silvia.gasparotto@unirmsm.sm

Migrants, asylum seekers and refugees are just some of the terms used to indicate people that leave their homes for many different, and often painful, reasons to go to foreign and sometimes hostile countries. The long journey that migrants must undertake and their stay in reception facilities are just some of the problems that they have to face. These and many other delicate aspects of a migrant's life have been the main topic of the product design lab at the University of San Marino. Migration appears to be just one of the more significant issues in the political, economic and cultural reflections within the current historical context, but it may be taken as an example of how a design lab can approach a social topic. The paper focuses in particular on the overview of a multimethodological approach – told through the project of the students– based on Design Thinking and Lateral Thinking. The mix of these two methodologies leads students to design and learn along the consolidated path of Design Thinking but with the unknown and unexpected intervention of Lateral Thinking. Thank to this approach, students can learn how to address social issues as they forge their civic consciousness.

1 Migration as Common Good

Different disciplines – such as philosophy, economics, political science, and many others – have debated the concept of “common good” for centuries. The topic is still open and a suitable definition of “common good” can be given by quoting what is generally considered itself to be a “collaborative common”: *Wikipedia*. According to “The Free Encyclopaedia”: “the common good (also commonwealth, general welfare, or public benefit) refers to either what is shared and beneficial for all or most members of a given community, or alternatively, what is achieved by citizenship, collective action, and active participation in the realm of politics and public service^[1].” In both conceptions, the alliance of many people, the belonging to the same society and the promotion of social relations among citizens are the basis for the creation of common goods.

At a strategic and political level, the “Sustainable Development Goals” defined by the United Nations can be considered a tool or – metaphorically speaking – a compass for pursuing common goods. Indeed, the 17 goals “aim to promote prosperity while protecting the planet. [...] They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.”

Among the many issues that could be addressed at the social level for developing common goods, that of migration appears to be central for more than one of the Agenda’s goals, and a focus of the political, economic and cultural reflections of the current historical context. As Paola de Salvo writes (2017, p.744):

“Sebbene i fenomeni migratori siano sempre esistiti e siano stati causa nel tempo dell’affermazione di mutamenti radicali nei diversi Paesi di origine, di transito e di arrivo, l’entità del fenomeno migratorio ha avuto un’accelerazione e un’amplificazione nel corso del Novecento^[2].”

This acceleration, also linked to the processes of globalization, leads to a – sometimes forced – redefinition of the social identity (Appadurai 1996; Touraine 2000).

International migrations are commonly characterized by transnationality. This characteristic creates strong links between different territories and cultures. Anyone who moves out of need, for work, tourism, study, to reunite with their family, or to escape from

[1] https://en.wikipedia.org/wiki/Common_good. Retrieved December 14, 2020.

[2] Translated by the author: “Although migratory phenomena have always existed and have been the cause over time of the affirmation of radical changes in the different countries of origin, transit and arrival, the scale of the migratory phenomenon has accelerated and amplified throughout the twentieth century.”

war and poverty, becomes part of the flow of migration and brings with her or him traditions, history, opportunities, conflicts, hopes and dreams. As part of a world conceived as an adaptive space, capable of influencing and being influenced, designers today must be able to address issues such as identity, belonging, integration and acceptance.

2 The Social Role of Design

The design discipline, defined by many as being at the intersection of social and technical aspects (Maldonado, 2003; Dorfles, 2001; Bassi, 2013), may sometimes favour one, sometimes the other, based on the subject under consideration. Migration is indubitably a topic related primarily to the social role of design, which is a field that gathers many different areas and shades of interpretation. Many designers, theorists and critics have reflected upon the social side of design. For example, as early as the 1970s, Viktor Papanek considered ethics and sustainability as part of the design discipline (Papanek, & Fuller, 1972). In 2002, Victor and Sylvia Margolin (p.30), described “a new “social model” of design practice [...]” Moreover, the social role of design has different definitions in relation to diverse branches and connotations. For example, authors such as Armstrong et al. (2014, p.6) described social design as a collective practice with non-profit rather than commercial goals. Similarly, Ezio Manzini (2015, p.65) asserts that social design is an

“activity that deals with problems that are not dealt with by the market or by the state, and in which the people involved do not normally have a voice (for the simple reason that they do not have the economic or political means to generate a formal demand).”

Another approach linked to the social role of design is the one related to innovation. As Robin Murray, Julie Caulier Grice and Geoff Mulgan (2009, p.3) argued:

“we define social innovations as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society’s capacity to act.”

Finally, in the book “Socio-Social-Design. Design Practices for New Perspectives on Migration” Matteo Moretti (2019, p.7-8) quoted Burckhardt’s vision of socio-design:

“Burckhardt frames artefacts within the social dimension, giving rise to a way of thinking about problem-solving that results from coordinated changes made to both roles and objects. What Burckhardt outlines is a new paradigm in which designers participate in social relations through the design of objects, which he calls socio-design.”

It is exactly within this framework that we can find several initiatives connecting the discipline of design with the issue of migration.

An updated repository of these activities is the website “designformigration.com”^[3] developed by Matteo Moretti. The platform collects different kinds of project, sometimes related to graphic, product or web design, sometimes linked to participatory practices, or design for social innovation. Examples of these projects are “Conversations from Calais”, which “aims to re-humanise those affected by the refugee crisis by using public space to share conversations volunteers have had with migrants they met in Calais” or “Talking Hands”:

“A self-managed workshop, in one of the many spaces inside the former military base “Caserma Piave”, where a group of asylum seekers and refugees express themselves with handcrafting, discovering design as a narrative form.”

These and other projects related to migration follow a double track. On the one hand they pursue the social integration of migrants, asylum seekers or refugees in another country, on the other they attempt to smooth the perception of the “others” and “diversity” by talking about a different – sometimes very distant – culture.

Starting from these premises – without expecting to solve all the pain and suffering, but in the hope that design might improve some aspects of a migrant’s life – this contribution aims to express how a product design lab can promote multiculturalism and inclusion by describing the path followed by the students in developing their projects. The contribution focuses in particular on the description of a multi-methodological approach that aims to teach product design while at the same time developing the student’s civic consciousness.

3 The Product Design Lab at the University of the Republic of San Marino

Projects collected in this contribution were developed in the bachelor’s degree in design programme of the University of the Republic of San Marino. Since its foundation, the programme has distinguished itself for its involvement in social issues (Bosco, Zannoni 2018), by promoting research projects with African countries and organizing conferences and seminars on the design of civic consciousness (Sinni, 2019).

The third-year product design lab, held by Prof. Marcello Ziliani and Prof. Silvia Gasparotto, develops over 15 weeks. The main goals of the course are the study and experimentation of effective design tools that can be used to address, with the necessary conscience

[3] <http://designformigration.com>. Retrieved December 14, 2020.

and responsibility, a discipline that can – and must – be central in relation to cultural, economic, social and ecological scenarios in continuous and deep transformation.

In 2017, the theme addressed by the students concerned the design of objects the purpose of which was to improve the living conditions of migrants, asylum seekers and refugees during the different moments they are faced with: the journey, their time in the reception centers and their life after earning a residence permit. The seven final projects are the result of an investigation consisting of interviews and visits, organized with the help of operators and guests of the Caritas centre in Rimini. The story of this process seeks to underline how a pedagogical approach based on the understanding of real problems related to unfamiliar contexts can lead design students to ask the right questions and to advance, through experimentation, perhaps modest, but decisive projects for the common good.

4 Design Thinking and Lateral Thinking

The methodologies used in the course are based on the theory of Lateral Thinking developed by Edward de Bono since the '70s (De Bono, 1969; 1985; 1996; 1998), and on Design Thinking, a well-known approach formalized and made famous by Stanford University and Ideo between the '90s and 2000 (Brown 2008; 2009; Cross, 2011; Johansson-Sköldberg, Woodilla, Cetinkaya, 2013). The two methodologies, which aim to facilitate both creative thinking and the design process, have been positively evaluated because they are simultaneously opposed and complementary to the success of the project. On the one hand, in fact, they encourage freeing the imagination from predefined schemes and rules, on the other, they provide for the use of a linear logic in the development of the project, making it possible to achieve a concrete result.

The theory of lateral thinking is based on the assumption that creativity is not an innate talent, but if properly trained and stimulated, it can be a powerful tool available to everyone to solve problems in an innovative way. For this reason, these methods are useful to the widest range of professions, not necessarily linked to creative works.

Lateral Thinking can be exercised - or trained - through numerous techniques that mostly contemplate the use of the right hemisphere of the brain, the one used for functions such as overall vision, spatial organization or emotional interpretation.

Some of these techniques, listed in the book: "Creativity and Lateral Thinking" (De Bono, 1998) are: generation of alternatives, suspension of judgment, analogy, inversion or the choice of access points through which to address a problem. In summary, if vertical thinking proceeds sequentially, Lateral Thinking jumps forward; if with vertical thinking each passage must be corrected and verified,

Lateral Thinking may also welcome possible intrusions (Serendipity) without admitting any form of denial.

Design Thinking is instead a methodology that structures the design process into different stages - discovery, interpretation, ideation, experimentation and evolution - and for each of them suggests a tool useful for the development of the project. Design Thinking supports the design process to solve problems or redesign products, services or ideas in many different areas: from management to social innovation, from the production of objects to the organization of services.

It is based on the assumption that each person is able to give a personal contribution in accordance with his/her skills. For this reason, in this process, the designer does not work independently, but together with other stakeholders from whom to draw knowledge and experiences that differ from his own. This makes it possible to enhance research and expand the design space, imagining innovative solutions.

Design thinking is based on three fundamental assumptions: Human Centred Design (HDC), collaborative practices and experimentation (IDEO, 2013). HDC is an empathetic approach that considers the user as an active subject with a knowledge that only he/she, thanks to his/her direct experience, can truly have (Rizzo, 2009).

This orientation places the needs, the skills and the potential of the humans at the centre of the design process (Gill, 1991). Collaborative practices put the user at the centre of the design process and aim to involve him/her in a collaborative and participatory action.

Finally, experimentation in all phases of the process involves the creation of prototypes and mock-ups, sometimes approximate, to test functionality, ergonomics, feasibility and formal size of products.

5 A Multi-Methodological Approach

The use of a mixed approach based on Design Thinking and Lateral Thinking allows students to succeed in carrying out a university project and, at the same time, have sufficient freedom to approach the topic with no constraints by suspending judgement, creating alternatives and relying on the other techniques expressed by Edward de Bono.

This approach follows step by step the main phases of Design Thinking but integrates Lateral Thinking into its first three phases - Discovery, Interpretation and Ideation - to depart from the beaten path and eschew predefined schemes (fig.1).

To clarify the use of this multi-methodological approach, the following paragraphs illustrate the steps through a description of one of the projects developed by students.

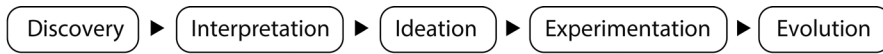
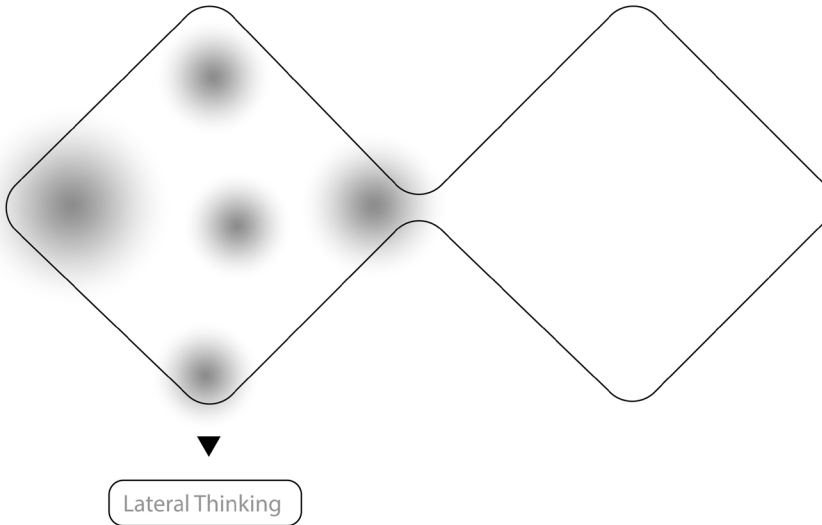


Fig. 1: Design Thinking and Lateral Thinking in the design process.



5.1 Phase 1: Discovery

In this first phase, the students learned the topic and the title of the lab: "Out of the storm. Design for migration". The students had 15 weeks to design an object that could be of use to the migrants, taking into account all the moments of their life related to their journey.

To start thinking about the subject, without yet having any limitations or references, the students started along their path by using Lateral Thinking. Experimenting with the brainstorming technique, they generated streams of thought arising from keywords and synthesized in conceptual maps such as the one represented in Figure 2.

Fig. 2: Visual synthesis of a brainstorming.

3. BRAINSTORMING



In addition to the use of Lateral Thinking, students explored the key points that emerged from the brainstorming session by interviewing some of the people involved in the migration process: operators and migrants from the Caritas Center of Rimini. In doing so they were able to gather stories, ideas and references. In addition to the interviews, the students also visited the reception facilities. By studying the environment, students were able to immerse themselves in the context and capture different design inputs (fig.3).



Fig. 3: The students visit the facilities that host the migrants.

5.2 Phase 2: Interpretation

In the second phase, all the cues collected from the interviews and analysis of the context were gathered and commented by the entire class. All the elements were reconsidered, using Lateral Thinking to create different alternatives, sometimes closer, sometimes farther from the main topic.

In particular, the interpretation phase for Group 1 (consisting of three students) led to the identification of the following themes: food, play, travel. The casual approach to these four general topics, using Lateral Thinking, took place independently of the cues discovered in the field and led students to better understand what and how other cultures (especially African) eat, play and travel. The acquisition of basic notions allowed them to acquire a background of random information that affected the final project.

The second step of this phase consisted in the analysis of the cues collected during the interviews and the visit. Students noted how hard it was for the migrants to adapt to the customs of another culture. The operator, in order to facilitate the understanding of certain rules – for example, the recycling of materials or the use of suitable detergents – prepared posters with writings and drawings. Another interesting observation was that migrants self-built some games belonging to their different traditions (fig.4).

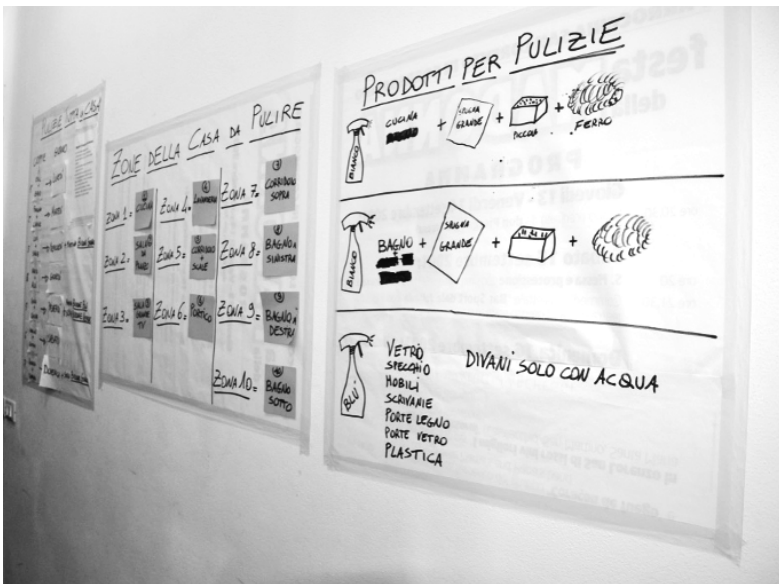


Fig. 4: Interesting cues collected by students.

At the end of the interpretation process, the main inputs on which the students reflected were:

- The difficulty of migrants in learning and respecting the customs of the host country.
- The strong link with their own culture and traditions, both in living habits and food.
- The complexity of community life.

5.3 Phase 3: Ideation

The third phase involves the identification and development of concepts based on the collected insights. The students therefore proposed different ideas that were discussed together with the class and the teachers. At the end of the ideation phase each group identified the most promising concepts to be developed into projects.

Group 1 presented a concept on the topic of the game, and another concerning the recycling and reuse of materials. In the first case, the students hypothesized the design of a learning game to facilitate building a new cultural identity. In the second case they created an instrument that could teach the migrants how to recycle and reuse waste materials. Finally, together with the teachers, the students decided to combine the two concepts and design a game that would help migrants understand the customs of a culture unlike their culture of origin. The design phase evolves simultaneously through the development of the idea and through constant experimentation. The project had to be defined in all its different aspects and the choice of the shape and materials again arose from

Lateral Thinking. The insight came from a picture the students discovered representing Dogon architecture (fig.5).



Fig. 5: An example of Dogon architecture.

5.4 Phase 4: Experimentation

The fourth phase of Group 1 consisted in the creation of the prototype of the game. From a cultural point of view, the Group chose to replicate the game of *mancala*, widespread among African populations, but customizing the rules of the game. From a formal point of view, the game had to be shaped with some concavity in order to contain the stones. For this and also for self-manufacturing reasons, the students considered using terracotta to evoke the aesthetics of Dogon architecture (fig.6). Finally, the students created a prototype of both the game and the stones, which were no longer just seeds, as in the original game of *mancala*, but were customized with icons representing different actions or rules of the hosting culture.

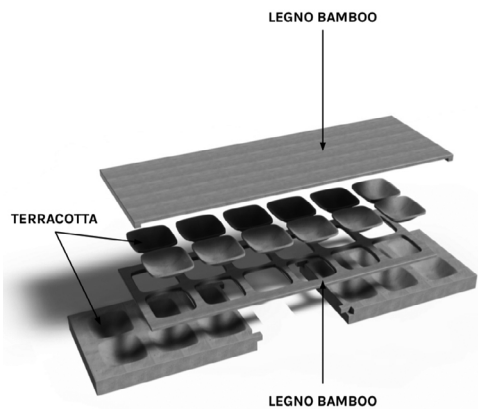


Fig. 6: First rendering of the game and the checkers.

5.5 Phase 5: Evolution

The final phase of Design Thinking usually requires the subsequent development of the project based on the feedback gathered. This phase provides for adequate communication of the project through the documentation of the entire process.

In the lab, this phase was articulated through the final exam, during which the students were able to describe their project both to the teachers and to an extended audience of visitors, including migrants. On this occasion, they were also able to collect feedback.

5.6 The Final Project: Kala

“Mancala” is one of the oldest strategy games in the world. Over two hundred different versions exist. In North Africa it is composed of two rows of six pockets on each side, in Ethiopia there are only three, going south there are four. The ultimate goal of the game is to store the largest number of stones inside the store.

Kala is an educational board game inspired by the “mancala”, but its rules have been partially modified. The concept behind the project is to teach refugees elementary rules in a fun way, as well as the customs of a different culture.

The product is designed to be adjustable and to address different learning difficulties, such as how to correctly recycle or clean using the proper products and tools.

The main change in the rules of the game, with respect to the traditional “mancala”, is that the winner is not the person who collects the most stones, but the one who sorts them inside the store in the right way. For this reason, the seeds were designed to be colour-coded; each colour corresponds to a certain feedback: red and green, for example, correspond to right and wrong, while the other colours can represent, for example, the colours of waste bins (fig.7).

The game is also designed to be modular and adaptable to many types of rules. You can use, for example, the two-colour store, the four or six stores, based on the rules of the game. Finally, Kala is a game that may be adapted to many possible topics, it can also be self-produced and customizable.

SCHEMA FUNZIONALE

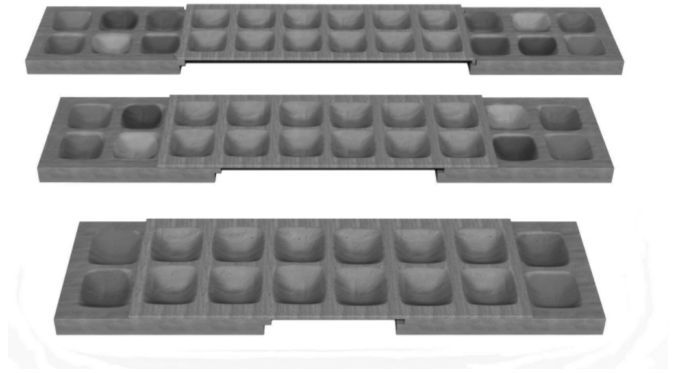
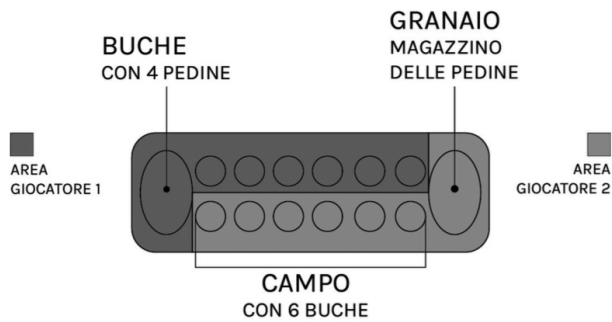


Fig. 7: *The final project.*

6 Concluding Reflections

The aim of the contribution was to demonstrate how, through the use of two particular design methodologies within a product design lab, it was possible to promote an approach that would develop solutions useful to migrants, but also to all of those who, through their own contribution, aim to promote acceptance and integration as fundamentals of the common good.

The project described above doesn't have the ambition to solve a major problem, such as migration, which is very complex and articulated, but it is intended to improve, albeit to a small extent, the living conditions of migrants, through the development of solutions that may potentially be applicable in the immediate future. Furthermore, the multimethodological approach described in this paper, enables students to face challenges by combining the reassuring process of Design Thinking with the unknown and unexpected paths of Lateral Thinking.

The flexibility and capacity of these methodologies to involve people underscore the great potential that this process can have in investigating issues of great social importance. While in this case, the themes of multiculturalism and inclusion were answered through a university course, other issues related to the social role of design can be explored using the same tools in other fields. Finally, this approach makes it possible to achieve a double goal: firstly, it can be used to address a social challenge and achieve common good through design practices, secondly, if used in a design education programme, it can teach students to address social issues in their projects and forge their civic consciousness.

References

- Appadurai A. (1996). *Modernity at large: Cultural Dimension of Globalization*. Minnesota: University of Minnesota Press.
- Armstrong, L., Bailey, J., Julier, G., & Kimbell, L. (2014). *Social design futures*. Retrieved December, 14, 2020, from: <https://mapping-socialdesign.files.wordpress.com/2014/10/social-design-report.pdf>
- Bassi, A., (2013). *Design. Progettare gli oggetti quotidiani*. Bologna: Il Mulino.
- Bosco, A., & Zannoni, M. (2018). A plural University between experience and research: Design in San Marino. *AGATHÓN | International Journal of Architecture, Art and Design*, 3, 197-204. <https://doi.org/10.19229/2464-9309/3262018>
- Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.
- Brown T. (2009). *Change by design*. New York: HarperCollins. Kindle edition.
- Cross N. (2011). *Design thinking: Understanding how designers think and work*. Oxford: Berg.
- De Bono E. (1969). *Il pensiero laterale. Come diventare creativi*. Milano: Rizzoli.
- De Bono E. (1985). *Sei cappelli per pensare*. Milano: Bur.
- De Bono E. (1996). *Essere Creativi: come far nascere nuove idee con le tecniche del pensiero laterale*. Milano: Il sole-24 ore libri.
- De Bono E. (1998). *Creatività e pensiero laterale*. Milano: Bur.
- De Salvo P. (2017). Migrazioni: norme, pratiche di integrazione e territorio. Istituzioni del federalismo. *Rivista di studi giuridici e politici* (3), 743- 763.
- Dorfles G. (2001). *Introduzione al disegno industriale: linguaggio e storia della produzione di serie*. Torino: Einaudi (Original work published 1976).
- Gill K.S. (1991). Summary of Human-Centred Systems Research In Europe, Part 1. *Systemist, the journal of the UK Systems Society* (13) 1, 7-27.
- Ideo (2013). *Design Thinking for Educators Toolkit*. Retrieved December, 14, 2020, from: <https://designthinkingforeducators.com/toolkit/>
- Johansson-Sköldberg, U., Woodilla, J., & Çetinkaya, M. (2013). Design thinking: past, present and possible futures. *Creativity and innovation management*, 22(2), 121-146.
- Maldonado T. (2003). *Disegno industriale: un riesame*. Milano: Feltrinelli Editore.
- Manzini, E. (2015). *Design, when everybody designs: An introduction to design for social innovation*. MIT press.
- Matthews B., Brereton M. (2018). Navigating the methodological mire: practical epistemology in design research, In Rodgers P., Yee J. (Eds.), *TheRoutledge companion to design research*. New York: Routledge, 167- 178.
- Margolin, V., & Margolin, S. (2002). A "social model" of design: Issues of practice and research. *Design issues*, 18(4), 24-30.
- Moretti, M. (2019). *Socio-social-design. Design Practices for New Perspective on Migration*. Mantova: Corraini.
- Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. London: National endowment for science, technology and the art.
- Papanek, V., & Fuller, R. B. (1972). *Design for the real world*. London: Thames and Hudson.
- Rizzo F. (2009). *Strategie di co-design. Teorie, metodi e strumenti per progettare con gli utenti*. Milano: Franco Angeli.
- Sinni G. (Ed.). (2019). *Designing Civic Consciousness / ABC per la ricostruzione della coscienza civile*. Macerata: Quodlibet.
- UN Sustainable Development Goals: "Sustainable Development Knowledge Platform." Accessed December 13, 2020. <https://sustainabledevelopment.un.org/?menu=1300>.
- Touraine A. (2000). *Can We Live Together? Equality and Difference*. Stanford: Stanford University Press (Original work published 1997).

Practices of Making: Exploring Design-Based Making Within Positive Youth Development

Keywords: Design-Based Making,
Design Process, Positive Youth
Development, Design thinking, Social
Design, Common Good.

William Nickley^{a*}

^a*The Ohio State University, Columbus*
^{*}nickley.3@osu.edu

The question of how to best orient design practice toward the common good has been widely debated in the field of design. Scholars recognize the potential in integrating design and allied professions that share common goals in the social sphere. One such field that shows potential for a successful integration of design into its practice is Positive Youth Development (PYD). PYD practitioners contribute to the common good by fostering youth development and promoting positive youth outcomes on a broad scale through youth oriented programs. While PYD successfully mobilizes types of “making” (arts-based, sciences-based, etc.) in youth programming, it remains blind to the avenues and opportunities offered by design-based making. This paper, by closely examining the activity of making in the practices of design and PYD, begins to build a bridge between the fields of design and PYD, and sheds new light on the reorientation of design practice toward common good.

1 Introduction

In his often cited work, Victor Papanek (1971) underscores the dangers of a market-driven orientation in design practice; *Design for the Real World* provides a warning to a generation of designers: “[t]here are professions more harmful than industrial design, but only a very few of them.” Papanek charges designers with a social responsibility that extends beyond their employers to humanity and the natural environment (ibid.), reaffirming an orientation of design practice toward the common good.

In an ongoing debate reinvigorated by Papanek’s (1971) critique of market-driven design, the question of how to best orient design practice toward the common good has been widely debated in the field of design. Within this debate are scholars who recognize the potential in integrating design and allied professions[1] that share common goals in the social sphere, but not all integrations are equal. For example, Margolin & Margolin (2002) call for a “social model” of design practice that supports and follows existing efforts[2] within allied professions. Others, like Janzer & Weinstein (2014), advocate for a design-led, “situation-centered” approach that borrows frameworks from the social sciences in order to understand, execute, and evaluate a design effort and avoid design neocolonialism[3].

Following the social model proposed by Margolin & Margolin (2002), research presented in this paper centers design within an established field, Positive Youth Development (PYD). PYD practitioners provide youth oriented programs, which aim to contribute to the common good by fostering youth development and promoting positive youth outcomes on a broad scale. As youth and their situations continually change and evolve, PYD researchers such as Deutsch *et al.* (2017) have highlighted a need for exploration into new approaches to PYD program delivery. The present research addresses this PYD need as it explores design, and specifically *designing*[4] as *design-based making*, as an approach to PYD program delivery.

[1] Allied professions of health, education, social work, aging, crime prevention.

[2] The authors provide examples of how a designer might work with an social work intervention team: in the assessment phase to identify factors that contribute to a problem; in the planning phase to help develop intervention strategies related to the physical environment; during the implementation phase by creating a needed product or working with a client system to design one (Margolin & Margolin, 2002).

[3] In other words, in order to avoid the imposition of a designer’s intent over those who would make use of a designed product or system, the authors argue for a transition from human-centered design, which is applicable to the development of products for human consumption, to situation-centered design, which is applicable to complex systems of interconnected people, environments, and social structures (Janzer & Weinstein, 2014).

[4] Clive Dilnot (1982) distinguishes the socially significant *activity of design*, or *designing*, from the *result* of a design effort, or a design, and the person doing the designing, or *designer*.

The study presented in this paper looks into how youth engage in the activity of design within a PYD program. Findings from a thematic analysis of youths' design-based making highlight ways in which the activity of design enhances PYD program delivery in accomplishing established PYD program goals. As the practice of PYD aims to contribute to the common good, findings suggest that integrating a practice of design-based making into PYD program delivery provides not only a novel case for a social model of design (i.e. design allied with PYD), but also one where youths, not professional designers, do design.

2 Background

2.1 Positive Youth Development

PYD is understood as an area of practice and a field of research (Benson *et al.*, 2006), as well as a developmental process, an approach to youth programming, and as instances of youth programs and organizations focused on fostering the positive development of youth (Lerner, Lerner, Bowers, & Geldhof, 2015). The theoretical base and origins of PYD lie in developmental, psychological, and cognitive sciences (Lerner, 2005), and integrate models from public health, epidemiology, social work, sociology, and psychopathology (Catalano *et al.*, 2002).

A PYD approach to youth programming recognizes, utilizes, and enhances young people's strengths, resources and capacities, and promotes positive outcomes for young people (IWGYP, 2020; Lerner, Almerigi, Theokas, & Lerner, 2005; Anyon & Jenson, 2014). PYD programming engages youth within their communities, schools, organizations, peer groups and families (IWGYP, 2020).

2.2 PYD Goals and Common Good

PYD relies on the Six Cs model, an expanded version of the well established Five Cs model (Lerner *et al.*, 2005; Lerner *et al.*, 2015; King *et al.*, 2005), which has become a frame for structuring PYD programs and measuring their outcomes (Deutsch *et al.*, 2017). Fostering the Six Cs (Table 1) in youth is a goal for PYD programs as well as the mechanism through which PYD contributes to the common good.

1. Competence	Vocational, academic, cognitive, and social
2. Confidence	Including global self-regard and self-efficacy
3. Connection	To community, school, family, and peers
4. Character	Respect for societal & cultural norms
5. Caring	Including sympathy and empathy
6. Contribution ^[5]	To self, community, family, school, society

Table 1: *The Six Cs of Positive Youth Development.*

^[5] The Sixth C, contribution, only emerges in the presence of the five other Cs (King *et al.*, 2005; Lerner *et al.*, 2015).

2.3 PYD Programs and “Making”

As a “developmentally appropriate practice” (Meschke, Peter, & Bartholomae, 2012), a PYD program must adjust its content, delivery, goals and expectations to accommodate ALL youth’s needs as well as their social and cultural contexts. To do this, PYD programs employ a variety of approaches including camp, wilderness, sports, arts, music, school, and mentoring programs (Waid & Urich, 2020) as well as STEM[6] programs (Bevan, Ryoo, & Shea, 2017, p.3). Some of these established approaches use *making* - or using knowledge, creativity and skills to build and create things (Bevan, Ryoo & Shea, 2017). However, although PYD programs use *making* to promote the Six Cs, it is limited to arts-based[7] and STEM-based making[8].

2.4 Making in Design

Design practice also employs *making*, but of a different nature than that found in current PYD programs. The Double Diamond Model (Design Council, 2019) outlines a design process common in design practice, which includes four activities: *discover*, *define*, *develop*, and *deliver* (tab.2; fig.1). Designers explore, shape, and build along the nonlinear design process while upholding the design principles of centering on people, communicating, collaborating, and iterating (ibid.), which we understand as *design-based making*.

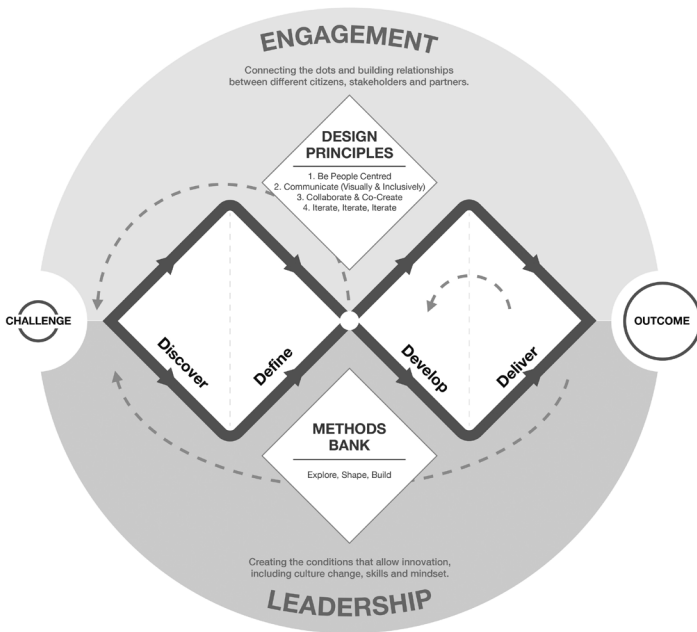
Action	Description
Discover	The first diamond helps people understand, rather than simply assume, what the problem is. It involves speaking to and spending time with people who are affected by the issues.
Define	The insight gathered from the discovery phase can help you to define the challenge in a different way.
Develop	The second diamond encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of different people.
Deliver	Delivery involves testing out different solutions at small-scale, rejecting those that will not work and improving the ones that will.

Table 2: Design Council's Double Diamond - Actions in the Design Process.

[6] Many have come to think of STEM as “an integrated approach to answering questions or developing ideas that incorporates science, technology, engineering, and mathematics” (Bevan, Ryoo, & Shea, 2017, p.3). STEM has been commonly expanded to integrate the arts to produce STEAM (p.3).

[7] In arts-based PYD programs, youth create visual, musical, or performing art, typically in an out-of-school setting (Ersing, 2009), while they explore their emotions (Ersing, 2009; Waid & Urich, 2020) and self-expression.

[8] Making related to STEM activities has been defined as “the use of technological resources to build something of interest” (Chu et al., 2015). An example of STEM-based making would be “designing and sewing a purse using conductive thread and LilyPad mini-processors, a task that can involve wiring, circuitry, and coding” (Bevan, Ryoo, & Shea, 2017).



© Design Council 2019

2.5 Differentiating Design-Based Making from Making in PYD

Design literature provides a clue to how design-based making differs from arts-based or STEM-based making (sciences-based making). We can look to Cross (1982) for a convenient, if dated, conceptualization of the differences between the “cultures” of design, the arts, and the sciences. By leveraging Cross’s (1982) cultures alongside additional models of design (Design Council, 2019), and art-making (Mace & Ward, 2002; Walker, 2004), we distinguish three types of *making* (tab.3).

	Types of Making		
	Design-based	Arts-based	Sciences-based
Purpose	solve problems for others in the material world	evaluate and express the human experience	understand and model the natural world
Methods	modeling, pattern-formation, synthesis	analogy, metaphor, criticism, evaluation	controlled experiment, classification, analysis
Value priorities	practicality, ingenuity, empathy, appropriateness	subjectivity, imagination, commitment, justice	objectivity, rationality, neutrality, truth
Example	problem statement, sketch, prototype	painting, sculpture, musical performance	replication, simulation

Table 3: Comparison of Types of Making.

2.6 Opportunity and Research Questions

There is a connection between the project of PYD and the project of design in their common goal to positively impact the social sphere, while facing the challenge of accounting for and adapting to complexities surrounding the populations that design & PYD serve (Margolin & Margolin, 2002; Janzer & Weinstein, 2014; Meschke, Peter, & Bartholomae, 2012; Deutsch *et al.*, 2017; IWGYP, 2020).

Although PYD programs achieve this goal through *making* in addition to other activities (Bevan, Ryoo, & Shea, 2017), they do not expressly use *design-based making*, which is of a different nature than arts-based or sciences-based making (Cross, 1982); such is the problematic of this research, and therein lies design's potential contribution to PYD.

In that regard, this research aims to explore how youth participate in design-based making while engaging in PYD program activities, and examines connections between youths' design activities and PYD program goals.

To address this research aim, the study includes three research questions. The first is, *how do youth engage in design-based making?* So as not to presume the way in which youth engage in PYD program goals, research question 2 is necessary, *how do youth engage in PYD program goals?* As answers to the first two research questions might provide an idea about youth engagement in design-based making and PYD program goals, they beg a question about whether youth engagement in either is linked. Therefore, research question 3 asks *how does design-based making promote engagement in PYD program goals?* All three research questions ask how engagement occurs, if, in fact, it does.

3 Method

As the research aims focused on examining the mobilization of design-based making in PYD program delivery, an IRB approved research protocol was structured to capture complex data *in the wild*^[9] during a pilot PYD program. This was inspired by the Design Thinking Research Symposium (DTRS) series of studies, DTRS11 in particular (Christensen, Ball, & Halskov, 2017), which examine design activities *in the wild* and then analyze complex data through an assortment of qualitative and quantitative approaches.

[9] "In the wild" is borrowed from Ball & Christensen (2018), and is analogous to "in the field," or in a context where a phenomena occurs naturally.

3.1 Research Method

A pilot PYD program called *Improve Our Club!* was developed in coordination with a local PYD program provider, the South Side Boys & Girls Clubs of Central Ohio (BGCCO) location - or the South Side Club. The South Side Club provides a range of PYD programs for the youth it serves in the Reeb-Hosack neighborhood, south of downtown Columbus, Ohio, one of the most underserved land tracts in the county, state, and nation[10].

Over the course of six weeks in early 2020 (pre-COVID), *Improve Our Club!* engaged youth in two age groups (7-9 year olds, 10-12 year olds) at the South Side Club. Twice a week for about an hour after school, 22 youth alongside 6 program staff and volunteers completed design challenges to identify and then iteratively and creatively solve one another's problems (tab.4).

Week	"Program Activity" - description	Design Phase
1	"Smart City Challenge" - youth exposed to design process through a series of quick, standalone activities	discover, define, develop, deliver
2	"Improve Our Club: Problem Seekers Unite!" - youth challenged to make "how might we" problem presentation videos	discover, define
3	"Improve Our Club: Inventors to the Rescue!" - youth challenged to view problem presentation videos, then create a solution for someone else's problem, then share their idea in a sketch presentation	define, develop
4	"Improve Our Club: Failure is Our Friend!" - youth challenged to improve their ideas by building prototypes, and sharing in additional sketch or prototype presentations	develop, deliver
5	"Improve Our Club: Heroic Revolution!" - youth challenged to finish and share their final ideas	deliver
6	"Improve Our Neighborhood: Virtual Heroes" - youth challenged to design a solution, at scale using virtual reality, for someone with limited mobility	discover, define, develop, deliver

Table 4: *Improve Our Club!* Program Schedule.

Design projects commenced in week 2 as youth were challenged to *discover* a problem in their own lives and then *define* and share it with their peers in the form of a video recorded presentation. In weeks 3-5, youth viewed one another's problem presentations, then selected someone else's problem on which to focus their efforts to *develop* and *deliver* a solution in the form of sketch and/or prototype presentations.

[10] The extent to which the Reeb-Hosack neighborhood is underserved is well documented in local news articles, U.S. Census Bureau Data and the Social Vulnerability Index, summarized in the author's MFA thesis, currently under embargo.

Through their design-based making during *Improve Our Club!* program activities, youth generated design artifacts in the form of sketches and prototypes, which they shared with other program participants in presentations video-recorded using iPads (by their peers or program volunteers). Photos of design artifacts as well as video recorded problem, sketch and prototype presentations comprise the core dataset, complimented by daily attendance records and program documents.

3.2 Analysis Method

To make sense of the data, analysis followed a workflow common to thematic analysis (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006) and grounded theory (Saldaña, 2015; Corbin & Strauss, 2014). Specific sense-making steps were inspired by Lin’s (2019) application of thematic analysis to artifacts, as wells as “qualitative observations,” “inductive coding,” and “thematic analysis” used in the DTRS11 studies (Christensen, Ball & Halskov, 2017).

An inside-out analysis made use of an inductive coding approach centering on youths’ design-based making. Then, an outside-in analysis leveraged a deductive coding approach to further investigate connections between the Six Cs of PYD and youth’s design-based making during specific design phases.

4 Findings

Two primary themes, split into eight sub-themes, emerged from thematic analysis. This paper will focus on the primary theme *A Design Journey is Personal* and its four sub-themes^[11] (tab.5), as they represent the most salient connections found within the data between design-based making and PYD program delivery.

Primary Theme	Sub-theme
1. A Design Journey is Personal	A. My Problem - Youth Naturally Connect to Their Worlds B. Our Problem - Design-based Making and Implied Empathy C. Our Solution - Multimodal Communication Through Design Artifacts D. Our Design Project - Connections to PYD and Self-efficacy
2. Design Facilitates an Emergent Network of Contribution	E. A Network Emergence Diagram and its Contents F. Diversity in Design Projects for Diverse Participants G. Youth Adapt Design-based Making to Fit Their Projects H. Design-based Making Facilitates Asynchronous Collaboration

Table 5: *Findings Themes and Sub-themes.*

4.1 Descriptive statistical features of the data

The data corpus includes 68 videos totaling 65 minutes and 8 seconds from the Youth Design Making Videos dataset, which emerged as the focal point of the analysis. These were transcribed into 396 speaker turns with a total of 7,012 coded references from

^[11] Although the original study included two primary themes that reveal additional connections between design-based making, PYD and self-efficacy theory, those findings are the topic of another paper.

60 codes. A total of 29 people with 801 coded references and 33 design projects with 492 coded references were included.

Additionally, 121 photographs from the Youth Design Making Photos dataset were included, attributed to 13 youths. The median number of coded references to each image was 3.

4.2 Primary Theme:
A Design Journey is Personal

Although 13 of the 22 youth attended more than half of the program sessions, all students missed at least one session for a host of reasons, and it was common for students to have to leave *Improve Our Club!* on a moment's notice when a family member came to pick them up. Regardless of the sporadic nature of attendance, youth formed connections with other people through their design-based making on design projects. Those people and projects defined each youth's unique experience as their personal design journey unfolded.

4.3 Sub-Theme:
My Problem - Youth Naturally
Connect to their Worlds

Youth were introduced to the *discover* and *define* phases of the design process during their first *Improve Our Club!* design challenge, which was to identify and present a problem from their own lives. Program participants would ultimately *discover* and *define* 33 problems, forming the foundation of 33 design projects. Four problem presentation transcriptions follow (tab.6).

Speaker	Transcription
File Reference: 132 B — “Feeding the Fish” Design Project	
132	Hello, my name's [132] and I am gonna be solving the problem to goldfish. My idea is that we could make a...
Researcher	Wait wait, what is the problem?
132	The problem was that it's really hard to take care of the goldfish. And a lot of people start off with their first pet because it's easy and then they're not taking care of it.
132	So I thought it would be cool if we could have our own, our own little fish bowl that would give them food whenever. That's how we're gonna solve this problem.
File Reference: 131 A — “Book Damage” Design Project	
Researcher	Alright, we're problem seekers and I'm Will.
131	And I'm [131].
Researcher	[131]. And we're here because [131] found a problem. Alright get in close so you can look at the problem [131] found.
131	So, after people use books, sometimes they get damaged. Sometimes bar-codes are about to come off, or either there's just some damage on the book so you can't scan it or get it unless if you have to buy it. If you have the bar-code because you would have to go up to get it but you wouldn't be able to because the bar-code is off.
Researcher	Okay, so who does this problem affect?
131	Everybody.

File Reference: 109 E — “Neighborhood Safety” Design Project	
109	Hi, my name is [109], my problem is that sometimes I can’t go outside because my neighborhood is dangerous. How might we solve this problem?
Researcher	Who is it a problem for?
109	Anyone who has a dangerous neighborhood.
Researcher	Okay, and how do you know it’s dangerous?
109	Because you can hear it outside.
File Reference: 114 A — “Bathroom Keys” Design Project	
114	Alright, so my problem here at the Boys & Girls Club is-
106	Alright, say your name first, sorry.
114	Oh, sorry. My name is [114] and I work at the Boys & Girls Club, and my problem at the Boys & Girls Club is the bathroom keys. So this is what they look like. And kids always lose them. So, we started off with 4 at the beginning of the week and we’re down to 2. At one point we had 10 and we lost all of them! So I think kids put them in the toilet, they leave them on the ground, they take them home, and we can’t seem to keep track of the keys, and that’s one of my worst problems.

Table 6: Problem Presentation Excerpts from 132 and for Projects in Her Network.

Exemplified in Table 6 is the personal way in which participants engaged in their first design-based task, which suggests the way in which the *discover* and *define* phases of design-based making promote the PYD Six Cs goal, *connection*. Youth chose to describe problems they personally experienced. Some youth like 132, 131, and 109, shared problems from their homes, schools or neighborhoods. Others, including 114 (a BGCCO staff member), presented problems related to the South Side Club. Personal connections anchored in the problem-based foundations of design projects also provided entry points for youth to extend *connection* with one another through their design-based making in subsequent program activities.


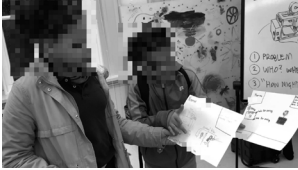
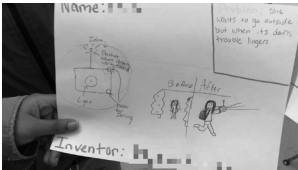
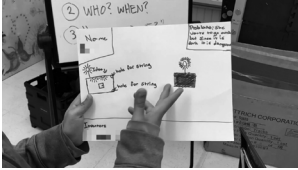
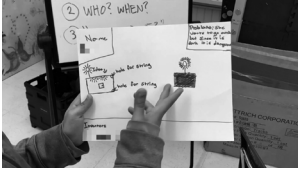
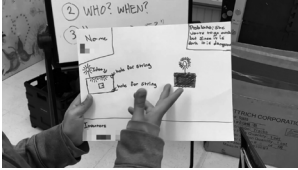
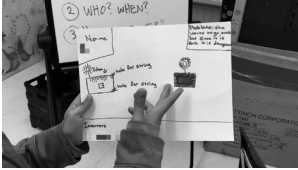
4.4 Sub-Theme: Our Problem - Design-Based Making and Empathy

Youth were challenged to develop solutions for someone else’s problem during weeks 3 through 5 of *Improve Our Club!*, ushering in the *develop* and *deliver* phases of the design process. Program participants presented a total of 25 sketches and 20 prototypes, collectively *developing* solutions for 20 of the 33 problems *discovered* and *defined*. In several cases, multiple solutions were *developed* as part of a single design project.



Fig. 2: Two youth, 106 and 132, share their ideas to solve 109’s “neighborhood safety” problem.

In the following example (tab.7), two youth decided to form a team and address 109's problem together, presenting a pair of sketches. Their presentation focused on the physical appearance and features of a device they thought 109 would be able to wear to detect danger in the dark.

Video Still	Speaker	Transcription
	<p>106 <i>Researcher</i></p>	<p>My name is [106], she's [132] Okay, it's our brother sister team here who wanted to team up on an idea. Okay. That's cool.</p>
	<p>106</p>	<p>Okay, so this. There's a girl named [109], she wants to play outside. She wants to go outside, but since it's dark and danger lurks... danger lurks. Yes. And she doesn't want to be in danger.</p>
	<p>132 <i>Researcher</i></p>	<p>So what we did was we pretty much made this box right here. So well mine's kinda different from hers, but still. There is the light, and this is a hole for the string, holes for the string so it can go down to the floor. So we have put a little detector and it flashes when, like, it detects warm blood 'cause like humans are warm blooded so it will detect them from far away.</p>
	<p>132 <i>Researcher</i></p>	<p>Okay. And we have a hole for a string so she can maybe put it around her neck like a camera or just keep it with her.</p>
	<p><i>Researcher</i></p>	<p>Okay so this is something that [109] like takes with her? Okay, got it.</p>
	<p>106</p>	<p>She can take this with her? (to [132]), okay. And yeah.</p>
	<p>106</p>	<p>(whispers to [132]) And this is the back, I just put a green thing here. We don't know if she wants hers blue, but like if she do want it, I just colored it blue since that's the color I had. And I colored it green 'cause green was the nearest color. And, so, this...</p>



132

And then, once we're all done, she'll be happily going outside without any fear.



106

Before (points) and the eyes lurk, and then after (points). This is what it looked like. This is what it looks like from the outside, but from the inside it will look like this, or that. It will look like this, this, or this. And done!

Table 7: 132 and 106 Present their Ideas for "Neighborhood Safety" to Solve 109's Problem.

Although their invention clearly addressed 109's problem, a portion of 132's sketch was particularly important as it exemplified something observed in several youth's work at this stage: empathy and care for others, and a transition from "my problem" to "our problem." Seen in Figure 3, 132's sketch has several components, including how she imagines 109 feels in a dangerous neighborhood before and after using 132's concept.

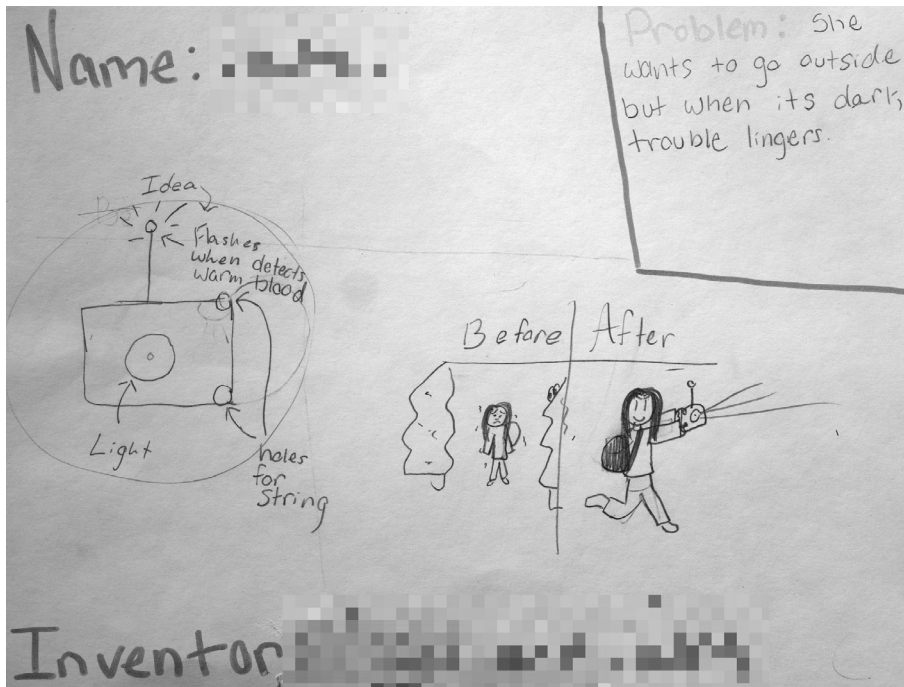


Fig. 3: A youth, 132, made this sketch to communicate her idea for a danger detection device, her solution to a problem another youth, 109, identified. The before/after area of the sketch depicts 109 using the device - note her facial expressions.

Before, 109 is visibly scared and looks lonely, but after, 109 is shown running forward with a confident smile on her face, 132's invention in-hand. There are details in 132's sketch that express an understanding of 109's problem that go well beyond what 109 presented - facial expressions of fear before 132's solution, an assumption that what causes 109's fear has "warm blood" (i.e. is human), an assumption about how 109 wants to feel in the future, and a projection of how 109 will behave differently with 132's solution. For 132 to be able to design her solution for 109, she had to empathize with 109's situation to be able to imagine how 109 would like to feel in the future, then create something to cause 109's change in emotion and behavior. This is important as 132's empathy and care show how she engages in the PYD goal of caring while making use of design-based making.

The empathy and care 132 employed is essential in design-based making, as it allows people to extend their creative problem-solving efforts to focus on the needs of others. Fostering empathy and care are also Six Cs goals of PYD programs: *connection* and *caring*.

Let's move to another example of how the same youth, 132, employs empathy and care through their design-based making, but this time for an adult staff member instead of a peer participant. These design artifacts - two sketches and two prototypes (fig.4, 5) - detail an idea called "bracelet key," designed to solve a "bathroom keys" problem originally identified by a member of the BGCCO staff.



Fig. 4: A youth, 132, made these sketches and prototypes to communicate her ideas for a system for other youth to use and return bathroom keys, which are frequently lost according to a BGCCO staff member, 114.

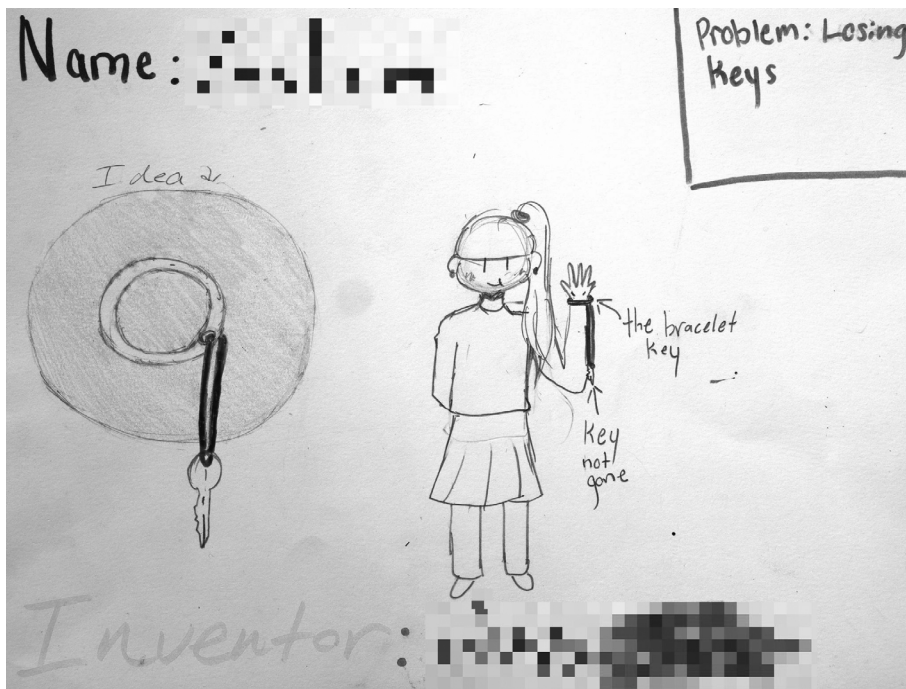


Fig. 5: Close-up of 132's sketch.

In her presentation (fig.4, 5), 132 describes her solution for the BGCCO staff member while making use of her sketches and prototypes. Her idea is to keep bathroom keys highly visible and accessible to youth by attaching a large, rigid hoop to each bathroom key, allowing the key to be worn as a bracelet and preventing the key from fitting into a pants or jacket pocket. Additionally, she suggests placing hooks into each bathroom and by the front desk, providing a place for keys to live while in-use or in waiting.

In her presentation, 132 demonstrates how she extended her empathy and care to 114 and other BGCCO staff and youth impacted by the problem 114 identified: 132 may have understood the frustration of staff about missing keys, the guilt or shame of youth who were blamed for losing keys unintentionally; then 132 proposed a solution to alleviate those negative feelings and replace them with feelings of thankfulness (staff), pride and responsibility (youth). Thus, 132's presentations provide a glimpse of how she engaged in the PYD goals of *connection*, *caring*, and *contribution* through her design-based making.

4.5 Sub-theme: Our Solution - Multimodal Communication through Design Artifacts

Youth didn't only work on their solutions, they also presented their artifacts to their peers. Inductive codes from inside-out analysis allow us to look at how youth presented their work, revealing another dimension to youth engagement in PYD program goals though design-based making (tab.8).

program activity (and related design phases)

speaker's actions	problem presentation (define, discover)	sketch presentation (develop, deliver)	prototype presentation (develop, deliver)
enacting	3	10	14
gesturing toward something	10	15	17
interacting with others	3	5	3
referencing something not present	6	8	8

Table 8: Relation between Program Activity and Speaker's Actions.

Note. Numeric values represent the total number of youth presentations wherein a particular speaker's action occurred at least once. Cell colors correspond with numeric values, and are redundant.

Across all three presentation types, there is a pattern of youth gesturing toward something - commonly a design-based artifact - while speaking. Another pattern is that more youth enact or gesture toward something during sketch and prototype presentations, which occur during sequentially later design and develop phases, than they do while giving a problem presentation (which generally didn't include an artifact). Youths' design-based artifacts helped them to communicate how their ideas connected with and contributed to others, providing another answer to how design-based making facilitates engagement in PYD goals.

Two examples of how multimodal communication through design artifacts appeared in presentations follow, pairing video stills with transcription (fig.6, 7; tab.9, 10).

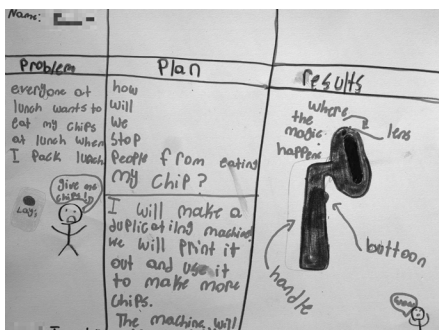


Fig. 6: A sketch 107 used to communicate her idea for a "chip-duplicator," her generous solution to share a scarce lunchtime commodity.

In this first the “my chips” design project (fig.6; tab.9), a youth, 107, creates a “chip duplicator” to prevent people from taking her chips during lunch at school. In addition to gesturing toward her sketch, 107 also enacts her concept by demonstrating hand motions a user would have to perform while duplicating chips (pictured). During her prototype presentation for “my chips,” 107 gestures toward a 3D model.

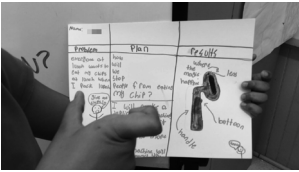
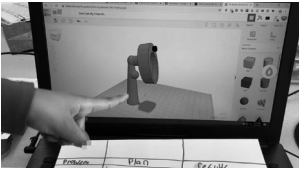
Video still image	Codes	Transcription
	<p><i>enacting, gesturing, sketch presentation</i></p>	<p>These are the lens, we'll take a picture, then this is going to be the button so when you press the button it will take a picture like I said 10 seconds ago. And it will duplicate the thing, it will just go “blop” but it won't go “BLAAP”. This is going to be the handle to hold it. And this is where the magic begins, it goes like this “blop” not like this “BLAAP”.</p>
	<p><i>gesturing, sketching and prototype presentation</i></p>	<p>This is how I explain the results. Where the magic happens, so this is this like big hole, and it's big enough so the things can pop out that I want to duplicate. And this is the lens, so I can like, so the duplicating machine knows what I want to duplicate. And this is the button so I press the button and the magic happens. And this is the handle so I can like hold it. And now people won't eat my chips anymore.</p>

Table 9: 107's Sketch and Prototype Presentations for “My Chips”.

The second example (fig.7; tab.10) is a design project called “glitter container.” A youth, 111, presents her device that vacuums glitter from surfaces, then funnels glitter back into its original container. While presenting her physical prototype, 111 enacts her solution by demonstrating a functional aspect of her prototype while saying few words. While presenting her 3D model prototype, 111 makes use of enacting once again to demonstrate how a user would interact with her solution.

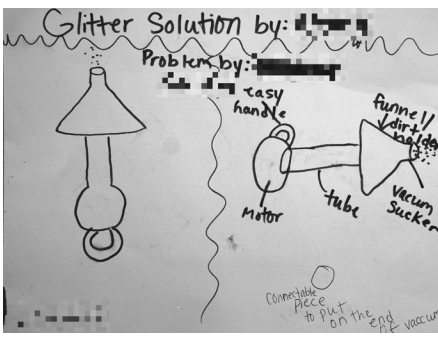


Fig. 7: 111's sketch she used to communicate her idea to vacuum and reuse glitter in the BGCCO art room, a problem identified by another youth, 109.

Video still image	Codes	Transcription
	<p><i>enacting, prototype presentation</i></p>	<p>I'll get another cap, just to show you. I'll get another cap. (demonstrates her prototype).</p>
	<p><i>enacting, prototype presentation</i></p>	<p>Yeah. So this main part right here, this will be a small vacuum engine like from, um, from a small like hand vacuums. There will be like a motor or engine in there. And then we have these dents on the side, can you move the dents? So when you like hold it, this is for your hand.</p>

Table 10: 111's Prototype Presentations for "Glitter Container".

By utilizing words in conjunction with visuals and actions, youths' presentations are multimodal; this provides an answer to *how do youth engage in design-based making?* by showing that design-based making enhanced youth communication through their use of design-based artifacts and gestures in addition to words.

4.6 Sub-Theme: Our Design Project - Connections to the Six Cs of PYD

Table 11 shows how many presentations were coded the Six Cs of PYD. *Connection* and *contribution* were coded in more presentations than other Cs. While this pattern alone might not provide evidence of a link between any one of the Cs to a specific program activity or speaker action, it does suggest that what people speak about during design-based making presentations is linked with *connection* and *contribution*. Lower numbers of presentations containing speech coded for *caring*, *character*, *competence*, and *confidence* suggest weaker links between those Cs and design-based making presentations, although the links still exist.

Six Cs codes	program activity (and related design phases)		
	<i>problem presentation</i> (<i>discover, define</i>)	<i>sketch presentation</i> (<i>define, deliver</i>)	<i>prototype presentation</i> (<i>define, deliver</i>)
<i>caring</i>	5	2	2
<i>character</i>	2	0	0
<i>competence</i>	1	3	2
<i>confidence</i>	0	3	2
<i>connection</i>	17	16	15
<i>contribution</i>	7	14	16

Table 11: Matrix Coding Query:
Six Cs vs. Program Activity.

Note. Numeric values represent the total number of youth presentations wherein a speaker turn was coded for one of the Six Cs. Cell colors correspond with numeric values, and are redundant.

Looking once more at Table 11, one may note that despite higher numbers for the presentations containing speech coded for *connection* and *contribution*, fewer presentations were coded for *contribution* during a problem presentation (7) than either a sketch presentation (14) or prototype presentation (16). This could suggest that the *develop* and *deliver* phases of the design process, which are most closely linked with sketch and prototype presentations, more strongly supported youth *contribution* than the *discover* and *define* phases of the design process, which are most closely linked to problem presentations.

5 Discussion

5.1 Designing as Adaptation

As needs differ between individual youth, shaped by factors such as age, gender, cultural background and experiences, an active area of research within PYD is in linking approaches to program delivery to accomplishing PYD program goals (Deutsch *et al.*, 2017). PYD program settings, programming and policy must be attentive and responsive to the youth they serve, necessitating the inclusion of youth voices in policies, programs and settings that serve them (*ibid.*).

Findings show youth *discovered* and *defined* problems with which they had a personal *connection* in their homes, schools, neighborhoods and the South Side Club. In this sense, design-based making mobilized in a future PYD program might provide an actionable look into the community for a program provider to use as it develops strategies to support its youth. An understanding of how youth perceive and experience the problems they identify would be of interest to PYD program providers as it may provide

an avenue for the youth voice to be heard and included in the development of programs, internal policies and external engagement with the surrounding community.

5.2 Designing as Communication

Findings indicate that youth augment their communication with design-based artifacts; youth multimodally show, tell, and demonstrate their ideas more confidently, even when their ideas appear in a rough sketch or prototype form. This may allow for a deeper understanding of problems and potential solutions to be communicated to and understood by PYD program participants and providers alike. As communication tools, design-based artifacts - often rough and imprecise representations - effectively allowed youth to express their thoughts, ideas, and visions for the future to their peers. Underserved youth targeted by PYD programs might benefit from having non-written and non-verbal ways of communication. Especially in instances where lower-than-average reading levels and verbal language present communication challenges, two-dimensional (e.g. sketches) and three-dimensional (e.g. prototypes) design-based artifacts may expand youths' capacity to communicate their ideas and understand others' ideas.

5.3 Designing to Maximize Impact

Findings indicate that design-based making, shared by youth in their problem, sketch and prototype presentations, supports the Six Cs of PYD and therefore delivers positive impact on youth. There is a strong pattern of support for *connection* and *contribution* and support to a lesser extent for *caring*, *character*, *competence* and *confidence*. However, stronger support for *contribution* than the other Cs is surprising because the so-called Sixth C of *contribution* emerges only in the presence of the other Five Cs (King *et al.*, 2005; Lerner *et al.*, 2015). In one sense these findings may challenge the notion that the other Five Cs are necessary for *contribution* to occur in a PYD program setting. In another sense, findings may suggest that design-based making is a short-cut to *contribution*. Alternatively, perhaps findings suggest the Five Cs were present but went undetected by the research method, thereby positioning *contribution* through design-based making as a validation measure for the Five Cs in PYD program delivery.

5.4 Designing as Making, Design-Based Making

Findings provide a granular look into how youth use design-based making within a PYD program structure. This points toward what may be considered defining features of designing within PYD: youth making was motivated by design challenges structured to connect them with their worlds and cohabitants; the purpose of youth making was to solve problems for others and communicate their ideas; youth iteratively made multiple artifacts with different forms (e.g. sketch, prototype) in the process of designing an idea that co-evolved with their understanding of someone else's problem. More research is needed to further understand the advantages

and limitations of design-based making in PYD programs, how it might be best structured and adapted to program delivery, especially as compared to other forms of *making*.

6 Conclusion

By exploring and sharing the ways in which design-based making enhances PYD program delivery, the purpose of this study has been to reveal 1) a new application of the social model of design through an allied field of PYD, and 2) a new method of program delivery within PYD. We are hopeful that researchers and practitioners in both fields will find this ground fertile for future collaboration in pursuit of the common good.

References

- Anyon, Y., & Jenson, J. M. (2014). Positive youth development. In E. Mullen (Ed.), *Oxford Bibliographies in Social Work*. Oxford University Press.
- Ball, L. J., & Christensen, B. T. (2018). Designing in the wild. *Design Studies*, 57, 1–8.
- Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma Jr, A. (2006). Positive youth development: Theory, research, and applications. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (6th ed., Vol. 1, pp.895–941). John Wiley & Sons.
- Bevan, B., Ryoo, J., & Shea, M. (2017). Building creative cultures for STEM making and learning. *Afterschool Matters*, 25, 1–7.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77–101.
- Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2002). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Prevention & Treatment*, 5(1), Article 15.
- Christensen, B. T., Ball, L. J., & Halskov, K. (2017). *Analysing design thinking: Studies of cross-cultural co-creation*. CRC Press.
- Chu, S. L., Quek, F., Bhangaonkar, S., Ging, A. B., & Sridharamurthy, K. (2015). Making the maker: A means-to-an-ends approach to nurturing the maker mindset in elementary-aged children. *International Journal of Child-Computer Interaction*, 5, 11–19.
- Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage.
- Cross, N. (1982). Designerly ways of knowing. *Design Studies*, 3(4), 221–227.
- Design Council. (2019). What is the framework for innovation? Design Council's evolved double diamond. *Design Council*. <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>
- Deutsch, N. L., Blyth, D. A., Kelley, J., Tolan, P. H., & Lerner, R. M. (2017). Let's talk after-school: The promises and challenges of positive youth development for after-school research, policy, and practice. In N. L. Deutsch (Ed.), *After-school programs to promote positive youth development: Integrating research into practice and policy* (Vol. 1, pp.45–68). Springer.
- Dilnot, C. (1982). Design as a socially significant activity: An introduction. *Design Studies*, 3(3), 139–146.
- Dutton, S. E. (2001). Urban youth development—Broadway style: Using theatre and group work as vehicles for positive youth development. *Social Work with Groups*, 23(4), 39–58.
- Ersing, R. L. (2009). Building the capacity of youths through community cultural arts: A positive youth development perspective. *Best Practice in Mental Health*, 5(1), 26–43.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80–92.
- Interagency Working Group on Youth Programs (IWGYP). (2020). Positive youth development. <https://youth.gov/youth-topics/positive-youth-development>
- Janzer, C. L., & Weinstein, L. S. (2014). Social design and neocolonialism. *Design and Culture*, 6(3), 327–343.
- King, P. E., Dowling, E. M., Mueller, R. A., White, K., Schultz, W. Osborn, P., Dickerson, E. Bobke, D. L., Lerner, R. M., Benson, P. L., & Scales, P. C. (2005). Thriving in adolescence: The voices of youth-serving practitioners, parents, and early and late adolescents. *Journal of Early Adolescence*, 25(1), 94–112.
- Lerner, R. M. (2005, September). *Promoting positive youth development: Theoretical and empirical bases* [White paper]. National Academy of Sciences. <https://lifehouseduluth.org/wp-content/uploads/2015/02/Positive-Youth-Development1.pdf>
- Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development a view of the issues. *The Journal of Early Adolescence*, 25(1), 10–16.
- Lerner, R. M., Lerner, J. V., Almerigi, J. Theokas, C., Naudeau, S., Gestsdottir, S., Naudeau, S., Jelicic, H., Alberts, A. Ma, L., Smith, L., Bobek, D., Richman-Raphael, D., Simpson, I. Christiansen, E. D., von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H study of positive youth development. *Journal of Early Adolescence*, 25(1), 17–71.
- Lerner, R. M., Lerner, J. V., P. Bowers, E., & John Geldhof, G. (2015). Positive youth development and relational-developmental-systems. In R. M. Lerner (Ed.), *Handbook of child psychology and developmental science* (7th ed., Vol. 1, pp.1–45). John Wiley & Sons.
- Lin, F. L. Y. (2019). Using thematic analysis to facilitate meaning-making in practice-led art and design research. *International Journal of Art & Design Education*, 38(1), 153–167.
- Mace, M. A., & Ward, T. (2002). Modeling the creative process: A grounded theory analysis of creativity in the domain of art making. *Creativity Research Journal*, 14(2), 179–192.
- Margolin, V., & Margolin, S. (2002). A “social model” of design: Issues of practice and research. *Design Issues*, 18(4), 24–30.
- Meschke, L. L., Peter, C. R., & Bartholomae, S. (2012). Developmentally appropriate practice to promote healthy adolescent development: Integrating research and practice. *Child & Youth Care Forum*, 41(1), 89–108. Springer.
- Papanek, V. (1971). *Design for the real world: Human ecology and social change*. Pantheon Books.
- Saldaña, J. (2015). *The coding manual for qualitative researchers*. Sage.
- Waid, J., & Urich, M. (2020). A scoping review of the theory and practice of positive youth development. *The British Journal of Social Work*, 50(1), 5–24.
- Walker, S. (2004). Understanding the artmaking process: Reflective practice. *Art Education*, 57(3), 6–12.

Acknowledgements

Elizabeth B.-N. Sanders¹, Lauren B. McInroy², Sébastien Proulx¹, Susan Melsop¹ | ¹Department of Design, The Ohio State University
²College of Social Work, The Ohio State University

Thank you to the youth, staff, & volunteers at the South Side Club of the Boys & Girls Clubs of Central Ohio.

I live and work in a society that is inherently biased in my favor, built upon 400 years of racism and oppression against people of color, on land that was unlawfully and hatefully stolen from Indigenous peoples.

Designing for the Common Good – Workshops

Settings of Dying – Design as Common Good within Palliative Care

Bitten Stetter, Tina Braun

The Wall as a Vertical Common: Redesigning Spontaneous Interactions in the Public Space

Rendy Anoh, Shiri Mahler

Whose Common Good? Ideals and Challenges in Academic Programs Focused on Social Design

Elise Hodson, Ana Rita Morais, Christopher Pandolfi, Heather Daam-Rossi

Creating Legible AI (a Digital Workshop) (Vol. 2)

Franziska Pilling, Haider Akmal, Adrian Gradinar, Joseph Lindley, Paul Coulton

Untangling Social Justice: Design Futures for Systems Thinking

Hillary Carey

Resilience Making

Stephanie Carleklev, Wendy Fountain, Stephan Hruza

Just listen! Soundscape as a Designable Common Good

Daniel Hug, Andrea Iten, Max Spielmann, Catherine Walthard

Building Structures For (Ex-)Change

Sergio Palleroni, Michael McKeever, Bryan Bell, Colin Priest, Jeffrey Hou, Nina Pawlicki

Settings of Dying – Design as Common Good within Palliative Care

Bitten Stetter^{a*},
Tina Braun^{b**}

^aZurich University of the Arts,
Departement Design

^bUniversity of the Arts Bern,
Institute of Design Research

*bitten.stetter@zhdk.ch

**tina.braun@hkb.bfh.ch

The interdisciplinary project 'Settings of Dying' (2020–2023) focuses on four perspectives: language, religion, care, and design. This research project is a cooperation between the Bern University of the Arts, Zurich University of the Arts and the Center for Palliative Care in the City Hospital Waid in Zurich. The research is funded by the Swiss National Science Foundation.

The workshop concept is based on two dissertation projects. The practice-oriented dissertation of Bitten Stetter investigates the material culture of end-of-life-spaces. The practice-oriented dissertation of Tina Braun focuses on the visual communication and communicative touch points of a patient's journey within palliative care. The goal of both projects is to improve the quality of life at the end-of-life phase, and to integrate the process of dying through better, more appealing communication and products that are appropriate for a vulnerable target group. The methods are navigating between the discipline of anthropology and design including field research, visual ethnography, and design interventions.

1 Method

The workshop focuses on research in action and the journey of chronically, seriously ill patients and their relatives. Areas of design, action, and communication are analyzed by real end-of-life-objects and materials which we encounter in everyday life. The workshop will take place in a real palliative care patient room. We (Bitten Stetter and Tina Braun) will perform and visualize the journey of patients and their relatives. Therefore we will interact in a small 'life-world,' a 16-square-meter care room, by using 'standard designed' and 'new designed' communication tools and products. In order to give the workshop participants a deep insight into a Swiss-designed end-of-life-space, we will wear headphones and cameras.

With our research, we want to get a better insight into questions such as how design as a common good influences the quality of life, autonomy, and better communications. We are especially interested in questions on how care concepts must be redesigned for new care communities in times of demographical change and individualization. Our key question that will guide the participants through the whole workshop is: Can Design as Common Good evoke new relations and access to end-of-life situations?

The workshop has three objectives:

Firstly, the staging is intended to create a change of perspective through the clash of different perspectives (medicine, care, design). Secondly, in the sense of a co-design, it is intended to reflect both on design spaces as common good and on establishing a dialogue with other design professionals or researchers working within the field of health and design on the prototypes (product and communication design) that are in development. Thirdly, the workshop should provide insights into the designer's research activities.

2 Conceptual Framework of the Workshop

With this new digital research-in-action-workshop we would like to explore new ways of knowledge transfer and knowledge generation. 'Live' on stage, we would like to invite the audience into a room at the City Hospital Waid where we would give our participants the opportunity to get an insight into settings of dying within palliative care. Alternatively, in case we do not have access to the City Hospital due to Covid-19, we will set up a similar room with the same surroundings as in a palliative care institution.

The workshop is planned in three units:

Watch & Ask: The workshop participants will get an insight into the state of research by being shown research material, live and real. The virtual visitors of the workshop are invited to ask questions and to give instructions for action.

Analyze & Envision: In a short workshop-break, the participants will get the chance to virtually explore the materials in standard settings of dying, to find blind spots and develop their own questions and problems. The materials will be summarized in a PDF presentation or similar.

Reflect & Discuss: The design interventions, prototypes, and artefacts that we have developed so far will be discussed. The workshop participants will also get a chance to discuss their visions of settings of dying that they sketched, verbalized or researched in the Breakout-Session.

3 Timeline of the Workshop

Phase 1 of the workshop (45 minutes)

We would stage our workshop with performative and interactive elements using Zoom as a tool for the presentation of our current research within the real setting.

Phase 2 of the workshop (45 minutes)

Within a 45-minute Breakout-Session, our workshop participants will get the chance to find blind spots and develop their own design statements, using Mural as a digital working space and discussing different research aspects of end-of-life-situations within groups of five researchers. One of us (Bitten Stetter or Tina Braun) will moderate these discussions.

While our workshop-participants are involved in the discussions, we will change the setting of the room with our new prototypes and design interventions.

15 minutes break

Phase 3 of the workshop (30 minutes)

After the Break-out sessions we want to discuss the results of the workshop participants and how the blind spots that they found could lead to new research questions within the field of health care design.

As a final discussion that sums up the workshop, we want to review with the workshop participants how the change of setting changes perspectives and the role of design as common good within palliative care.

The Wall as a Vertical Common: Redesigning Spontaneous Interactions in the Public Space

Keywords: Community,
Placemaking, Piazza, Public-Places,
Covid-19, Projecting, Commoning,
Tactical-Urbanism.

Rendy Anoh^a,
Shiri Mahler^{b*}

^aUniversity of Bolzano

^bBezalel Academy

*shirimahler@gmail.com

The town square was once an integral city function throughout the world. It was the central hub of activity, a place for gathering to celebrate, receive information, conduct business, and simply sit (Rouse, 2017). But modern lifestyle and fast-paced life have slowly emptied these functions (Driggs, 2010), and the Covid-19- social-distancing-outbreak has threatened to give it a death blow.

But while Covid-19 has taken us deeper into our digital realm, it has also shown us the importance and power of the local community. We want to offer a breakpoint to this dichotomy between public and private local and global. By mimicking the prevailing on-line-digital communication in the public space, we can maximize spontaneous and planned interactions in a safe place, invite the public space inside our house, and vice-versa.

Based on a festival we created in Bolzano earlier this year, we propose to harness digital communication to send the message that people don't have to coop up behind screens.

1 Introduction

On the verge of the world tumbling on us, we met Botteghe di Cultura hoping to co-create a semestrial project through the University of Bolzano.

1.1 Botteghe di Cultura

Botteghe di Cultura is a joined social-association working in the heart of Don Bosco district, Bolzano. They came to us with a request for a design project to revive Piazza Don Bosco and re-connect the community around it. Thrilled for the opportunity to work on a communal-design project, we immediately took the task.

1.2 Piazza Don Bosco

The piazza, or the town square, has an important historical role in shaping towns and communities around the world (Rouse, 2017), and specifically in Italy. In his research regarding happy cities, Charles Montgomery claims that “the space we occupy can not only determine how we feel. They can change the way we regard other people and how we treat one another” (Montgomery, 2013).

The void of this specific place echoed the gaps in its community.

Piazza Don Bosco is a large and abandoned square located in a segregated neighborhood in Bolzano. Historically, the Don Bosco neighborhood was in the heart of the Semiruraly initiative that aimed to oppress the German community by the fascist regime, and tension in the area is building up for over a century (Ennio, 2001).



Fig. 1: *The Old Piazza Don Bosco. Historically the town square, and foremost the Italian piazza had a role in shaping towns and communities.*

2 Our Research

As we dug deeper into our research, we realized that Piazza Don Bosco is suffering from 3 levels of separation: First, at the structural level, years of rebuilding in the area have split the once impressive piazza into small little squares, with main roads crossing it in the middle and buildings mazing the pedestrian stroll. Second, at the usability level, each little square had different owners,

with various resources invest in shades and sitting arrangements, leaving the largest area utterly bare.

The third is at the social level. With two aspects, historically, this place is a source of social conflict, originating from the semirural days. The then semirural houses transformed into nowadays social-housing buildings. Now, through recent immigration waves, various communities joined the already divided population.

Which resulted in a divided society of both ages, languages, customs, and nationalities.(Bolzanism, 2020)

The second social aspect has to do with a rising trend in contemporary lifestyle, the abandonment of the public-place, as part of a fast-paced lifestyle, and the move towards online communities. (Crowhurst Lennard &Lennard, 2007)

Immediately we decided, our focus would go to the social level, which matches both our abilities, interests, and the existing time frame.

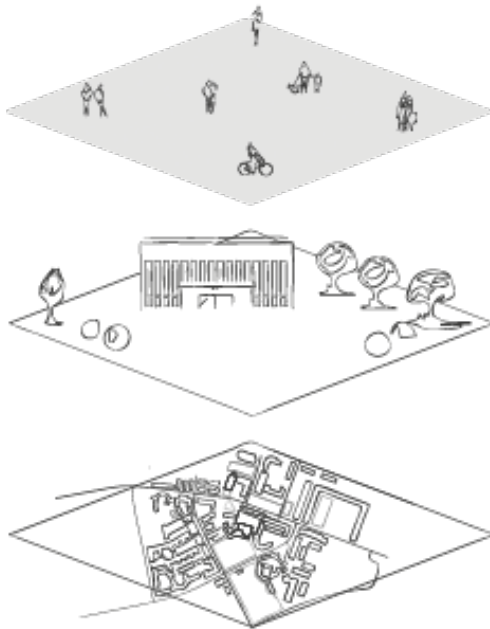


Fig. 2: *Three Levels of Separation in Piazza Don Bosco, all having an affect of the de-use of the space by the community.*

2.1 Researching Under Covid-19

Right as we were ready to go out into the field and work with our partners and the community came the first notice of lockdown. When we reached the conclusion-stage of this research, we were well in the middle of the harsh quarantine. We were no longer able to disregard the situation and dwell ourselves in work. Not only

were we locked up in our houses, separated from other friends and family, but also isolated from our research subject. We were studying a public space without experiencing it or being able to reach the community around it. And to top it all, our partners were forced to take unpaid leave. We were frustrated.

Our conversations wandered off into discouragement, wondering if there is a need for a public space in the current situation. Maybe Covid-19 has proven our project unnecessary. As the circumstances progressed, we became obsessed with the transformation it was creating in public spaces around the world. We discussed the new uses and new interaction of by-passers in the street, fascinated by the break of the dichotomy of private and public.

Using their private balcony, people sent calming messages and songs to bystanders in their communities. And on the other hand, communal-gardens began to pop out in public areas in a time when groceries were scarce. Then from the despair – a new idea emerged.



Fig. 3: *Private vs. Public - a new crack in the dichotomy of the public space under Covid-19.*

2.2 By Design or By Disaster

We have reached two conflicting realizations regarding the COVID-19 circumstances: First, it has accelerated the already existing trend mentioned before – the abandonment of public-space and the move towards online communities. While on the other hand, shortening our physical range, making us more dependent on our near-environment and community.

We looked at this conflicting whole and tried to think of ways to break this internal battle. We decided that our way of reviving Piazza Don Bosco is to resolve the contrast between these two distinctions. We wanted to find a way to break the dichotomy between public and private in this public space.



Fig. 4: *Imagining different ways to break the dichotomy in Piazza Don Bosco on a sketch we made according to Google Earth images.*

So we decided to embrace the emerging online-communication style, the infamous video calls, and take it out of the house and into the public eye. To turn the wall of the piazza into a vertical common, a meeting place that recreates the online meeting in the public space, in a way that will allow spontaneous meetings and connection. To trigger encounters through culture and creation, broadcasted live on the wall, in the public space, where the public can comment, interfere, and interact even under the most obscure closure.

The idea was to move from social distance to physical distance + social connections.

3 Don Bosco Festival

Now we had a concept, but to bring it to life, we had to generate connections within the community. Using Google Maps, Facebook groups, and local magazines, we sent an Email or message to every lead we could find. After a long few weeks, we ended up with a few focus groups of key community actors. It was during this process that our partners returned to work, and the wheels of this project began to turn. Together with them, we created workshops trying to understand what type of content will trigger the community to participate.

We realized that inside the community of Don Bosco resided many artists and creators that are looking for channels to project their content. We created an open call for a screening festival in Piazza Don Bosco, and the responses piled up.

And so, Don Bosco Festival was born. A four-day festival of local creation by the community for the community. We curated each day to relate to as many parts of the community as possible. We had musical performances, movies, and dance & yoga classes, all created by the residents of Don Bosco.



Fig. 5: *The festival lineup, curated with local content originating from the community.*

The idea was that each evening we would broadcast the content using a video conference service. Along the piazza, we would spread QR-code so that bystanders and neighbors could join the conference-call, participate, and comment. We would also send the QR-code in advance so that neighbors could join in from their balconies.

But that was not enough. We wanted every neighbor to join in, even if they were quarantined, at home. And so we decided that we would live stream the event and send the invite links throughout the neighborhood in advance.

Finally, we thought about the elderly population, that were not in on the online communication trend. Therefore we looked for a radio station to partner with to broadcast the event.

3.1 A Project Coming to Life

And so, together with Patrizia Corriero, and Giulia Schembri of Youth Magazine (Botteghe di Cultura), we designed, produced, and planned a festival that reinvents the square and uses the corona-media-approach of zoom calls and online culture.

To our delight, the province was enthusiastic and decided to pick up the project. And so, on the last four days of July, we celebrated local content and works by district residents on the Piazza Don Bosco walls, allowing people to connect from home or the square to video, comment, and produce online calls and meetings that were on display on the walls during the screening.



Fig. 6: *The first night of Don Bosco Festival. Neighbors and bypasses tuning in on local content. Photo by Patrizia Corriero | The Storycrafter – Youth Magazine.*

The festival was projected-live, streamed online, and also broadcast on the radio, so no matter what the status of social distancing defined by law, the festival will continue and dynamically take on a new shape.

The success of the event and the amount of engagement left us speechless. We were especially moved by the older population that returned every evening to watch from the balconies or sit in the piazza, telling us that for them, this event was a breath of fresh air.

Watching our dreams that were contrived while being cooped up inside our houses come to life was more than we could have ever expected. And seeing Piazza Don Bosco come to life and take on a new shape for four days in a row was astonishing.



Fig. 7: Don Bosco festival, watching local documentaries together. Photo by Patrizia Corriero | *The Storycrafter – Youth Magazine*.



Fig. 8: Don Bosco Bystanders and returning neighbors watching together. Photo by Patrizia Corriero | *The Storycrafter – Youth Magazine*.

4 The Workshop

Like talking to a wall: Redesigning words in public space to create multicultural-interactions. A dynamic walk & active workshop.

The Don Bosco Festival took place in Bolzano, which is a bilingual city (German & Italian), but the Don Bosco neighborhood holds within it many languages. Years and years of immigration waves have clustered small communities that differ by the tongue.

On the nights of the festival, as we enabled the chat, suddenly, all this variety of languages took hold of the public space. The different tongues filled the walls of Piazza Don Bosco, as we screened the live chat of the festival on the walls of the piazza.

For the first time, many of the neighbors could see their culture represented in the public space, that the public space was directing itself to them, they felt connected, related to, and that was a great part of the success of the Don Bosco Festival.

In this workshop we will try to examine what interferences can be made in the public space, to make it communicate with all its existing users. We will try to think, how the communication in the public wall can do more than inform its users, but it can catalyze interactions between them.

4.1 Concept

During the workshop we will examine different communications in the public space, we will create intercultural dialogue around our discoveries, then create manipulations on them to catalyze the dialogue.

The workshop will be made of 6 parts

- Intro - 10 min - Meeting on the video conference call, we will have a short introduction of the topic, and a short review of Linguistic Landscape theory.
- Dynamic Walks - 15 Min - We will go out, each outside their own place, for a 15 walk during which we will search for written communication displays in the public space, and take photos of them.
- Choose - 5 min - Each participant will choose one photo of a sign that is significant in his opinion. It could be emotionally significant, mentally, locally, or caution related. And they upload it as their background image.
- 4. Interpret - 20 Min - In pairs in breakout rooms. Participants go to the breakout room in pairs. Each participant has to decode their partner's sign, the literal meaning, and its significance.
- Design - 20 min - In their breakout rooms, the participants choose together one of the signs and create a bi-cultural version of it, in a way that transfers the significance of the chosen sign, but also creates communication and interest between their two cultures.
- Discussion - 20 min - Participants will change their background to the new design they created together, and we will discuss the process and result.

* Additionally we will suggest our participants put their creation in the public space or on social networks with the #talk_to_the_wall. That way we can document and see the effect of their creation.

References

- Crowhurst Lennard S.H., Lennard, H. (2007). *Genius of the European Squar: How Europe's traditional multi-functional squares support social life and civic engagement. A guide for city officials, planners, architects and community leaders in North America and Europe*, Carmel, CA: Gondolier Press.
- Driggs, O. (2010). Bodily actions that interrupt the structuring of public space. Sit, stride, chat, hike, scramble, feed, scour, crunch, scamper, loiter. *Performing Public Space*. From: <http://performingpublicspace.org/about>
- Ennio, M. (2001). *Le Semirurali di Bolzano, La città operaia*, Bolzano, Circolo culturale Don Bosco.
- Montgomery, C. (2013). *Happy City: Transforming Our Lives Through Urban Design*, New York: Farrar, Straus and Giroux.
- Rouse, S. (2017). A Return to the Town Square, *The International Making Cities Livable conference*, International Making Cities Livable Council, Gondolier Press Book.
- Bolzanism Museum, Tour Guided Map through the history of semirurali to social housing, Accessed, May 2020. <https://www.bolzanism.com/>

Acknowledgements

The original research was done in the masters program in Eco-Social Design at the University of Bolzano. Under the care and supervision of prof. Kris Krois and prof. Corinna Sy, with the support of prof. Secil Ugur, prof. Jennifer Schubert & prof. Alastair Fuad-Luke. Special thanks to Prof. Sigal Barnir.

Whose Common Good? Ideals and Challenges in Academic Programs Focused on Social Design

Keywords: Design Education,
Social Design, Social Impact,
Social Innovation, Inclusivity.

Elise Hodson^{a*},
Ana Rita Morais^{b**},
Christopher
Pandolfi^{c***},
Heather
Daam-Rossi^{d****}

^aAalto University

^bGeorge Brown College

^cDepartment of Unusual Certainties;
George Brown College

^dThe Moment; George Brown College

*elise.hodson@aalto.fi

**anarita.morais@georgebrown.ca

***chris@wearedouc.com

****heather@themoment.is

“I don’t see myself reflected in much of the narrative of design - not in the history, the theory, the practitioners or the outcomes” (Tejada, 2018)

Designer and educator Ramon Tejada’s poignant statement makes clear that design has failed to encompass a wide range of cultures, values, and lived experiences - a reflection that is pronounced in design education and pedagogy. In the context of current discussions about systemic power imbalances, decolonizing design (Schultz et al., 2018) and issues of representation and inequality, we wish to examine what is understood as the common good that design education aims to produce and for whom. In particular, we are interested in Master’s degrees and courses focused on design for ‘social impact,’ ‘social innovation’ and ‘real-world change’. These programs reflect an increase in social design activity in recent decades (Chen et al., 2016) and present a variety of approaches that often go beyond traditional market-based solutions (Irwin, 2015).

With regard to professional design practice, Guy Julier and Lucy Kimbell (2019) argue that social design has been limited by its economic and institutional contexts and therefore has tended to focus on the symptoms rather than the causes of inequalities. Design education may offer more space to challenge structural issues, but it also risks reproducing ideologies that contribute to the problems social design programs seek to address (Costanza-Chock, 2020; Kaethler, 2018). Institutional agendas, the makeup of faculty and administration, along with constraints such as academic calendars, evaluation requirements, enrollment targets, tuition and budgets, all influence the student body, curriculum, and choice of partners, and can compete with the needs of the communities that schools work with. Less visible are the economic and social value systems underlying design education that shape how common good is perceived.

This workshop looks at discourses of common good and the systems that uphold this ideal within design education. It asks: whose common good? How is that common good defined and enacted within and by design schools? By and for whom? What, if anything, makes design and design schools uniquely capable of envisioning, facilitating, and creating a common good? How are design ontologies, epistemologies, and frameworks formed and cultivated both within the walls of academic institutions, and ultimately perpetuated by the learner beyond those walls? This workshop is proposed by four design educators who have developed curriculum for a postgraduate program in social design in Canada. Echoing Tejada, we intend to question the ways in which the pedagogies we as design educators advocate for reflect (or do not reflect) diverse identities. In programs that are focused on creating change and action, we maintain that there is a need for more reflexive critical design and theory.

Participants will help to determine the geographic scope of the discussion by contributing, prior to the workshop, to a list of academic programs focused on social design. The workshop itself involves a series of group activities using Zoom and Miro. Drawing on the backgrounds of participants, we will begin by exploring understandings of common good and the issues this term gives rise to in the context of design education. In the final activity, groups will analyze case studies of contemporary graduate programs, examining how they present and enact concepts of common good in selected promotional materials and curricula. Groups will look at questions of inclusivity and how alternative visions of common good might be generated. Workshop results will be shared among participants.

References

- Chen, D.-S., Lu-Lin, C., Hummels, C., & Koskinen, I. (2016). Social Design: An Introduction. *International Journal of Design*; Taipei, 10 (1): 1-5. <http://search.proquest.com/docview/1788926043/citation/F2167A542FAF4C7APQ/1>
- Costanza-Chock, S. (2020). *Design Justice*. MIT Press. <https://design-justice.pubpub.org/>
- Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture*, 7 (2): 229–246. <https://doi.org/10.1080/17547075.2015.1051829>
- Julier, G., & Kimbell, L. (2019). Keeping the System Going: Social Design and the Reproduction of Inequalities in Neoliberal Times. *Design Issues*, 35 (4): 12–22. https://doi.org/10.1162/desi_a_00560
- Kaethler, M. (2018, December 5). *Critical Reflections on Social Design*. <https://www.designacademy.nl/news/articletype/articleview/articleid/3033/critical-reflections-on-social-design>
- Schultz, T., Abdulla, D., Ansari, A., Canlı, E., Keshavarz, M., Kiem, M., Martins, L. P. de O., & Oliveira, P. J. S. V. de. (2018). What Is at Stake with Decolonizing Design? A Roundtable. *Design and Culture*, 10 (1): 81–101. <https://doi.org/10.1080/17547075.2018.1434368>
- Tejada, R. (2018) We Must Topple the Tropes, Cripple the Canon. *Walker Art Centre Soundboard Reader*. <https://walkerart.org/magazine/soundboard-queering-design-education-ramon-tejada>

Creating Legible AI (a Digital Workshop) (Vol. 2)

Franziska Pilling,
Haider Akmal,
Adrian Gradinar,
Joseph Lindley,
Paul Coulton

Artificial Intelligence (AI) technology is now commonplace and is often perceived as a unique selling point for consumers, under the guise of improved efficiency implemented into a wide range of everyday applications. These include social media, shopping, media recommendations and is also increasingly making decisions about whether we are eligible for a loan, health insurance and potentially if we are worth interviewing for a job. While such optimisations may be welcomed and sought after by users, often the operation of AI and how it handles data are obscured either intentionally or in the name of simplifying the operation for the user. The recent scandals such as Cambridge Analytica and the surge of AI applications brings many design challenges regarding bias, transparency, fairness, accountability, trust etc. It has been proposed that these can be addressed by considering user agency, negotiability and legibility as defined by Human Data Interaction (HCD). Therefore, it can be argued that by providing solutions towards legibility, we can also address other considerations such as fairness and accountability. The lack in end-user knowledge regarding the operations of AI within devices may stem from the definitional dualism of AI, referring to both generalised AI, favoured in the fictionalisations of killer AI robots (e.g. HAL9000.), and the stark contrast of actual machine learning used within, for instance, smart assistants such as Alexa (Lindley et al., 2020; Pilling & Coulton, 2020). A meaningful manner of communicating the reality of the functions and operational reach of AI could be through iconography, which will be explored during the workshop. A practical method to signpost, signify and reveal the use of AI technology and improve user understanding of AI. The knowledge of AI technology can provide a waypoint towards user agency in technology that is used for socially consequential classifications, which 'valorises some point of view and silences another' (Bowker & Star, 1999) in its present black box obscurity.

Through a design-led enquiry, we surveyed current AI imagery, which highlighted that existing AI icons or imagery does not articulate the ramifications or implications of using or being the subject of AI technology, where often AI images conflate ideas of sentient machines, shrouding the reality of this technology (Lindley et al., 2020). To develop 'intuitive' AI icons for AI legibility our enquiry utilised a Research through Design (RtD) methodology; being generative in nature suited the challenge of AI as it is sociotechnical and therefore, requires the complex integration of diverse disciplines from HCD, human-computer interaction (HCD), AI-human interaction, semiotics and developing AI research. The first iteration of AI icons communicated six key identified AI factors for AI legibility, from processing location to learning scope of the AI etc. These icons were then empirically tested for their intuitiveness (Ferreira et al., 2002) through the first series of workshops, as icons 'successfulness' is guaranteed if the user matched the interpretant to the intended concept, object or implication (Barr et al., 2002). Additionally, the workshop's research aim was to gather insight and data towards developing and re-designing the prototypical AI iconography set through co-design exercises with participants. We are currently at the stage of this research where we have analysed the findings from the first series of workshops and have developed a second iteration of the AI icons and our bespoke digital workshop. Our intention is to further use the workshops as an opportunity to continue to collaborate with participants to disrupt the icons, test their intuitiveness and present insights into the visual language through a range of co-design tasks and provocations. The tasks range from making connections between visual icons and textual descriptors of functions, deciphering AI services with iconography and designing and co-creating innovative icons. By using the iterative volumes of workshops as a tool, we hope to create and design a set of icons that are holistically legible to intended users and to produce a set of concentrated icons that is legible by design.

2 Workshop Information and How it Will Play Out

Through the pandemic, we adapted the workshop to a digital counterpart. Rather than sourcing an online tool to support what had initially been a face to face workshop; we instead developed an interactive workshop to suit our research medium and replicate the original, playful mechanics of the physical workshop with participants using physical icon cards to complete tasks. We have designed an interactive website, using a game engine, where participants will complete tasks online while simultaneously connected as a group, via Microsoft Teams, to both the facilitators and other participants.

2.1 Overview of the Workshop Tasks

The workshop begins with an introduction of the workshop facilitators and the primary research, detailing the RtD process and the contextual research for designing the icons. This introduction will lead to a brief overview and aim of the workshop and to make

sure the participants have access to our interactive tasks. Each task is detailed below and is accompanied by a workshop facilitation table, providing a snapshot plan of the workshop.

Making Connections: Using the workshop website participants will be presented with a deck of icon cards, separate to these cards will be their associated text cards in a random order. Participants are tasked to match together the icon cards to their text cards as they see fit (Figure 1). On completion of the task, the participant's connections will be uploaded to an online data and visual analyser that the workshop facilitators will have instant access to and be able to share with the participants also to see the results. This results will form the basis for the discussion segment after.

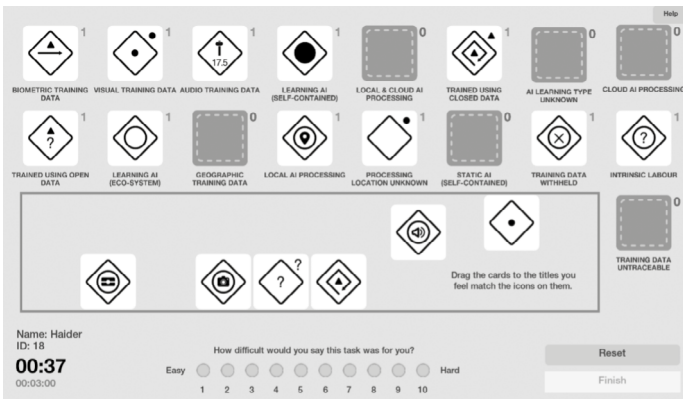


Fig. 1: Screenshot from the first exercise – Making Connections. Participants drag and drop the icon card to a descriptor they think is a correct match.

What's in my AI: A scenario describing a typical AI service or product is presented to the participants. For this task, we ask participants to assign icons to the scenario depicting the functions and operations of the AI. This task gets the participants to use the icons as a way to interrogate the operations of AI further and how technology can be made more legible to users.

What's Important to You as a User: As with nutritional information displayed on food packaging, different ingredients have a different rating of importance to a consumer. Therefore, this task asks participants to rate what is important for them to know about an AI, by rating in order of importance using the AI icons. For example, would the type of personal data being recorded (location visual, audio) be rated highly important, or would the way in which the AI is being used (recommendation or predictive purposes) be more important?

Draw Your Own: Following the discussion and previous task, we as a research team, anticipate and encourage that the participants will have alternative ideas and icons to those we have presented. This task, through a drawing app on the workshop website, enables participants to design and illustrate their own icons and ideas regarding the obscure operations of AI that they believe should be communicated to users (Figure 2). This task is about co-creating alternative methods to tackle the obscurity of technology.

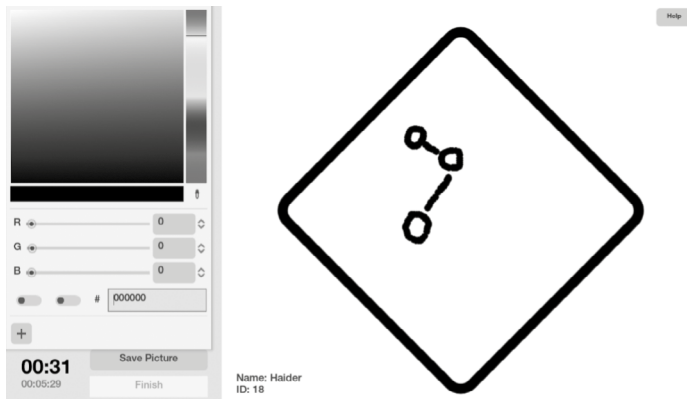


Fig. 2: *The digital canvas and drawing tools for participants to co-design AI icons.*

What's Intrinsic Labour: In the preliminary research we presented a relatively philosophical icon to communicate the value or the ambiguous cost of using AI, beyond the remit of monetary value, such as the impact on climate change. This task asks participants to consider different notions of value and cost of using this technology.

Our expected outcome from this workshop is to have participants asking themselves questions around AI legibility, and hopefully taking away a deeper understanding of AI. We would like the workshop to be an opportunity to demonstrate the potential design, as a practice, has in revealing the obscure nature of AI technology or at the very least designing legibility into current technological systems.

Duration	Activity	Materials
10 mins	Introduction	Microsoft Teams
10 mins	Making Connections	Task on workshop website
10 mins	Discussion	Microsoft Teams
5 mins	What's in my AI	Task on workshop website
8 mins	Discussion	Microsoft Teams
10 mins	What's Important	Task on workshop website
8 mins	Discussion	Microsoft Teams
8 mins	Draw Your Own	Task on workshop website
8 mins	Discussion	Microsoft Teams
5 mins	What's Intrinsic	Task on workshop website
10 mins	Discussion	Microsoft Teams

Table 1: *Facilitation Table.*

References

- Barr, P., Noble, J., & Biddle, R. (2002). *Icons R Icons: User interface icons, metaphor and metonymy* (CS-TR-02/20). Victoria University of Wellington School of Mathematical and Computing Sciences Computer Science.
- Bowker, G., & Star, S. L. (1999). *Sorting Things Out Classification and Its Consequences*. The MIT Press.
- Ferreira, J., Barr, P., & Noble, J. (2002). The Semiotics of User Interface Redesign. *Proceedings of the Sixth Australasian Conference on User Interface*, 40, 47–53.
- Lindley, J., Akmal, H. A., Pilling, F., & Coulton, P. (2020). Researching AI Legibility through Design. *CHI '20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 13. <http://doi.acm.org/10.1145/3313831.3376792>
- Pilling, F., & Coulton, P. (2020). What's it like to be Alexa? An exploration of Artificial Intelligence as a Material for Design. *In Proceedings of Design Research Society Conference 2020*. <https://doi.org/doi:https://doi.org/10.21606/drs.2020.218>

Untangling Social Justice: Design Futures for Systems Thinking

Keywords: Social Justice, Racial Equity, Futures, Social Impact.

Hillary Carey^{a*}

^a*School of Design, Carnegie Mellon University*

*hac@andrew.cmu.edu

Transition Design and Autonomous Design propose that long-term visions of possible futures are an important collective activity to drive change. Social Impact Designers can benefit from futures mapping activities to make the entangled systems of injustice more explicit. Creating images of long-term objectives can strengthen our paths toward justice in several ways: (i) bring clarity to what we are working toward, (ii) help shape long-term goals and pathways there, and (iii) reveal the complexities of intertwined social challenges. Participants in this workshop will practice design futuring tools while engaging questions of racial equity, structural oppression, and resilient societies.

As part of the Swiss Design Network's online conference, *Design as Common Good*, Hillary Carey, a Ph.D. researcher in the Transition Design program and Carnegie Mellon, will deliver a workshop to explore the uses of futuring tools for social justice topics. Strategic foresight tools, like backcasting and 3-Horizons, are useful to shift perspectives on complex problems. Thinking through ideas about possible futures can reveal the interconnectedness of social challenges. Each aspect of the process of futuring can have value to the work of social impact: mapping the elements of change, the conversation that results, and the final visions. These processes help designers map the present context and imagine interventions for next steps and long-term planning.

By working collaboratively to imagine a future where racial justice has been achieved, participants in this workshop will work with and engage questions of racial equity, structural oppression, and society. In working through activities that combine the tools and activities of foresight practices with social justice frameworks, individuals and groups can map how different aspects of the challenge are interdependent. This workshop will focus on issues of racial justice. By engaging in a complex social challenge, teams may gain new perspectives on systems that hold oppression in place. For example, mapping equity in education can reveal how school improvements are often limited by public funding practices connected to inequitable neighborhood boundaries, which relate to underinvested infrastructure, etc. It is working through the pieces of the vision that we gain new insights.

Making deliberate space to think about 100-year futures and what it might look like if society has resolved these problems can offer permission to think about equity from a different angle. In racial equity work, which involves historic and intertwined structures of oppression, the weight of the present challenges too often clouds over more significant opportunities. Descriptions of the futures themselves can be powerful in motivating people toward change. They can help ease fears about change, highlighting the benefits rather than the losses. The more specific and descriptive, the better to help people imagine what the outcomes of change might look and feel like. Yet, social justice work rarely describes the result of struggles against oppression. For designers, who are often naturally oriented toward the future, materialize those visions can be a way to support movements toward change.

This three-hour workshop will begin with a brief presentation reflecting on the intersection of foresight and social justice. Attendees will then work virtually in small groups, with a warm-up activity, scaffolding activities, and then vision creation. Then we will come back as a larger session and reflect on the application and usefulness of the materials, conversations, and visions. In taking time to brainstorm ideas and then imagine a future where racial justice has been achieved or where our own work is finally no longer needed, participants will think differently about social justice. Attendees will leave with two activities to try with their own teams, or personally, to describe the world they are working toward and the critical turning points to get there.

Resilience Making

Keywords: Resilience Making,
Co-Citizenship, Design education,
Visualisation.

Stephanie Carleklev^{a*},
Wendy Fountain^a,
Stephan Hruza^a

^a*Linnaeus University, Växjö, Sweden*

*stephanie.carleklev@lnu.se

In pursuing the common good, resilience is often promoted as a key concept relevant to addressing complexity and uncertainty in the face of social and environmental challenges. While the concept should not be used without caution, it has helped us to develop an adequate pedagogical response to purposefully use design's ability and its inherent creativity to seed change towards futures of sustainability by working with 'resilience making' as urgent, creative and adaptive action to promote collective design agency. In our workshop we would like to continue this dialogue in a creative way, trying to collect more 'seeds' of what could constitute the 'common good' and what eventually could inform and inspire design action.

1 Workshop

In pursuing the common good, resilience is often promoted as a key concept relevant to addressing complexity and uncertainty in the face of social and environmental challenges. While the concept should not be used without caution (Lotz-Sisitka et al. 2015, Olsson et al. 2015), it has helped us to develop an adequate pedagogical response to purposefully use design's ability and its inherent creativity to seed change towards futures of sustainability. Having said that, we continue to explore how the concept of resilience and the related aspect of co-citizenship connect and can be enacted. In our educational work, we work with 'resilience making' as urgent, creative and adaptive action to promote collective design agency. We seek to connect students within social-ecological systems as continua, rather than positioning systems as separate, abstract or theoretical concepts. In doing so, the idea of the common good in and through design becomes a tangible exploration and conversation, while we at the same time work with processes of design and their emergent possibilities. This conversation about what constitutes 'good', 'sustainable', 'caring' and so forth is not without value, especially in diverse groups, as we – despite having a good understanding of our problems and shortcomings – know very little about how to solve them. The challenges we are facing are complex, systemic, and highlight conflicts between “humanity’s wide ranges of achievement goals” (O’Brien et al. 2013, 50).

One important element of our research and educational design has been to explore how local and traditional knowledge around resilience manifests across the interconnected social-ecological systems of specific places and cultures. The idea here is not to see our solutions as “visions that will emerge in the future”, but as already present. This provides us with an opportunity to discover the global and abstract in the local and concrete and to provide the students with possibilities for engaged, lived experience of transformative praxis. This is relevant as the instrumental relationship between learning, citizenship and democracy or the idea of learning as a way to provide solutions for numerous social and political problems is not unproblematic (Biesta et al., 2013). The learning design is both informed by layering (among others) insights from anthropologist Tim Ingold’s (2013) approach to meaning-making through embodied and sensory engagement with environmental phenomena, materials and cultural artefacts as well as educational researcher Stephan Sterling thoughts on connecting perception, conception and practice to achieve sufficient and whole system responses to sustainability (Sterling, 2014).

In our workshop we would like to continue this conversation in a creative way, trying to collect more 'seeds' that can enrich a collective library of what constitutes 'common good' and what eventually can inform and inspire design contribution. We hope to collect and share a rich and inspiring variety of stories and examples.

References

- Biesta, G. , De Bie, M. , Wildemeersch, D. (2013) Civic Learning, Democratic Citizenship and the Public Sphere, Springer
- Ingold, T. (2013). Making: Anthropology, archaeology, art and architecture. Abingdon, UK:Routledge.
- Lotz-Sisitka, H., Wals, A., Kronlid, D. and McGarry, D. (2015) Transformative, transgressive social learning: rethinking higher education pedagogy in times of systemic global dysfunction in Current Opinion in Environmental Sustainability 2015, 16:73–80
- O'Brien, K; Reams, J.; Caspari, A.; Dugmore, A. ; Maryam Faghihmani; Ioan Fazey; Heide Hackmann; David Manuel-Navarrete; John Marks; Riel Miller; Kari Raivio; Patricia Romero-Lankao; Hassan Virji; Coleen Vogel; Verena Winiwarter. (2013) You say you want a revolution? Transforming education and capacity building in response to global change in environmental science & policy, 48 – 59
- Olsson, L., Jerneck, A., Thoren,H., Persson,J. and O'Byrne, D. (2015) Why resilience is unappealing to social science: Theoretical and empirical investigations of the scientific use of resilience in Science Advances 2015, 1.:doi: 10.1126/sciadv.1400217
- Sterling, S. (2014). 'At variance with reality': How to re-think our thinking. Journal of Sustainability Education, 6, May. Retrieved from http://www.jsedimensions.org/wordpress/content/at-variance-with-reality-how-to-re-think-our-thinking_2014_06/

Just listen! Soundscape as a Designable Common Good

Keywords: Soundscape, Landscape,
Acoustic Ecology, Common Good,
Commons, Periphery.

Daniel Hug^a,
Andrea Iten^a,
Max Spielmann^{a*},
Catherine Walthard^a

^aFHNW, Academy of Art and Design,
Institute HyperWerk, Basel
*max.spielmann@fhnw.ch

Where does perception end and design begin, or is perception already principally to be understood as design? In the intercultural sound project *Peripher_ies* we compare and interpret soundscapes produced with field recordings by students and academics. We discuss the dimension of the intercultural differences in understanding, meaning and quality of the soundscapes and the dimension of the acoustic ecology which we receive through perception. All this is a way to think about two specific Common Goods - our landscapes and our social and cultural relations - on a global and a local scale. In the workshop *Just listen!* we will use our own field recordings as an opportunity to discuss questions on the Commons, soundscapes and the role of design in the sustainable development of urban and rural landscapes.

1 Introduction

"I suppose that's the way we humans are, thinking too much and listening too little." (Robin Wall Kimmerer, 2013, p.300)

As part of the exchange program *Peripher_ies*, and in collaboration with around ten partner institutions from five continents, we have been conducting online workshops concerning the production and shared interpretation of locally recorded soundscapes since April 2020. Through the creation of such a community of listeners we sought to explore how the shared perception of soundscapes can open up a differentiated intercultural dialogue and lead to a change in mutual understanding. This led us, in turn, to develop approaches to the question of *landscape as a designable commons?* and ultimately to reflect on the self-conception of design as a discipline. This activity of *commoning* has been at the center of the discussion on the Commons for several years now (Silke Helfrich, 2019). Can we understand design as an activity of jointly developing rules and procedures, as a practical aesthetic action? The experience of being involved in *Peripher_ies* has led us towards an ecological understanding of mutuality and away from hierarchies like periphery and center. In addition, the activity of *just listening* has carefully prevented us from hanging onto existing concepts and their implicit hierarchies and led us towards communality.

2 Commons and Landscape

2.1 From Common Good to Commoning

A Common Good "benefits society as a whole" (Huseein, et al, 2018). The term encompasses a whole range of different things such as material goods, infrastructure, values, rules, services and natural resources. With this term a firm line can be drawn between private goods, and thus private property, and what is held in common. But it is not the things themselves that are up for negotiation, or which have an active relation with people and with other things. While the concept of the Commons (Gemeingüter or Gemeinschaftsgüter), which in German is often called *Allmende* or common land, is superficially close to the term Common Good, it, by contrast, always refers to a mutual, active relationship between goods and people. At the center of this second term is the community that manages the commons. But how does it do so? Elinor Ostrom, an economist who won the Nobel Prize for her research on the commons, has identified eight principles that comprise a commons. She calls them "design principles" (Ostrom, 2015, p.55f) which define the groups of users, their (self-)organization and conflict resolution mechanisms, and social embeddedness. Classic commons are finite natural resources such as water, land, fish or forests. Here it is important to note that it is the form of management that characterizes them as commons, rather than the 'type' of resource at hand. In theory, almost anything can be considered a commons.

Commoning encompasses the process of creating and continually developing a commons. For Colombian-American anthropologist Arturo Escobar, commons have long been people's "main strategy for designing their world. It consisted of human and nonhuman, animate and inanimate, material forms and spiritual beings - inextricably intertwined and enduring to this day." (Escobar, 2015, p.334). Escobar refers to commoning as an ontological-political praxis which relationally connects everything. For example, the term "cap" refers to an upper limit in the management (cultivation) of a natural resource, a body of knowledge that has developed over many generations of shared life and experience. In such a context, it becomes clear that the term "resource", understood as a single, exploitable good, is completely wrong and that the concept of ontology should be used dynamically, relationally, and in the plural as multiple ontologies (Mol, 2002). As designers, our guiding questions in this thematic area include: is commoning a work design can do in the service of the Common Good? and should the term "design principles" be understood literally as work solely belonging to the design disciplines?

2.2 Landscape as a Commons

For Georg Simmel (Simmel, 1913), "landscape" is characterized by the selection of a sum of individual elements, essentially from nature, which are consciously put together, seen and understood as a unity. This understanding also resonates with Lucius Burckhardt's definition:

"The landscape is thus a trick of our perception, which makes it possible to combine heterogeneous things into one picture and exclude others" (Burckhardt, 2006, p.82).

But where Simmel still romantically searched for a unity or whole, Burckhardt explored the heterogeneous elements of cultural landscapes with the aim of understanding their own qualities. Both thinkers maintained an understanding of landscape as a common good. Simmel described the piecing together of constituent parts into the composition which we call a 'landscape' as a "work of art in statu nascendi" (Simmel, 1913). He wrote that a landscape is a cultural concept that operates as an aid to the understanding or to identification, a demand, a desire or an expectation. His approach can provide a working definition for us going forward, although we also want to acknowledge that there are quite different definitions and approaches depending on specific linguistic and cultural areas, science (e.g., geography), or epistemology.

We would now like to give an example. In the context of NRP48 (Landscapes and Habitats of the Alps), the research group "Processes of Perception" investigated the question "What are the Alpine landscapes for?". Six dimensions were identified, three of which are of interest for our consideration here: the physical-sensual, the aesthetic and the identificational (Backhaus, et al, 2007). This last

dimension, which might be better called the "classificatory" dimension in English, represents the kind of self-affirmation or recognition that people can discern in a landscape, which is achieved through the perceptive structuring of the traces that human beings have left behind them in that landscape. In all of these dimensions, landscape, which is here understood in a mental and immaterial way, can be seen as a commons. We are all cultural users of a landscape who develop a symbolic-cultural understanding of it. The three other dimensions identified by the research group, namely the economic, political and ecological, should rather be understood in terms of the use of a landscape and the consequences of that use, as well as in terms of its spatial, material dimensions. Furthermore, individual studies have investigated and mapped out social negotiation processes in Switzerland concerning the Alps. As Backhaus writes, the importance of conflict situations lies in

"knowing and understanding the different ideas...as this expresses mostly hidden expectations and desires for the life-space of the landscape (die lebensräumliche Landschaft)." (Backhaus, et al, 2007, p.109).

If the intersubjectively shared and diverse ideas about a landscape are transparently worked out and disclosed through negotiation, then common solutions can be found.

Understanding landscape as a commons is a first step towards commoning, and it begins with reflecting upon perception. In our previous project *Peripher_ies* we worked concretely with soundscapes to common cultural understanding. Therefore, it is important we address questions about the definition of a soundscape and about the differences between landscapes and soundscapes.

3 Soundscapes

The notion that the sensory dimensions of a landscape are a question of both aesthetic experience and pragmatic action is also present in the discourse on soundscapes. The term goes back to the World Soundscape Project, which was founded by R. Murray Schafer in the late 1960s and then elaborated upon in R. Murray Schafer's groundbreaking book "The Tuning of the World" (1977). Later, in 1993, the World Forum for Acoustic Ecology was founded. It aimed to foster understanding and education about the social, cultural, scientific and ecological aspects of the sonic environment, contributing to the preservation of existing natural soundscapes as well as designing and creating "healthy and acoustically balanced" sonic environments"[1].

[1] See <https://www.wfae.net/about.html> (retrieved December 15, 2020)

In the context of our work in design it is striking that the notion of “acoustic design” was the ultimate motivation for Schafer and his colleagues[2]. Schafer posited that soundscapes should be understood and cared for as musical compositions in the sense that they emerge from actions and interactions in a specific environment and are impacted by technologies such as industrial machinery or electro-acoustical transmissions. From a contemporary perspective, we can add that this agency or interactive quality is exerted by both human and non-human agents and is the result of design processes in the broadest sense. The products of such design processes can include things as wide-ranging as cooking systems, housing and living, transportation, the economy, communication, education or politics, because they all entail sonic manifestations, communication and specific acoustic ecologies.

In Schafer's work, the term “soundscape” is based on the concept of a “landscape” mainly in terms of the possibility to “isolate an acoustic environment as a field of study just as we can study the characteristics of a given landscape” (Schafer, 1977, p.7). A soundscape, at first sight, might be understood as spatially arranged sonic events constituting an entity which is perceived by listeners. But Schafer's use of the term is rather general, ignoring the deeper conceptual implications embedded in the term “landscape”. Instead, Schafer posits an essential difference between the two, whereby he frames the representation of landscape as primarily “photographic” as opposed to the sonography required for soundscapes. Because a “soundscape consists of events heard, not objects seen” (Schafer, 1977, p.8), means of visual representations are only partially helpful in describing a soundscape. Concepts like the “listening horizon” constitute the basis for acoustic communities, and are seen as spatial, geographical concepts in soundscape analysis. But other concepts are equally important, such as those derived from acoustics (e.g. “hi-fi soundscape” as being a soundscape which has a well-defined structure and enables communication) or music (e.g. “key-note sound”, which refers to a background sound which is essential of defining the sonic identity or atmosphere of a place).

What landscapes and soundscapes certainly share is the fact that they both emerge as entities out of the sum of their parts and yet become more than that sum. This is also where the soundscape relates to the “atmospheric”, a concept which was introduced by Böhme, who states that “[f]or instance, the feeling of “home” is strongly mediated by the soundscape of a region, and that the characteristic experience of a lifestyle, of a city's or a countryside's atmosphere, is fundamentally determined in each instance by the acoustic space.” (Böhme, 2000, p.16). Following Böhme, we can see

[2] Consider here the goal of the World Soundscape Project as well, which is described on the website as “[...] to find solutions for an ecologically balanced soundscape where the relationship between the human community and its sonic environment is in harmony”.

how this atmospheric quality of soundscapes along with their meaning and relevance for listeners emerges at the intersections of nature and culture and of individuals and society.

This is why soundscape studies seek to investigate the relationship between people and the sounds of their environment. Focusing on a communicational model allows us to posit sound as “mediating or creating relationships between listener and environment” (Truax, 2001, p.12). This communicational and relational aspect is at the core of our engagement with soundscapes. How can the relational and communicational power of sounds and soundscapes foster communication between individuals across cultures, time and space? How can they offer new ways of mutual understanding and caring? And how does this ultimately lead us to viewing design as an action, a deliberate intervention into our world along with its artifacts and systems - our ecologies?

To enter a process of relational communication through sound requires the interpersonal sharing of listening experiences, which in turn requires that sounds are at least recorded, which may be complemented with some sort of visual and/or verbal representation. Recording (in) a soundscape reveals a dialectic between an immersive, subjective, performative act and a rather objective stance towards a given sonic environment, which entails a process of selecting, of framing, of “objectifying” in the continuous flow of sound around us. This confronts us with another duality of sonic experience itself: every sound can be listened to as an index, as a manifestation or representation of the event that creates and shapes it. At the same time, a sound can be listened to as sound in itself, as “objet sonore” (Schaeffer, 1966). The predominant listening mode can shift in the very process of listening, and it includes a dialectic between clarity and ambiguity, which we believe is at the core of enabling communication processes that result in new understandings. Furthermore, the process of listening results in a series of aesthetic and material transformations with the ultimate goal of finding an audience of again-listeners.

The act of recording thus brings us into a new dynamic which forms a kind of “methodology in the making”^[3]. The methodology establishes a circular process of listening, recording, sharing, re-listening and re-experiencing, as well as communicating and conceptualizing.

Our initial instruction to participants is to listen to the soundscapes that they are currently immersed in and find sounds that are in some way meaningful to them. Through this “priming” of the listening, we force the first stage of the listening act to be framed

[3] The question of how to go about listening to and recording soundscapes has been debated since the outset. One example is the “street listening method” proposed by Trixiier (2002).

within personal relationships rather than musical parameters, such as, for example, listening for sounds that would work well as a kick-drum. In its most basic form, listening is self-centered, and happens all the time we cannot close our ears. This is emphasized in the recording act by the fact that we wear headphones to monitor the sound of the microphone we are using. It is important to note that the microphone and recording apparatus always alter and de-familiarize the sounds we listen to. This technological alteration, in turn, interacts with the kind of listening oriented towards how personal relationships are mediated by sound - our relationship to the sounds, and not only the sounds themselves, begins to shift; the indexical, referential sonic event and the abstract, affective sonic object meet and intertwine.

The recording of and in soundscapes also confronts our own ways of listening, our “ergo audition”, the “listening to oneself acting” (Chion 1998) and its related bodily presence with the question: what belongs on the recording? This is because our entire bodies participate in the act of recording, not just our ears. Activities like tracking a moving object with a microphone, which requires careful movement and control of the microphone and possibly also of a boom pole, are very bodily and physical actions. However, they are performed with the goal of making this bodily movement inaudible: Don’t move, don’t breathe. According to the field recording orthodoxy, our body as well as recording actions need to be eliminated from the recording, which eliminates the self as it is present sonically through breathing, movement, etc. Or does it? This is the sort of question we would like to pursue with the workshop participants, by asking them whether the noise of the hands, the breath or shuffling of the legs are not already part of the experiential, acoustic situation we “find ourselves” in and “act upon” when we record soundscapes.

Following the recording, which we understand as the extraction of already transformed sonic entities from the soundscape, one must edit the files, further dissecting, segmenting, framing and extracting materials. Then, once the file is ready for common listening, we transport ourselves collectively into the situation we hear in the recording, experiencing the “immaterial corporality” described by Connor (2004), and the presence of space reported by Blesser and Salter (2007). Finally, in the common discussion, we learn to differentiate, to relate, and to *listen to how we listen*. At this stage, the experience that was once individual, personal and self-centered becomes commoned.



Fig. 1: Audio device and drawing. (A.Iten)

4 Atmospheres and Perception

Resonating bodies – embodying interfaces

How can we understand the sound we hear internally when we sit, pause and listen? The blood rushes to our ears, time passes, silence. The pen scratches on the paper while writing; the keys rattle when we type on the computer, spitting out their elastic, digital sounds. But what if we stop and listen? The blood rushes to our ears, time passes, we become time.

Taken out of time

We embody time. The soft tinkling of bells, a child's voice. Not moving, being static, footsteps on the concrete, cold fingers in winter, the automobile rushes by. The door slams shut. It is silent. Scooter.

Our bodies are living archives

Inhale, exhale, the fan hums softly. Record, re-ceive, eavesdrop through the headphones. Point the microphone and hold your breath so as not to be present, so as not to disturb sounds that want to be recorded. Not wanting to observe yourself doing it. Not imagining it when the engine of the car starts, when the ball thunders against the wall of the house - thud - reverberations after the dull impact. Parking, coming home, surrendering the self. Remembering.

At the interface

Taking oneself out of time. Who takes what out of time and how? How does it sound? Passive sharing of time. To be, to stay being? How to stay? At the table, at the lake, in the garden, behind the house, in front of the window, in nature? Just hear, listen, detach, unravel. The art of language connects our bodies through the

sound of the landscape. Ears that see find a direction. Children playing outside, listen: crying, consoling. Listening to listen, shouting to listen, clamouring to listen. Soothing to listen, hush, silence. Sounds of silence. Polyphony. Children play in the passage between inside and out.

Analysis

The critical potential of an aesthetics of atmospheres.

"No one is indifferent to how they are situated. At this point, the rehabilitation of applied art and the aestheticization of everyday life turns into a critique of living conditions. It becomes apparent that an aesthetic dimension also belongs to a dignified existence". (Böhme, 1995, p.41).

Interpretation – Transfer

When we listen to an environment and then share our respective individual perceptions of it, we record. Capture sound waves, measure and register: "Enregistrer". Whoever shows up with a microphone and a recording device breaks away, stands out. Blood rushes to the ears, the heart beats. Zero hour, the first lockdown and Covid 19 have challenged us to listen; restricted mobility. Listening spaces have become our new landscapes, if not our stages. According to the scholar Erika Lichte Fischer:

"The performative space is always at the same time an atmospheric space. The bunker, the streetcar depot, the former grand hotel - each of these spaces has its own special atmosphere. Spatiality is created not only by the specific use that actors and spectators make of the space, but also by the particular atmosphere it seems to radiate". (Lichte-Fischer, 2004, p.200).

Exchange

In common spaces we can portray ourselves as common, and share what we think about them and in them. We lay them bare; we listen to them together. What seems livable to us in these spaces is comparable to two being more than one. Our spatial configuration in workshops is a point of departure that continues through our sensual perception.

"There is therefore not only a basic aesthetic need to show myself and to co-determine my surroundings atmospherically through my presence". (Böhme, 1995, p.42).

To record a sound means to orient oneself and say: this is how I am present. I am here. This is how I hear. And how do you hear? Do I like it or not? How much time flows when the rain falls to the ground. Is it too loud?

The context of communication

"Natural beings are not just there - they are always in interaction with each other, but also step out of themselves. They even form, as Adolf Portmann says, organs of showing themselves. Just think of the manifold patterns in the animal and plant world, of flowers, of the songs of birds, of the signals of insects". (Böhme, 1995, p.42).

When it's quiet, we record. Time, perceived as millennia, changes us existentially.

Being living archives – ergo

Our bodies are living archives and navigate with us through space and time. The constructive and the destructive relationship to our everyday perception of external nature and our own body shapes our hearing. As a litmus-test. As attention before good and evil. Why flee before it cracks, hear the blackbird before the young bird is eaten by the cat? Because, as Berthold Brecht wrote, "first comes eating, then comes morality." (Brecht, 2001, 67) What does this quote refer to? We practice talking about it together like designers; talking about it after hearing and showing is the practice, the third term between thesis and antithesis. Our common good, all of ours, which inconceivably brings forth the most diverse landscapes of trust and exchange like ebb and flow (see Carte du Tendre, In M. de Scudéry, 2006 {1654}).

5 Just Listen!

This text began with an enumeration of very heterogeneous things that serve the Common Good and which, when managed together, can also become Commons. While such things can certainly be understood as objects, they can also be assemblies. Etymologically, the word "thing" contains this double meaning, which leads to manifold consequences when thinking about relationality (see, e.g., Latour, 2005, 2014). As Latour and others have shown, once the world of things is viewed in terms of the interrelationality of human and non-human actors it is entirely reconfigured. We have experienced such an opening and transformation of relationships in our practice of listening and sharing together, which Arturo Escobar has felicitously termed the "pluriverse":

"I present ontological design as a means to think about, and contribute to, the transition from the hegemony of modernity's one-world ontology to a pluriverse of sociocultural configurations; in this context, designs for the pluriverse become a tool for reimagining and reconstructing local worlds. Design for radical transformation will come from radically different, non-modern, relational world views". (In Thompson, 2018).

The question for us as designers is how to develop an active understanding of such a radically different worldview or world-views. In *Peripher_ies*, we explored the possibilities that arose via the perception of soundscapes. We were encouraged by the fact that this work of understanding the sharing of sensorial-physical, aesthetic, and classificatory experiences went well. Such work represents a new conception of the field of design which looks for connections that lead to communalization; a fundamental part of this process is reflecting upon perception and the intersubjective sharing of ideas. As Felix Guattari wrote in *The Three Ecologies*:

"The processual, which I contrast here with the systemic and the structural, aims at an existence that is simultaneously in the process of constituting itself, defining itself, and dissolving its self-definitions again (deterritorializing itself)" (Guattari, 1994, p.38).

Guattari's text is a kind of manifesto for the kind of ecology which is expanded to include the mental and the social. But why is the understanding of perception and ideas deeply inscribed in this processual understanding of change? Because, from the very beginning onwards, it involves mental experiences and engagement with social forms of understanding.

When understood in this way, designing is also a commoning: it is like a channel for the spoken, unspoken, symbolic and aesthetic actions that frames social relations in terms of the Commons. Any education which seeks to incorporate this insight must deeply reflect on the role that reciprocity plays in the curriculum and in the nature of the relationships between all the actors involved in the educational system. *Just listen!* is aimed at precisely this sort of reorientation, which creates connections between all relevant fields and, as a result, a community.

6 Epilog

"The sounds of a blackbird in the garden recording reminds me that other species are not neutral players in human entanglement, even if they may be unaware of their own symbolism. Last year I came across an old newspaper clipping about blackbirds, who were brought to Aotearoa to remind colonisers of their faraway homes. The article finished with an explicit reminder, "May they thrive in their bloodless and unobtrusive mission of colonisation." I realise I now can't hear a blackbird without thinking about the history of how their (and my) ancestors got to this land." (Zoë Heine, 2020)

References

- Backhaus, N., Reichler, C., Stremlow, M. (2007). *Alpenlandschaften – Von der Vorstellung zur Handlung*. Zürich: Vdf.
- Begusch-Pfefferkorn, K. (2000). *Zu Begriff und Wahrnehmung von Landschaft*. Wien: Bundesministerium für Wissenschaft und Verkehr.
- Brecht, B. (2004). *Die Dreigroschenoper*, Frankfurt a. Main: Suhrkamp.
- Böhme, G. (1995). *Atmosphäre - Essays zur neuen Ästhetik*. Frankfurt a. Main: Suhrkamp.
- Böhme, G. (2000). Acoustic Atmospheres. A Contribution to the Study of Ecological Aesthetics (N. Ruebsaat, Trans.). *Soundscape - The Journal of Acoustic Ecology*, 1(1): 14–18.
- Burckhardt, L. (2006). *Warum ist Landschaft schön?*. Kassel: Martin Schmitz Verlag.
- Connor, S. (2004). Edison's Teeth: Touching Hearing. In V. Erlmann (Ed.), *Hearing Cultures—Essays on Sound, Listening and Modernity*. Oxford: Berg.
- De Scudéry, M. (2006 {1654}). *Clélie, histoire romaine*. Paris: Gallimard
- Escobar, A. (2015). Commons im Pluriversum. In S. Helfrich, D. Bollier (Eds.), *Die Welt der Commons* (pp.334-345) Bielefeld: transcript.
- Foucault, M. (2003). *Dits et écrits*. Band III. 1976-1979. Frankfurt a. Main: Suhrkamp.
- Guattari, F. (1994). *Die drei Ökologien*. Wien: Passagen Verlag.
- Heine, Z. (2020). Review Making Like a Forest: Common Unity Project Aotearoa, The Dowse Art Gallery. Retrieved December 13, 2020, from <https://www.pantograph-punch.com/posts/making-like-a-forest>
- Helfrich, S., (2014). *Commons, für eine neue Politik jenseits von Markt und Staat*. Bielefeld: Transcript.
- Helfrich, S., & Bollier, D. (2015). *Die Welt des Commons*. Bielefeld: transcript.
- Helfrich, S., & Bollier, D. (2019). *Frei, fair und lebendig. Die Macht der Commons*. Bielefeld: transcript.
- Hussain, W. (2018) "The Common Good" In *The Stanford Encyclopedia of Philosophy* (Spring 2018 Edition), Edward N. Zalta (ed.), Retrieved December 1, 2020, from <https://plato.stanford.edu/archives/spr2018/entries/common-good/>
- Kimmerer, R. W. (2013). *Braiding Sweetgrass*. Minneapolis: Milkweed Editions.
- Latour, B. (2005). *Von der Realpolitik zur Dingpolitik*, Berlin: Merve Verlag.
- Lichte Fischer, L. (2004) *Ästhetik des Performativen*, Frankfurt am Main: Suhrkamp.
- Mol, A. (2002). *The body multiple*. Durham and London: Duke University Press.
- Ostrom, E. (1999). *Die Verfassung der Allmende*. Mohr Siebeck. Tübingen
- Ostrom, E. (2015). «Elinor's Law» - Design-Prinzipien für Commons-Institutionen. In S. Helfrich, D. Bollier (Eds.), *Die Welt der Commons* (pp.55-56) Bielefeld: transcript.
- Schaeffer, P. (1966). *Traité des objets musicaux*. Paris: Seuil.
- Schafer, R. M. (1977). *The tuning of the world* (1st ed). New York: A. A. Knopf.
- Simmel, G. (2001). *Philosophie der Landschaft*. In: Simmel, G (2001) *Aufsätze und Abhandlungen, 1909-1918*, (pp.478-482) Frankfurt am Main: Suhrkamp
- Thompson. M. (2018). *Designs for the Pluriverse – (book review)* Retrieved December 13, 2020, from <https://anthrodendum.org/2018/08/27/designs-for-the-pluriverse-book-review/>
- Truax, B. (2001). *Acoustic Communication* (2nd ed.). Westport: Greenwood Publishing Group

Acknowledgements

We thank all our partners and collaborators of *Peripher_ies* in Austria, Australia, Botswana, Canada, Finland, Germany, Greece, Iceland, Japan, New Zealand and Switzerland.

Adam Siagas, Alexis Pilon, Alma Rau, Amanda Stuart, Anastasia Panagou, Andrea Züllig, Anja Salzmann, Archie Reid, Ayuna Kawamoto, Azura Silberschmidt, Barbara Neubarth, Basil Huwyler, Beatrice Tucker, Carlotta Thomas, Celia Moosbrugger, Christos Savvidis, Clare Fleming, Daniel Fabry, Dieneke Jansen, Elisabeth Hacker, Emilie Mouscous, Etienne Colpron-Turbide, Fiona Amundsen, Frances Simmons, Giorgos Klountzos-Chrysidis, Georges Roussel, Heiko Schätzle, Hildur Dagbjört Arnardóttir, Jari Rinne, Jennifer Sayasinh, Jonas Siedler, Julia Siegrist, Kagiso Brendon Petros, Laura Fonti, Liam Wells, Lydia Chatziakovou, Maria Kyrou, Maree Sheehan, Matthias Kokorsch, Maude Chartier-Desjardins, Michael Nadler, Minori Suzuki, Miri Surugaya, Moeka Takeuchi, Mone Matsushima, Omphile Percy Jonas, Orhan Kipcak, Pia van Gelder, Petja Tuisku, Philippe-Aubert Gauthier, Rachel Shearer, Richie Moalosi, Roger Magole, Rory Gillen, Ryoko Nakayama, Sabrina Doser, Sebastian Gebhardt, Shelley Simpson, Silia Aletti, Sophie Garnier, Sophie Sutherland, Soraya Hug, Susan Turcot, Sylvie Bouteiller, Tatiana Tavares, Teemu Haapaniemi, Thomas Hofstetter, Tomi Knuutila, Vasilis Ioakeimidis, Vicky Birou, Yorck Bühler, Yuka Ono / and for proofread/translations Lindsay Parkhowell

Building Structures For (Ex-)Change

Sergio Palleroni,
Michael McKeever,
Bryan Bell,
Colin Priest,
Jeffrey Hou,
Nina Pawlicki

Design for Common Good (DCG Network) is a coalition of four international networks (SEED Network, designbuildXchange, Live Projects Network, and Pacific Rim Community Design Network) that work together to document and advance systemic change in the public interest. Each of these organizations reflect the greater scale and growing relationships needed to create truly sustainable projects and positive change in communities worldwide. By creating a combined network of networks (DCG Network), these four international organizations recognize the growing global need for systemic change in design practice and intend to build on the common ground they share. While each network has a unique focus (academic education, vocational training, pedagogy and/or research), their mutuality supports the advancement of excellence in public interest design, a practice characterized by inclusive practices, ethical approaches, and sustainable methods. Furthermore, each network has its own individual organizational structure, including communication and decision-making structures/policies.

As a call for action, they share the position that design projects require a new social contract that addresses the growing inequality and inability to utilize constructive relationships.

This reflects precisely the concerns that have brought us together to create an interconnected network of networks, based on best practices found within our individual organizations. This standpoint is based on the concept of the designer as an 'anti-hero' (Schneider & Till, 2009) as opposed to the 'architect-author' as someone who actively and knowingly gives up authority to the co-author from the outset and is part of the process.

Within the workshop we will reflect on these principal questions:

- How can we define common values and determine our contribution to the design for common good?
- How can we build organizational structures for (ex)change (e.g. communication practices, decision-making processes, guidelines and protocols) in a non-hierarchical network that are based on shared values?
- How can we ensure that our social contract prevents misinterpretations and not only supports the independent developments of each network partner, but also the mutually constructive relationships of the joint network?

1 Method

The workshop methodology is based on the DCG Network as a case study. In an introductory session the experiences of network members will be shared. This will include findings from an ongoing collaboration with an external expert to develop communication and collaboration guidelines for the network. Relevant questions will then be discussed in smaller breakout sessions and the responses recorded on an online whiteboard (Miro). The findings of the breakout groups will then be evaluated and presented in a final group session.

The workshop forms part of the ongoing open development process of the DCG Network in defining shared values, adopting rules and regulations, and meeting aims and expectations in order to practice and expand the concept of design for the common good.

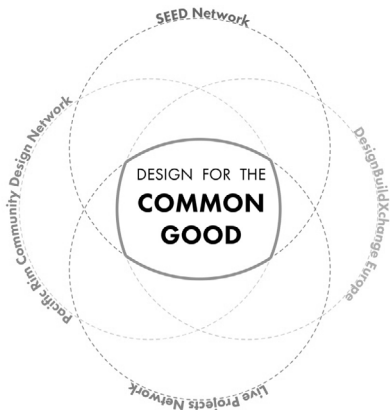
2 Format and Duration

A) Presentation and exchange of experiences with the DCG network (15 min)

B) Breakout work sessions, event storming format using an online shared whiteboard (chosen format: Miro online whiteboard, 40 min)

The shared starting point would be a DCG Network venn-diagram featured on the whiteboard:

Four breakout sessions will take place, each session will be dedicated to one of the partner networks:



Four topics will be discussed in relation to the specific network of the breakout session:

- WHAT are the key values/purposes/reasons of the existing network?

actual purposes and values

- HOW is the joint work currently carried out?

communication, decision-making policies, operation mod

- WHAT is considered best about current practices and in what areas should improvement be sought?

achievements and aspirations

What is working well for the individual network within the DCG and in which specific areas would we like to see changes/improvement? expectancies and deliveries

C) Presentation of the results of the working groups (20min)

D) Break for participants / moderators to collate the conclusions (15min)

The venn-diagram will be restructured according to the four breakout topics. The final diagram will highlight the shared values, strategies, policies and expectancies of the Design for Common Good Network.

E) Conclusion and discussion (30 min)

The moderators summarize the outcomes of the interactive workshop. The participants define agreements for shared strategies, values, communication policy and goals.

A

Aïcha Abbadi graduated from an interdisciplinary MA Design course following a BA Fashion Design, both at the University of the Arts Berlin. Her research interests, explored through theory and practice, include participatory design processes, niche fashion practices and critical pedagogy.

Lisa M. Abendroth is a design educator, practitioner, researcher, and author. Her work investigates community-led design practices that embolden access and equity. Abendroth is a SEED Network (www.seednetwork.org) co-founder and the SEED Education Director. She is an AIGA Fellow.

Joni Adamson is President's Professor of Environmental Humanities in the Department of English and Director of the Environmental Humanities Initiative (EHI) at the Wrigley Global Institute of Sustainability at Arizona State University. In 2019, she was the Benjamin N. Duke Fellow at the National Humanities Center.

Marius Aeberli is an interaction designer with experience in strategic design for digital innovation (Siemens, Nagra, Novetur) and social innovation (WWF, Red Cross, Unleash). Currently Head of Education at EPFL+ECAL Lab, lecturer and design researcher at the College of Humanities, EPFL.

Haider Akmal is a PhD Candidate and Research Associate at Lancaster University, UK. His PhD thesis discusses the use of Play and Philosophy within Design Research for imagining More-than Human Centred Design approaches through Speculative and Ludic Design.

Jane Anderson is an architect and Professor at Oxford Brookes University. She is a National Teaching Fellow and Higher Education Academy Principal Fellow. She is a co-founder of the Live Projects Network. Her research is focused on the pedagogy of live project education.

Rendy Anoh an Eco-Social Designer, Graphic Visionary and Concept Visualizer. My interests are in conceptualizing processes and ideas. I am interested in the social role of a space and in the relations which it can trigger in the community.

Giovanny Arbelaez Garcés, Ph.D. is Research Associate at ERPI laboratory of the Université de Lorraine and part of the Lorraine Fab Living Lab where he advises companies and territories in the development of innovation and research projects related to smart-city development and healthcare.

Safouan Azouzi research interests focus on the relationships between design and socio-political issues, in particular the theory of the commons and its relationship with the territory and the resilience of communities to climate change.

B

Valentina Barrera is an architect whose work focuses on participatory approaches to urban planning and development.

Giovanni Baule is Ordinary Professor, Design Department, Politecnico di Milano. In 2016-2017, he was co-editor with Elena Caratti of the book 'Design is Translation' that received an honourable mention at the XXV edition of the ADI Compasso d'Oro award.

Alyson Beaton is an interdisciplinary designer living and working in Austin, Texas. Her research and practice are focused on sustainability in cities and urban living.

Viktor Bedö is a researcher at Critical Media Lab Basel and visiting research fellow at the Centre for Urban and Community Research at Goldsmiths, University of London. His practice is one of writing and creating playful and speculative urban experiences to critically engage with techno-optimist imaginaries of urban life that allow for commoning-based, feisty and resilient smart city alternatives.

Juan Sebastian Bedoya is an architect and community facilitator. His current work focuses in community empowerment, public infrastructure and participatory methods.

Bryan Bell is a public interest designer and writer. In 1991 he founded the non-profit organization Design Corps (www.design-corps.org). His current work includes the SEED Network which Bell co-founded. He has co-published four books and organized nineteen Structures for Inclusion international conferences.

Eric Benson is an Associate Professor of Graphic Design at the University of Illinois. He researches design utopias (systems thinking) and dystopias (climate fiction hopepunk). Two of his most prolific works are the Fresh Press Agri-Fiber Paper Making Lab and Re-nourish.

Anne H. Berry's research focuses on race/representation in the field of design and educational pedagogy. Her co-authored article *The Intersection of Electoral Politics and Design Education* was recently published by the international design research journal *Message*.

Pedro Bessa, PhD in Design studies (University of Aveiro, 2005). Director of B.A. Design course at Univ. Aveiro (2007-2010), currently Director of M.A. Artistic Creation course at the same university; areas of interest: critical theory, design studies, gender studies.

Tina Braun studied Visual Communication at the University of the Arts in Bern and at the University of Art and Design in Basel. She worked several years for international design agencies, among others in Berlin, Copenhagen and Zurich. Since 2020 she is a PhD student in the research project "Settings of Dying" (SNSF project, 2020-2023).

C

Elena Caratti is Associate Professor, Design Department, Politecnico di Milano. In 2016-2017, she was co-editor with Giovanni Baule of the book 'Design is Translation' that received an honourable mention at the XXV edition of the ADI Compasso d'Oro award.

Stephanie Carleklev is a senior lecturer in Design. Her research interests cover design research, visual communication theory and practice, and how design education can support students to become inspiring and caring design practitioners.

Serena Cangiano Ph.D In design sciences at IUAV University of Venice, she is researcher and head of SUPSI FabLab, the digital fabrication and open innovation lab of the University of Applied Sciences and Arts of Southern Switzerland.

Gianluca Carella is PhD candidate at the Design Department of Politecnico di Milano. His research is focusing on how design thinking can be implemented inside organizations to foster innovation. His research topics deal also with strategic design, design management and entrepreneurship.

Hillary Carey is a Ph.D. candidate in the Transition Design program. She explores design methods for understanding and contributing to racial justice.

Kate Catterall is a designer and educator. Born in Belfast, N. Ireland, she studied at the Glasgow School of Art and currently lives in Austin, Texas. She teaches design at the University of Texas at Austin and her research is positioned in the interstitial area between design intervention and the social practice of public art. Her research explores the ontological potential and broader cultural impacts of design on contemporary society.

Ellen Christensen is an Assistant Professor of Visual Communication Design at San Francisco State University. She holds a BA in American Studies from UC Berkeley and an MFA in Graphic Design from the Rhode Island School of Design.

Dr. Simon Colwill is a teacher and researcher of Landscape Architecture at the Technical University Berlin and Brandenburg University of Technology. His design/build work combines teaching, research and practice in an interdisciplinary context. He is a member of Co-Coon Studio and co-founder of the design/buildXchange network.

Paul Coulton is the Chair of Speculative and Game Design in the open and exploratory design-led research studio Imagination Lancaster. He uses a research through design approach to create fictional representations of future worlds in which emerging technologies have become mundane.

Benedetta Crippa is a graphic designer and communication advisor based in Stockholm, Sweden. Her practice is a focused investigation on how graphic design can expand beyond current boundaries of methodology and aesthetics. As guest teacher at Konstfack University she is the initiator of the first course of its kind on sustainability through visuality.

Lilian Crum is an Assistant Professor of Graphic Design at Lawrence Technological University, USA. She is interested in design practice, brand design, and design for public good.

Iva Čukić is an activist and a researcher in the fields of urban commons, urban transformation and self-organisation. She is co-founder of the collective Ministry of Space formed in 2011, with the aim to pursue spatial justice.

D *Heather Daam-Rossi* is an Innovation Designer at The Moment, and teaches at the Institute without Boundaries in Toronto, Canada. She holds a Master of Design from the Design Academy Eindhoven. Heather's passion is engaging non-designers in the design process and has spent her career working as a social service designer and design researcher around the world.

Silvia D'Ambrosio is a Research Fellow at Ci.Lab - Creative Industries Lab at the Design Department of Politecnico di Milano. She works in several national and international projects focused on the empowerment of design thinking and human centered design tools and methods.

Juan de la Rosa is a design researcher and associate professor at Universidad Nacional de Colombia. PhD.C. at UIUC with a research interest in participatory methods for future mapping and design research tools, especially the use of prototypes as co-created future systemic probes.

Dhriti Dhaundiyal Product Designer by education with research interests in automobile design, participatory research and behaviour change.

Marie Dietze has a background in industrial design (University of the Arts Berlin, Bezalel Academy of Arts and Design Jerusalem) and graduated the master's program at the interface design department of University of Applied Sciences Potsdam. As a PhD candidate at the Weizenbaum Institute for the Networked Society, she researches the issues of accessibility, creative and socio-cultural potential of open source technologies.

Laurent Dupont, Ph.D. is Senior researcher at ERPI and co-founder and scientific manager of the Lorraine Fab Living Lab where he designs, implements and evaluates new processes, based on collaborative innovation involving users, companies and territories, generating smart and sustainable Cities.

E *Dr. Jonathan Antonio Edelman* is an Adjunct Professor and Head of the Digital Health Design Lab at the Hasso Plattner Institute's Digital Health Center. His research and teaching at the HPI focus on Human-Centered Design in Digital Health, specializing in Human-Centered Machine Learning, Digital Transformation, and Design Team Dynamics. He also serves as a Visiting Professor in Design at Politecnico di Milano. Dr. Edelman is the founder of the Center for Advanced Design Studies.

Jérôme Elissalde is a strategic learning officer. Through training, collaborative workshops, diagnostics and support, he addresses the circulation and strategic use of knowledge as powerful lever for continuous adjustment. He founded *Perspectiv.dev* in 2019.

Meret Ernst is a lecturer in design history and design theory at the Institute of Industrial Design and the Institute of Aesthetic Practice and Theory at the Academy of Arts and Design in Basel and the Academy of the Arts in Bern, MA Design. As a writer, she combines scholarly work with design criticism, promoting both her field and a critical debate climate. In 2016 she initiated 'Design History Network' to promote the awareness, research and mediation of design history in Switzerland. Currently, she is preparing a research project on the history of Industrial Design Education.

F *Raffaella Fagnoni*, full professor in design at Luav University of Venice since December 2019. Previously, at the University of Genoa, she directed the master's degree course in Product and Event Design and the PhD in Design. Her research activity concerns social and environmental issues, social innovation.

Michelle Fehler is a Clinical Assistant Professor and Biomimicry Professional who focuses on defining a life-centered design methodology by infusing biomimicry into the design process. She develops various tools that make the biomimetic approach more accessible to designers from various disciplines.

Martina Fineder is professor for design theory and design research at the University of Wuppertal (DE). Her main research interests are socially and ecologically responsive design and consumer cultures, experimental methods for empirical design research, visual and material culture analyses.

Griselda Flesler Doctoral Candidate at the School of Social Sciences (University of Buenos Aires, UBA). Magister in Communication Design and Graphic Designer (UBA). Full Professor of Design and Gender Studies (UBA). Head of the Gender Office at FADU-UBA. Researcher in Gender, Space-attachment and Design. Director of PublicVoices, feminist-activist sound recording group. Visiting Professor and Lecturer at the UAM, Mexico, and FHNW, Switzerland.

Wendy Fountain is a designer, researcher and educator for resilience making - that is, adaptive practices of living with ecological insight, traditional know-how and creative exploration in place with a particular focus on everyday practices at the scale of the home and community, particularly food and shelter.

Athina Fousteri has an academic background both in Architecture and Early Childhood Education. She is a PhD candidate in the field of toy design, as a fellow of the Onassis Foundation, seeking to explore children's participation in the post-industrial context.

Judy Frater 30-year Kutch resident, Ashoka Fellow Frater founded Kala Raksha Trust /Museum, and Kala Raksha Vidhyalaya/ Somaiya Kala Vidya, design schools for artisans. Textile Museum Associate Curator, author of *Threads of Identity*, Frater received the 2009 Sir Misha Black Medal.

G

Paul Bryan Gamboa is a popular knowledge advocate and researcher in the La Vaca community. He is currently developing various educational projects with young population of La Vaca and community empowerment.

Carlos Andrés Garzón is an architect and a community facilitator. He focuses his work in public infrastructure and community-based project for urban spaces.

Silvia Gasparotto Assistant Professor at the University of the Republic of San Marino. She was awarded a Ph.D. in Design Science from IUAV University of Venice in 2016 and has published essays in national and international journals.

Cheryl C. Giraudy, B.Arch., MSc. OAA MRAIC Associate Professor, OCAD University is an architect engaging inclusive design research and advocacy practice for equitable built environments and public space. She held position of Associate Dean, Faculty of Design from 2008–2013.

Adrian Gradinar is a Lecturer in Smart Home Futures focusing on speculative practice-based approaches to exploring ideas around interactivity, personalisation, artificial intelligence, data privacy and transparency, immersion, more-than-human design approaches and better design of Internet of Things objects and spaces.

Moritz Greiner-Petter is designer and junior researcher at IXDM, FHNW Academy of Art and Design Basel, Switzerland. His research interests are focussed on critical interface theories and the design of epistemic tools and formats.

H

Lynn Harles is a research fellow at Fraunhofer Center for Responsible Research and Innovation ("Design-based Strategies" team). She is currently doing her doctorate at Bauhaus-University Weimar on the potentials of speculative design practices for engaging science communication (focusing on biotechnologies).

Ursula Hartig is an architect focusing on academic designbuild. She held the Chair of Planning and Building in a Global Context at the University of Applied Sciences München (2016-20). She co-directed the research-consortium European DesignBuild Knowledge Network, developing the dbXchange.eu web-platform. She is co-founder of cocoon-studio.

Dr. Marie Heidingsfelder is head of the team "Design-based Strategies" at Fraunhofer Center for Responsible Research and Innovation. Current projects focus on science-communication, design fiction and design methods in innovation. She holds a PhD from the University of the Arts Berlin.

Laura C. Heym uses research-based service design, creative participative methods and graphical tools to foster the equality of opportunities in the eco-social transformation. She works in small design agencies, public institutions and a think-and-do tank for rural development.

Sherin Helmy B.Sc. in Product Design, Faculty of Applied Sciences and Arts at the GUC. Currently is a Clinical Innovation Fellow with RISE Institute Passionate about all forms of art and design. I have a big passion for design, research and Critical Thinking.

Lorenz Herfurth is a design researcher who recently moved across the Atlantic from Scotland to Quebec. He is a member of CRITS, the research centre at Saint Paul University's School of Social Innovation (Ottawa). Lorenz holds a PhD from Lancaster University (UK) and is advisory board member of the Arts, Design and Communication in Higher Education (ADCHE) journal.

Richard Herriott, Associate Professor, Industrial Design, Design School Kolding. Works teaching BA, MA and PhD levels, with design theory, aesthetics, co-design, accessibility and research design.

Luisa Hilmer is a designer and design historian based in Hamburg, Germany. She graduated from the MA History of Design programme at the Royal College of Art and the Victoria & Albert Museum, London. Her research focuses on contemporary and historical participatory design processes, the formation of space and museology.

Elise Hodson is a Post-doctoral Researcher in Design Economies in the Department of Design at Aalto University. Research areas include the social value and impacts of design, and distributed authorship in global design practice. She is formerly Chair, School of Design, George Brown College.

Michel Hohendanner MA (Advanced Design, UAS Munich) www.michelhohendanner.com; Returning from Kyoto Institute of Technology (visiting researcher), Michel currently works at the Institute of Digital Ethics at HdM Stuttgart. Research interests: design linking technology and social/political value systems, focusing on digital public environments.

Michael Hohl is a designer, design researcher and educator. As a professor for design theory & design research he also supervises Ph.D. students from art, design and architecture, organises international conferences around design research and also is an editor for publications. He is a member of the American Society for Cybernetics and the Werkbund. He lives in Dessau, Germany.

Youngbok Hong is a professor of Visual Communication Design and graduate program director at Herron School of Art and Design, Indiana University. Her research interests include: processes of reasoning and action involved in designing, visual sense making in qualitative research, and visual communication in collaborative problem solving.

Dr. Jeffrey Hou is Professor and Director of the Urban Commons Lab at the University of Washington, Seattle. His work focuses on design activism, civic engagement, and public space. He is a co-founder of the Pacific Rim Community Design Network.

Stephan Hruza is a professional furniture designer and cabinet-maker. He teaches practice- and material-oriented courses both at BA and MA level at Linnaeus University. His research interests lie in practice-based knowledge with a focus on sustainability, materials and reuse.

Daniel Hug (Dr. phil.) works, researches and teaches in the areas of sound studies, sound and interaction design and music education. He is the Co-director of the Sound Design Master at ZHdK, founder of "Hear Me Interact!", and member of "Audio Mostly - Conference on Interaction with Sound".

Merle Ibach is junior researcher at IIG / CML, FHNW Academy of Art and Design Basel, Switzerland and a PhD candidate in the doctoral research group "Digital Media / Knowledge Cultures" at Leuphana University, Germany. Her research focus is on design cultures.

Geoff Isaac is a doctoral candidate at the University of Technology Sydney. His doctoral project on the history of the plastic chair focuses on how designers are responding to the environmental crisis by experimenting with renewable carbon-based plastics.

Mattia Italia is PhD candidate at the Design Department of Politecnico di Milano. His research focuses on how sustainable materials can be introduced into a packaging company and influence its strategy. Other research topics are footwear sustainability, strategic design and CCI.

Andrea Iten, artist, MA in Transdisciplinarity in the Arts. She works in the fields of drawing, installation art and new media, and was an assistant to Professor P. Jenny, Dept. of Arts and Architecture at ETH Zurich. Since 2000 she has worked as a guest lecturer and is scientific associate at Institut HyperWerk, Basel.

Michael Janzer is a doctoral student in the field of design theory and design research at the University of Wuppertal. He graduated in design engineering, with distinction, from Niederrhein University, worked internationally as a sportswear designer and taught at Reutlingen University.

Dustin Jessen is a lecturer at Folkwang University of the Arts and a guest researcher at Wuppertal Institute for Climate, Environment and Energy. He graduated from the RCA in 2014. The German Environment Agency is currently funding his doctoral research on sustainability.

K

Patrycja Kaszynska is Senior Research Fellow at Social Design Institute, UAL and Research Associate at Culture, King's College London. She is also Research Affiliate at New College of the Humanities at NorthEastern where she was Head of the Art History Faculty before joining UAL. Dr Kaszynska turned to explore the notion of cultural value, first as Project Researcher for the AHRC Cultural Value Project and then Project Manager for the Cultural Value Scoping Project. Patrycja is now leading the valuation work for UAL Social Design Institute. Her interests are at the cross section of critical theory, pragmatic philosophy, cultural studies and design with the key focus on the theory of value and valuation studies.

Jonas Kellermeier is a cultural critic and a junior researcher at the Institute of Experimental Design and Media Cultures. He is currently pursuing his PhD within the SNSF-funded project *Paradigms of Ubi-Comp*. His research interests lie in the field of translation between different socio- and techno-logics.

Dr Lucy Kimbell is Director, Social Design Institute, and Professor of Contemporary Design Practices at University of the Arts London. Her research looks at the use of design expertise to address organisational, social and public policy issues.

Felix Kosok, born in 1988, is a research fellow at the University of Art and Design (HfG) in Offenbach am Main and at the Leibniz Peace Research Institute (PRIF), and is also a graphic designer. He completed his doctorate at the HfG Offenbach under Prof. Dr. Juliane Rebetisch and Prof. Klaus Hesse. His research focuses on design aesthetics as well as political graphic design. In addition to research, he is himself involved in practical design work with studio069, which he founded in Frankfurt in 2015.

Gwendolyn Kulick is a design researcher, interested in well intended but often dysfunctional and absurd cultural, political and economical encounters in the context of development and social innovation. Since 2004 she has been reaching design in Lahore, Berlin and Cairo.

Lucas Kuster works at the intersection between transformation design, social sciences and arts. He is currently a doctoral candidate at the Europa-Universität Flensburg, Germany. His research is guided by practice-led approaches which he uses to explore design-roles in the context of social challenges.

L

Marc Laperrouza is a scientist and lecturer at EPFL. His research looks at innovation in emerging markets and at specific aspects of China's innovation landscape. He is also passionate about pedagogy and, in particular, interdisciplinary and experiential learning.

Joana Lessa is a Senior Lecturer (tenured) at University of Algarve (UALg) and researcher at the Research Centre for Architecture, Urbanism and Design of the University of Lisbon. Her research interests include: Design Experience; Digital Media; Emotional Design; Speculative and Critical Design. As a means to contribute to environmental sustainable initiatives she integrates the UNESCO chair in Ecohydrology of UALg and the Advisory Committee of Global Network of Water Museums (a UNESCO-IHP Priority Initiative).

George Liamadis is an Assistant Professor, Head of the Lab of Industrial Design (AUTH) and founder of Design Lab for Kids. He is also a visiting professor in the School of Architecture (AUTH) and in the postgraduate programme MSc in Strategic Product Design (IHU).

Joseph Lindley is a Research Fellow interested in how Design Research can contribute towards radical-yet-responsible applications of contemporary technologies including Artificial Intelligence and the Internet of Things.

Ruth Little is a Lecturer in Human Geography at the University of Sheffield. She is interested in agricultural and food-related issues, including animal and plant health management, policy evaluation, and innovative new approaches to stakeholder and public engagement in decision-making on agricultural and environmental policies.

M

Shiri Mahler an Eco-Social Designer, Writer and Creative strategist. My primary interest is understanding things, places and people. On my journey for knowledge I enjoy re-thinking paradigms through communication, experimenting with ideas and forms, to purify a coherent message.

Alice Martin is a PhD student in design in the PROJEKT laboratory at the University of Nîmes. Her research concerns design applied on public policies. She observes public servants involved in project design, and questions design tools conceived to support collaboration.

Sarah Edmands Martin is an Assistant Professor of Graphic Design at Indiana University. She is a 2020 Design Incubation Fellow published by Bloomsbury Academic, with design awards from Graphis, Creative Communication Awards, and London International Creative Competition.

Alvise Mattozzi Assistant Professor in Sociology of Culture and Communication at the Faculty of Design and Art of the Free University of Bozen-Bolzano, works at the crossroad of Science and Technology Studies and Design Studies, using semiotics as descriptive-analytical methodology.

Daniela Maurer Research Fellow and Adjunct Professor at Politecnico di Milano, freelance designer in product design and innovation strategies fields. Her research interests are mainly focus on the domestic and working environments.

Celeste McKenzie Since 2015 working on social documentary projects in the Kalahari. Actively involved in visual ethnographic research in the Kalahari among the #Khomani San Bushmen. Lecturing and conducting workshops in my academic field. I have produced professional social documentaries in Southern Africa on poverty, recycling and living on a landfill site. I want to apply my knowledge and skill set to NGO's that work with relief aid, indigenous and minority groups or humanitarian aid.

Simon Meienberg is a doctoral candidate at the Institute of Ethnology, University of Cologne and KISD, researching at the intersections of migration, decolonisation and social interactions. He graduated from KISD and studied at Politecnico di Milano & ENSCI – Les Ateliers in Paris.

G. Mauricio Mejía is Associate Professor of Design at Arizona State University. He explores design approaches to change behaviors, transform systems, and envision desirable futures in diverse areas of application including health, sustainability, and business innovation.

Ana Melo Communication designer and PhD candidate at the Lisbon School of Architecture, University of Lisbon. Her research focuses on design for social innovation and how communication and strategic design can help to shape future scenarios for communities in inland territories.

Manon Ménard is a PhD student in design in the PROJEKT laboratory at the University of Nîmes. She works on educational themes from socio-cultural perspectives. Her thesis focuses on the valuation of the culture of singularities at the university with a specific focus on autism.

Massimo Menichinelli, Doctor of Arts in New Media at Aalto University – Aalto Media Lab, has researched and developed open, collaborative, and co- design projects and the systems that enable them since 2005.

Shintaro Miyazaki is a Berlin-born, Basel-raised, Swiss-Japanese senior researcher and principal investigator at the Institute of Experimental Design and Media Cultures. He is directing the SNSF-project "Thinking Toys for Commoning" (2018-2021). Shintaro is at the same time a Juniorprofessor in "Digital Media and Computation" at the Faculty of Humanities and Social Sciences, Department of Musicology and Media Studies, Humboldt-Universität zu Berlin.

Daijiro Mizuno PhD RCA www.daijirom.com; After studying MA and PhD at Royal College of Art (Fashion Design), Daijiro currently works at Kyoto Institute of Technology/Keio University on Transdisciplinary Design. His recent work includes Transition, a documentary film shortlisted for IDFA 2019.

Ana Rita Morais is a Toronto-based academic, educator, and administrator. She is the Chair of the School of Design at George Brown College, and holds a doctorate from the Communication and Culture Program at Ryerson University. She has devoted much of her academic career to investigating mobile media.

Andre Mürnieks is Senior Lecturer and Researcher at Massey University, New Zealand focusing on motion and interaction design. He hosts the biennial conference MODE and authored the chapter *Navigating VOX/UI: The Integration of Motion in a Voice-Controlled Information System*.

N

Marco Neves Assistant Professor at the Lisbon School of Architecture, University of Lisbon. He coordinates the Interaction Design Master degree and the Design, Interaction and Visualization research group. His research focuses on the relationship between visual and print design with interaction and user experience.

William Nickley is Assistant Professor in the Department of Design at The Ohio State University. He researches social design practice as a member of the Ohio State DESIS Lab and teaches courses in the industrial design major. William's research lies at the intersection of social design, design methods, and community-engaged design.

Dília Nunes graduated in Tourism at the Instituto Politécnico de Viana do Castelo (IPVC) and is currently a master student at the Master in Communication Design for Tourism and Culture, at the University of Algarve (UALg). Her current research interests are: Design, Tourism and Circular Economy. Her professional goal is to continue her research and share her knowledge so that she can positively contribute for a more sustainable planet.

O

Maya Ober is a designer, researcher, educator, writer, and activist based in Basel, Switzerland. She holds a B.Des. in industrial design from Holon Institute of Technology and is currently finishing her MA in Design Research at the Berne University of the Arts. Maya is the founding editor of *depatriarchise design*. She works as a research associate at the Institute of Industrial Design and as a lecturer at the Institute of Aesthetic Practice and Theory at the Academy of Arts and Design in Basel. There, together with Laura Pregarer she has developed an educational programme "Imagining Otherwise".

Ferney Osorio is co founder of the ViveLab Bogotá where he managed the execution of multiple citizen driven innovation projects supported by the national and local government. He is currently pursuing a PhD research on the design and management of innovation labs under joint supervision at the Université de Lorraine and Universidad Nacional de Colombia.

Babajide Alamu Owoyale is a PhD Candidate at the Deep Data Lab at the Hasso Plattner Institute, exploring data driven approaches to sustainability Transition Research and Design. He has (co) authored papers presented at the Global TechMining Conference, International Conference on Information Systems, Americas Conference on Information Systems, and the SpringerLink Understanding Innovation on Design Thinking.

P

Sergio Palleroni is a Professor and Director of the Center for Public Interest Design at Portland State University (www.centerforpublicinterestdesign.org). As a professional and educator he has been pursuing an understanding of public interest design and its application globally since the 1980's. He is a SEED Network co-founder.

Christopher Pandolfi is the Co-founder and Creative Director of Department of Unusual Certainties (DoUC). A designer and educator, Christopher has worked on variety of projects ranging from community engagement to the creation of AR worlds. Christopher believes the process is the product.

Richa Pant Design Management expert with research interests in research methods, social design and social entrepreneurship.

Yann Patrick Martins is a PhD candidate at ECAM, and currently working as research coder at the Critical Media Lab, developing agent-based models for the project "Thinking Games for Communing", and Self Organizing Maps for the "Architectonic Studies of Radio" project. Despite his practice rooted in programming, his personal research looks at the ways in which capitalist mode of production and machine learning are re-enacting forms of inequality and discrimination. He also has pioneered a teaching programme at the Critical Media Lab Basel that links technological education and cooking practices since 2018.

Maria Patsarika Ph.D. in the sociology of education and design participation. Research in learning, participation and place making, co-design and community engagement. Articles in *Children's Geographies*, *Discourse: Studies in Cultural Politics of Education*, *Co-Design*, *International Journal of Urban and Regional Research*.

Dr. Nina Pawlicki is an architect based at the Natural Building Lab, TU Berlin and co-founder of the designbuildXchange network. With her teaching, research and practice she is facilitating intercultural, hands-on and community-based projects on the interface between academia and non-academia.

Xue Pei PhD in Design, Post-doc research fellow on design thinking for business and entrepreneurship at the Design Department of Politecnico di Milano. Her current research focuses on applying design (thinking) approach, methods and tools to fostering innovation in organisations.

Maitreyi Phansalkar was born and raised in Mumbai, India. She completed her Bachelor in Architecture degree in 2016 and worked in India for 3 years. Her work includes teaching and research at the Academy of Architecture, Mumbai, Head Designer at an NGO working for rural artisanal development, and more. She moved to Austin in 2019 to pursue her master's in Urban Design and is expected to graduate in May 2021.

Franziska Pilling is a PhD Design Candidate, funded by the PETRAS IoT hub, researching design's role in making algorithmic intelligence and its associated systems, processes and misconceptions, more legible to users and designers through alternative practices such as Speculative Design with Philosophy.

Sérgio Pires is taking a master's degree in Design and is interested on researching how can design help the others, in order to bring awareness to important social issues and also improving human behaviour and conscience when approaching such issues.

Alison Place is a design educator, researcher and practitioner. Her research examines the intersection of feminism and design as a space for critical making, radical speculation and the redistribution of power through the built environment. She is an assistant professor of graphic design at the University of Arkansas School of Art, where she also currently serves as interim director of the graphic design program. She serves on the AIGA Design Educators Community National Steering Committee. Previously, she worked for more than ten years as a creative director and designer for nonprofit and higher education institutions. She earned an M.F.A. in experience design from Miami University of Ohio, and a B.S. in graphic design and journalism from the University of Cincinnati College of Design, Architecture, Art and Planning.

Colin Priest is a Senior Lecturer in Interior and Spatial Design at Camberwell College of Arts, University of the Arts London. Senior Fellow of the Higher Education Academy. Fellow of the Royal Society of Arts. Co-founder of Live Projects Network. His research practice encompasses urban health, conscious heritage, empathetic wayfinding and live-project pedagogy.

Isabel Prochner, PhD, is an assistant professor of industrial and interaction design at Syracuse University (USA). Her research and practice focus on socially and community-oriented industrial design, with an emphasis on critical and feminist work.

Pierre-Xavier Puissant is a design researcher based in Lausanne. Previously involved in the mentoring of art-science residencies for innovation at a European scale (STARTS), now focusing on the facilitation and scaling of design-driven pedagogical experiences at the College of Humanities, EPFL.

R

Ulla Ræbild, Assistant Professor, fashion, Design School Kolding. Works with research and teaching in fashion, sustainability, design methods.

Luise Reistätter works as Head of the Laboratory for Cognitive Research in Art History at the University of Vienna. Her main research interests are practices of contemporary art, museum and exhibition studies as well as qualitative methods in social research.

David Rose is Elizabeth Creak Associate Professor of Agricultural Innovation and Extension at the University of Reading. He is interested in agricultural technology adoption, user-centred design, behaviour change, and knowledge exchange, currently focusing on agri-tech futures using a responsible innovation lens to explore ethical considerations of new technology.

Lisa Rotzinger is a design researcher and design strategist based in San Francisco, US. She graduated from the Royal College of Art and Victoria & Albert Museum with an MA in History of Design. Her research focus is on design methodology and the history of design research.

Stan Ruecker is the Anthony J. Petullo Professor in Design at the University of Illinois. He is currently exploring how design research helps us to understand our preferred futures, how it may necessitate a change to prototyping, and how it can lead us to create physical interfaces for tasks such as analyzing text, modeling time, and designing experience. More at publish.illinois.edu/designconceptslab.

S *Shalini Sahoo* is a designer and a PhD candidate at the Royal College of Art, London. Her work involves investigating human-material-interaction within transit spaces. Shalini's main area of interests involves cybernetics second order, design ethics and material culture.

Alejandro Salas Prada is UX researcher and designer at Medible, he is also a student in the master's program in science and technology studies at the Universidad Nacional de Colombia. His research interests are around ethical aspects in the planning and construction of digital technologies.

Selena Savić is a researcher and trained architect. Her research interests revolve around computational processes, information technologies and their entanglements with the built environment. She is currently Head of Study of the Make/Sense graduate school and a researcher at the IXDM, HGK, FHNW Basel.

Mathilde Scholz is a designer, art historian and cultural scientist with a degree from the University of Leipzig. In 2019 she researched "Learning and teaching between needs, challenges and potentials" as part of her Bachelor of Arts in Integrated Design at Anhalt University in Dessau. Here she also founded the project [cloud], which contributed to a transformation of the institutional culture. She also initiated the project 'perMA: "Prototype of a new learning culture". Goal of this project was to develop a new learner-centred Master program, using a participatory approach involving both teachers and students. Mathilde lives in Leipzig, Germany.

Jennifer L. Schubert is researcher and lecturer in the field of Social Interaction Design. Her research interest spans from digital inclusion, glocalised networks to policy design. She worked in bottom-up and municipal research projects, in rural and urban space, locally based with a global perspective.

Carla Sadini PhD in Sociology. Since 2012, she has been collaborating with Politecnico di Milano as a researcher and an adjunct Professor. She has been working on national and international projects on Social Innovation, RRI, Cultural and Creative Industries.

Hina Shahid is a multidisciplinary design practitioner, educator & entrepreneur. Her design toolbox borrows heavily from anthropology, psychology, business management, and behavioral economics. Throughout her 15-year career she has worn my hats - researcher, strategist, designer, entrepreneur and educator, building practices and leading research and design teams in design consultancies, Fortune 500 corporations, start-ups and most recently founded a social impact initiative. She frequently speaks at international and national conferences.

Ricardo Sosa is Associate Professor at Auckland University of Technology, Aotearoa and Monash University, Australia. He is originally from Michoacán, Mexico. He teaches and conducts research in design and creative technologies with an emphasis on creativity for social justice.

Max Spielmann (Prof.) studied medicine and has worked in the audiovisual sector since 1984. He then shifted to the areas of interactive media and exhibitions and in 1998 co-founded the Institute HyperWerk. His main areas of research are participatory media and art/design in transformation.

Viviane Stappmanns is a Curator at the Vitra Design Museum in Weil am Rhein, Germany, where she has curated exhibitions with and about a number of contemporary designers and is currently working on an international survey on women in design. Prior to her current role, she worked as a writer, researcher and publisher on the subjects and architecture and design. She has taught at the School of Architecture and Urban Design at RMIT University in Melbourne, Australia, where she previously graduated with degrees in Interior Design and Journalism. Ongoing research interests pertain to curatorial practice in design and architecture, as well as transdisciplinary approaches to consider issues around housing and the design of living environments. Viviane currently holds a Guest Professorship at the University of the Arts and Design in Karlsruhe, Germany.

Bitten Stetter is a designer, professor (ZHdK) and leads the master and the research area Trends & Identity. She is doing her dissertation in the Sinta program, is a researcher (HKB) in the project sterbe-settings.ch (SNSF 2020-2023) and the founder of finalstudio.design.

Iria Suárez is a designer and design historian based in London, UK. She graduated from the Royal College of Art and Victoria & Albert Museum with an MA in History of Design. She works within the field of architecture and her research focuses on design and wellbeing.

T *Jovana Timotijevic* is an activist and a researcher in the field of critical urban studies and feminist theory, with the focus on emancipatory spatial practices and housing justice. She is a member of the collective Ministry of Space.

Jan Torpus is a senior researcher at the Institute of Experimental Design and Media Cultures and a media artist. He develops interdisciplinary research projects in the fields of affective interaction, immersive augmented reality, biofeedback interfaces and ubiquitous computing.

Scott Townsend Professor. Research interests in interaction design, visual language and motion. Exhibitions, projects and presentations, etc. in over 190 national and international venues. Articles in *Zed*, *Statements*, *Brujula*, *Art Papers*, *Visual Communication*, *Design and Culture*, *Design Issues*, *The Education Forum*.

Judith Tsouvalis is a Human Geographer working as Research Fellow at the University of Sheffield. She is interested in society-nature relations, which she has researched in the context of catchment management, farming, forestry, plant biosecurity, and science advice to government using interdisciplinary, qualitative, and participatory research methodologies.

Francesco Zurlo PhD, full professor, Deputy Dean of the School of Design of Politecnico di Milano, Chairman of POLI.design. His research interests concentrate in strategic, systematic and creative research-through-design, focusing to the ecological impact of business innovations and human flourishing.

U

Chiara Ullstein BSc, BA (LMU Munich); Chiara was a visiting researcher at Kyoto Institute of Technology and is currently graduating in MSc Politics & Technology at TU Munich. Her research interests include deliberative and participatory methods to shape AI governance approaches.

V

Saskia van Kampen (MDES, RGD, AIGA) Assistant Visual Communication, San Francisco State University, School of Design. Her research focuses on disrupting digital design practices and design studio pedagogy. She was Vice President, Education with Registered Graphic Designers.

Beatriz Vergara Aller was born in Spain. She completed her Architecture studies and worked between Spain and France. The different urban contexts of the cities she lived in brought up concerns on how the city and architecture relate inherently to each other and led her to expand her knowledge in the urbanism field and pursue a master's in Urban Design.

Zachary Vernon is an award-winning designer whose research interests include applying and studying the use of empathy, engagement, and collaboration within design and design pedagogy.

Dora Villalobos is a community and environmental leader in Bogotá in the community of La Vaca. She has led the restoration process of the wetland for the past twenty years.

W

Catherine Walthard (Prof.) is a Professor at Institute HyperWerk, HGK FHNW, which she joined as a founding member in 1999. She has over 30 years of teaching and directing experience in art education and lectures/workshops in Europe, Australia and New Zealand. She co-edited *Cultural Spaces and Design*.

Cynthia Wang's research focuses on the social and cultural impacts of digital media. Her work is found in journals like *Social Media + Society* and *Time & Society*. She is co-editor of the book, *Indie Games in the Digital Age* (Bloomsbury).

Lisa Winstanley is an Assistant Professor of visual communication at Nanyang Technological University in Singapore. Lisa's current research explores the intersection between design and trust, focusing on two concomitant areas: ethical design practices and collaborative design practices.

Z

Jorge Zapata was born in Florida and raised in Medellín, Colombia. He later moved to Buenos Aires, Argentina to study architecture, both vibrant Latin American cities with a complex history of social and urban challenges that inspired him to pursue graduate studies in community planning and urban design with a focus on public spaces.

ISBN 978-88-7595-108-5