SHAPE-ID
Shaping interdisciplinary practices in Europe

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Pathways to Interdisciplinary and Transdisciplinary Research: the SHAPE-ID Toolkit

Find tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

Case Studies Collection

on Inter- and Transdisciplinary Research

Abstract

To illustrate the roles that Arts, Humanities and Social Science research and creative practice can play in inter- and transdisciplinary research, the SHAPE-ID project has produced short accounts of innovative research projects, funding schemes, organisations and infrastructures.

Compiled by

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Acknowledgements

Contact persons for the presented case studies

Suggested citation

SHAPE-ID (2021). Case studies collection on inter- and transdisciplinary research. Compiled by Bianca Vienni Baptista, Isabel Fletcher, Maciej Maryl, Sibylle Studer, Doireann Wallace. Zenodo. 10.5281/zenodo.4743691

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Online source – SHAPE-ID Toolkit

This publication is an extract of the SHAPE-ID Toolkit. For a general overview, visit: 10.5281/zenodo.4743703.

The Toolkit provides tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Contributors & Co-producers

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Contents

Suggested citation for single case study:

SHAPE-ID (2021). [Case Study Title]. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

The Atlas of Holocaust Literature

Introduction

The Atlas of Holocaust Literature, a digital map of the Warsaw Ghetto based on selected testimonies, is an example of fruitful interdisciplinary cooperation between researchers from different domains: digital humanities, Holocaust studies and cartography.

Keywords

Holocaust studies, digital humanities, cartography, open access, scholarly communication

Summary

The Atlas of Holocaust Literature, currently available only in Polish, is one of the scholarly digital collections on the New Panorama of Polish Literature platform, created and developed in the Institute of Literary Research, Polish Academy of Sciences (IBL PAN). The work started as an IBL PAN project and was also supported in 2019 by a local cultural heritage grant from the City of Warsaw Culture Bureau (*Cultural heritage and contemporary identity* programme). The team is currently applying for funding to support further development of the project. Digital collections published on the platform are created by combining scholarly knowledge, digital narrative structures and carefully selected visual material – prepared by a graphic designer or obtained from Cultural Heritage Institutions such as museums and libraries.

As the list of Atlas contributors and their roles shows, the work on the Atlas required significant interdisciplinary cooperation, linking specific areas of expertise to provide a thematic, dynamic, digital map. The team of researchers worked with selected Holocaust testimonies from the Warsaw Ghetto from the Ringelblum Archive to extract almost a thousand spatial units (addresses, routes, areas) and to link them with people and events. A digital humanities team took care of the technical side by establishing the ontology of the project (types of entities in the database and links between them) as well as the modes of data visualisation on the platform. The graphic designer and cartographer worked on the visual side of the project and particularly on the spatial representation of the collected material. All of these activities required close cooperation and knowledge exchange between the teams involved.

For most of the project the teams met and worked separately, with PI and the digital humanities team coordinating the work and “translating” specific issues and concepts between them. This type of cooperation was dubbed a hybrid model for managing digital humanities projects (Tabak, 2017). It entails that each project has three main roles relevant to its key areas: digital aspects, humanities aspects and the interdisciplinary interaction between the two. Thus, digital humanists need to possess some competence in different disciplinary areas involved in the project to be able to serve as a bridge between the communities

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and to ensure the mutual understanding. The hybrid model of interdisciplinary cooperation is a pragmatic and realistic choice for larger teams where individual project members require only a certain level of understanding of the work of others in order to perform their own tasks.

Furthermore, the project is a good example of cross-sectoral cooperation between humanities researchers and Cultural Heritage Institutions. It shows how tangible cultural heritage, like photographs or handwritten testimonies, can be contextualised and situated in time and space by researchers. Thus, the result could be also treated as a cultural heritage collection, on the one hand, and a research tool for Holocaust scholars, on the other.

Further Resources

- Atlas of Holocaust Literature (Polish only)
- Atlas of Holocaust Literature research team overview
- Video presentation: Atlas of Holocaust Literature | New Panorama of Polish Literature's digital collection - YouTube
- Tabak, Edin. 2017. 'A Hybrid Model for Managing DH Projects'. *Digital Humanities Quarterly 011 (1)*. http://www.digitalhumanities.org/dhq/vol/11/1/000284/000284.html.

Suggested citation

SHAPE-ID (2021). The Atlas of Holocaust Literature used a hybrid approach to interdisciplinary research. Case study compiled by Maciej Maryl. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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The role of chickens in society

Introduction

Under the overarching topic of the role of chickens in society, several interdisciplinary research projects were developed and successfully funded. They led to new insights for various AHSS and STEM disciplines, as well as for industry, the education sector and the public.

Keywords

chicken, archaeology/anthropology, museums, visual/material culture specialists, biology, genetics/proteomics, (art)history, philosophy, poultry keeping, zoo-archaeology, cultural geography, ecology, theology

Summary

The trajectory began with a project on 'Cultural and Scientific Perceptions of Human Chicken Interactions', aimed at analysing the historical diffusion and the social significance of chickens and thereby providing insights on poultry-borne diseases, food security and environmental ethics. The project highlighted the relevance of both, AHSS and STEM, to understand the role and diffusion of chickens, as "their natural history is a reflection of human history". Naomi Sykes, co-director, described the joint problem framing as follows: Her team wanted to answer "questions that need [natural] science to solve them, but would never have been asked without Arts and Humanities" (presentation at SHAPE-ID Learning Case Workshop 20.1.20).

The approach to examine human-chicken interactions was adapted to a follow-on project with a focus on women-chicken interactions. Methods from several disciplines as well as interdisciplinary co-production helped to demonstrate 'that chickens are meaningful and inspirational for diverse segments of society' (website project I) and that they are a promising topic for cross-curriculum education practice. The project also informed STEM disciplines by showing that 'Ethiopian stock currently has more diversity and resilience than many of the commercial strains worldwide' (website project II). Furthermore, it raised the awareness amongst stakeholders that the (desirable) commercialization of poultry also leads to a (undesirable) marginalisation of women in favour of men. Finally, the research team emphasized that for them knowledge transfer and gaining contextual knowledge were intertwined in a two-way learning process – e.g. in interaction with regional museum curators and communities.

The integrated results of both these projects led to relevant information for stakeholders in industry and in the education sector, as well as to a third – grant-winning – funding proposal. The proposal highlights AH contributions to policy development, amongst others:

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> **Our projects have demonstrated that human and chicken health and well-being are inextricably linked in areas such as diet, zoonotic disease and environmental sustainability. These results have implications for industry and consumers and we will bring our findings to an industry workshop (British Poultry Council, Moy Park), working with them to develop arts and humanities research-informed policy on chicken sustainability.**
>
> website project III

The third project "using chicken-based research to transform education, poultry production and human well-being", funded by UK Research and Innovation, produced a series of educational resources that enhance teaching and learning, a documentary film and public and industry-focused workshops.

This impressive trajectory indicates that boundary crossing collaborations transformed individual research in such a way that joint outputs were created and further developed beyond a project's funding period. The joint outputs contributed to interdisciplinary and disciplinary advancement, as well to reaching a broader audience e.g. by a blog, a museum exhibition, workshops, a cross-curriculum educational practice, and a documentary film. "By integrating the results of this research our project will reveal the hidden social and cultural impact of chickens through time and space, highlighting this message for a range of audiences." (website project III)

The case study illustrates that AHSS played an important role in the research framing (e.g. by identifying questions to be answered with joint efforts) and in the discovering of interdisciplinary research implications (e.g. relevance of resilient local poultry stock), not only in knowledge dissemination.

Further Resources

- Project I: "Cultural and Scientific Perceptions of Human Chicken Interactions" funded by AHRC – Science in Culture Theme
- Project II: "Going places" funded by UK Research and Innovation
- Project III: "Using chicken-based research to transform education, poultry production and human well-being" funded by UK Research and Innovation

Acknowledgement

We thank Naomi Sykes for reviewing this case study.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Suggested citation

SHAPE-ID (2021). Three linked arts and humanities-led projects investigated the role of chickens in daily life in the UK and Ethiopia. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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SIENNA: Technology, ethics and human rights

Introduction

Committed to addressing the societal challenges arising from new and emerging technologies, this Arts and Humanities (AH)-led project aimed to enhance ethical and legal frameworks by including various perspectives. In a multi-layered stakeholder involvement process it reconciled the different views, interests and values of citizens, experts from practice, as well as STEM (science technology engineering and medicine) and AHSS (arts humanities and social science) researchers.

Keywords

Ethics, law, human rights, new and emerging technologies, stakeholder involvement, ethical protocols, codes of conduct, human genetics, genomics, human enhancement, artificial intelligence, robotics

Summary

The Horizon 2020-funded SIENNA project examined ethical and legal issues of new and emerging technologies in three areas: 1) human genetics and genomics, 2) technologies that can be used to enhance human abilities, and 3) artificial intelligence and robotics. This research team was committed to addressing societal challenges, namely the socio-economic impacts of new and emerging technologies, as well as the ethical and legal issues that arise. They acknowledged that such challenges can only be properly addressed if the diversity of views and values of both scientists and citizens are considered early in the research process.

The project has developed a methodology for reconciling the different views, interests and values of stakeholders such as ethics committees, field experts (natural and life sciences, medicine, social sciences and humanities, engineering and information sciences), human rights organisations, consumer rights organisations, patient advocacy organisations, policy-makers, regulators, professional organisations or associations, industry and the public (including non-experts).

Several stakeholder engagement elements were combined: ethical impact assessments, consultations[1] with experts and stakeholders, workshops with stakeholders[2], public opinion surveys in 11 countries and citizen panels with lay publics in 5 countries.

[1] Via semi-structured interviews

[2] Legal analysis workshop, foresight workshops, workshops on operational codes and guidelines

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

> **Engaging with stakeholders will help identify relevant stakeholder interests regarding impacts of the three technological fields and help contextualize and potentially balance conflicting values. Getting stakeholder input early in the ethical impact assessment process will help make the recommendations, frameworks and codes developed in SIENNA useful and actionable.**
>
> Rodrigues et al. 2018, p.29[3]

Based on the stakeholder involvement process and an analysis of existing ethical and legal frameworks, the project has developed new (complementary) elements to improve ethics protocols, professional ethical codes and legal frameworks. These findings were communicated in reports, publications in interdisciplinary, AH-oriented and STEM-oriented journals, but also in policy briefs, newsletters, blogposts, tweets and a final conference.

The project management envisaged bringing about interdisciplinary knowledge integration beyond the funding period, by generalising project methods and supporting their adaptation to other areas. Furthermore, the project team has set up a sustainability plan to ensure buy-in from stakeholders and use of results after the project ends.[4]

This case study illustrates how AH researchers invited STEM researchers to become involved in the improvement of ethical and legal frameworks about new and emerging technologies, but also of their own research practice. The views, interests and values of STEM researchers as well as other stakeholders were integrated by a (AHSS-developed) methodological approach which aimed to enhance ethics research protocols and professional codes for STEM research. Remarkably, the project managed to reach different research communities by publishing in interdisciplinary, AH-oriented and STEM-oriented journals.

Further Resources

- SIENNA project website
- Video on SIENNA Key messages

[3] Rowena Rodrigues, Stearns Broadhead, Philip Brey, Zuzanna Warso, Tim Hanson, Lisa Tambornino, & Dirk Lanzerath. (2018). SIENNA D1.1: The consortium's methodological handbook (Version V0.6). Zenodo.DOI 10.5281/zenodo.4247384

[4] The project finished whilst this piece was written in March 2021, so the succees of these aims cannot yet be assessed.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Acknowledgement

We thank Josepine Fernow and Philip Brey for reviewing this case study.

Suggested citation

SHAPE-ID (2021). The SIENNA project examined the ethics of emerging technologies. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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K-PLEX – Knowledge Complexity

Introduction

This humanities-led project examined how humanities and cultural researchers deal with messy data and what implications can be drawn from their approaches for big data research. It identified key aspects of data that are at risk of being lost in processes of large-scale data aggregation, and ignored in subsequent knowledge creation processes. It thereby advocates for AHSS-specific expertise in STEM-driven research fields.[1]

Keywords

Big data, digital humanities, social/cultural/psychological anthropology, language technology, data science

Summary

The K-PLEX project was funded by Horizon2020 as an ICT programme "sister project" with the primary purpose of informing future research and policy in the ICT space. The funding enabled the principal investigator to unite a team of experts known from former projects and meetings. The team included research groups in both digital humanities and anthropology, a research data archive and an enterprise specialising in language technologies. The principal investigator Jennifer Edmond considers Digital Humanities as a field of study which invites interdisciplinary knowledge integration: "Digital humanities itself is a great example of how humanistic knowledge creation can interact with other epistemic paradigms, given that we work all the time at the border of technology, the arts, culture and information science."[2] Reflection and integration of the different perspectives in the project team was built into the structure of the project and supported by several face-to-face meetings, culminating in a week-long writing retreat.

The project aimed to raise the awareness of the risks inherent in big data processing and corresponding knowledge creation processes. The project team explored the attitudes and opinions of researchers and professionals within four themes: discourses of data, hidden data, human bias in data and the loss of cultural information in data. "Each thematic strand produced insightful and significant results, but the most compelling outcomes of the project stand at the intersection these themes" (Edmond et al. 2018, p. 8). Deliverables included publications, book chapters and conference contributions, but also a brochure for big data researchers, policy makers and ICT professionals, posts in big data-related newsletters, open sharing of all research data, a blog, media reports, invited talks and the participation in events organised by the European

[1] STEM is an acronym for the fields of Science, Technology, Engineering, and Mathematics.

[2] Net4Society, Success Stories in SSH Integration. https://www.net4society.eu/files/net4society_d3_3_3_factsheets_ssh_integration.pdf p.14.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Commission and the European Parliament. Amongst other results, the project provided empirical analysis that depicts sources of bias in big data research.

The AHSS focus helped to demonstrate how important information – e.g., on identity, culture and individual emotions – is difficult to express in aggregable data. Furthermore, it raised awareness on the limitations of big data when attempting to capture complex phenomena. The project team developed constructive – and rather radical – recommendations for big data research.

> **In the place of incremental change, the K-PLEX results point toward four possible areas of quite radical intervention into how knowledge creation pathways might be re-construed for the next generation of big data and society. Such measures will take courage to pursue, and their likelihood of upsetting extant hierarchies and power relationships will meet with resistance. The opportunity they could bring to re-establish the foundational assumptions of big data research could, however, be transformational, for technological as well as social development.**
>
> Edmond et al. 2018, p. 17

Whereas many of the case studies in the SHAPE-ID Toolkit illustrate a symmetric relationship between STEM and AHSS, this case study shows how (A)HSS disciplines advocate for their cause.

> **We'd like to think that the value of having an SSH-led project in the area of big data was that we were able to see things others take for granted. We were not always listened to in the big data community meetings, but we were there, we were represented, and our recommendations will stand.**
>
> Jennifer Edmond interview, Net4Society, p.14

To sum up, this case study illustrates how problem framing in a STEM-driven research field was approached with an AHSS perspective. It advocates for the inclusion of AHSS-specific expertise, such as understanding the complexity of identities, behaviours and meaning, considering ethical perspectives and addressing inequalities, as well as deriving alternatives from critical perspectives and reflexivity. In broader terms, it shows how AHSS contribute to the (re)framing of STEM-driven research problems such that human experience becomes the focus of interest.

Further Resources

- K-PLEX project website
- Net4Society case study

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- Edmond, J., Horsley, N., Huber, E., Kalnins, R., Lehman, J., Nugent-Folan, G., Priddy, M. & Stodulka, T. (2018): Big data & complex knowledge: Observations and recommendations for research from the knowledge complexity project. Trinity College Dublin.

Acknowledgement

We thank Jennifer Edmond for reviewing this case study.

Suggested citation

SHAPE-ID (2021). The KPLEX project developed innovative humanities approaches to big data. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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Dance Engaging Science

Introduction

In this project, researchers from several AHSS and STEM disciplines and exponents from the performing arts industries met to examine dance and to learn from each other's methods as well as explore ways to express and capture (embodied) knowledge. They developed joint research projects and documented their experiences in publications and a "statement of principles" to address education, policymakers and the public.

Keywords

Dance, embodied knowledge, performance, choreography, dramaturgy, philosophy, anthropology, psychology, neurosciences, cognitive science, dance medicine, architecture, biomechanics

Discussion

Dance Engaging Science aimed to survey the current state of the field of interdisciplinary dance-science research and to lay the foundations for future interdisciplinary research in which dance itself plays a greater constitutive role (project website I). It was funded by Volkswagen Foundation and embedded in a larger endeavour called 'motion-bank'.[1]

A working group of 20 people from the fields of dance, performance, choreography, dramaturgy, philosophy, anthropology, architecture, psychology, neurosciences, cognitive science, dance medicine, and biomechanics met in three co-creation workshops to discuss choreography, forms of expression in dance, aesthetics, movement perceptions and creativity. The social and cultural implications of dance were also recurring topics in the discussions (Jung 2013, p. 3).

Prior to the first meeting, all participants were provided with a reader of articles, as well as a document on "Questions from Practice" derived from interviews with practitioner experts. "The goal was to stimulate discussion about how such questions are comprehended by those who are not experts in dance, but are specialists in other research domains with a vested research interest in dance and to consider the potential of converted [sic] these questions into interesting collaborative research proposals" (deLahunta 2012, p. 2). By the end of the first meeting, a shared sense of purpose was established. Five research topics were identified[2] and group members signed up for those topics they were interested in pursuing.

[1] Motion bank is a project of the Forsythe Company providing a broad context for research into choreographic practice. The main focus in that time was on the creation of online digital scores in collaboration with guest choreographers to be made publicly available online (project website II).

[2] Attention, Tasks, Acoustics/Musicality, Expertise, Memory & Learning

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> **Through their common human experience, dancers and scientists both know a great deal about how the mind works [….]. However, they come to know, think about and express these things differently through their distinct embodied experiences and practices of research. The Dance Engaging Science project carefully navigates these differences, generating promising research and seeking to increase its validity and value beyond the domain of science while foregrounding the interface of different domains of knowledge and interests.**
>
> Vass-Rhee 2013, p. 5-6

To address questions which cannot be communicated by verbal language alone, the second meeting started with two movement body-based experiences for the whole workgroup, followed by a conversation "which was stimulated by a more nuanced understanding of the complexities of practice and the nature of practice-based concepts and questions" (deLahunta 2012, p. 4). Furthermore, the workshop aimed at exploring new research methodologies, and at further identifying tractable projects on "challenges the study of dance presents science" (deLahunta 2012, p. 5). In the course of the working group's discussions, an additional goal emerged: to develop a "Statement of Principles" synthesising the perspectives of the working group and to be used to inform education, policy makers and the public.

These aims were further pursued in the third meeting, resulting in 11 collaborative research project proposals, the presentation of a "Statement of Principles" at a congress on dance (Düsseldorf, 6-8 June 2013) and several joint publications. Beyond the scope of the project, members of the working group met in a follow-up workshop in 2015 (workshop website) to share project outcomes and discuss future ideas, such as enhancing publication and dissemination strategies, expanding the research network, initiating co-teaching by artists, scholars and scientists, and developing strategies for future funding.

This project demonstrates the range of supportive preconditions needed for successful AH(SS) and STEM integration. However, even with such support in place, there are institutional barriers to such collaborations. The facilitator of the workshops also describes "a practical systemic problem that occurs when scientists and artists try to work together on equal collaborative terms. Without the institutional affiliations that are normal for scientists and scholars, artists often find themselves unable to participate in funding applications that require such connections be in place […] e.g. Kate Stevens was not able to involve Freya Vass-Rhee without an institutional affiliation in her ARC Linkage application" (deLahunta 2012, p. 7).

To sum up, this case study illustrates the integration of STEM and AHSS disciplines into research about arts: the arts as creators of new knowledge served

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not only as a means, but were – at least to some extent[3] – examined as research topic per se. STEM disciplines were invited to help to translate the 'language' of dance into formats that allow the knowledge inherent in a choreography to be documented. The question-led collaboration and collective experimentation of different (disciplinary) methods led to increased mutual understanding and the formulation of joint research projects.

> **New forms of collaborative research involving artists, scientists and scholars take time to evolve. Some time without expectations of specific research output is required. This allows participants to develop forms of communication (languages) that allow everyone eventually to feel they meet on the same level. Dance Engaging Science gave the Workgroup and others participating the chance to collectively explore these tensions.**
>
> deLahunta 2012, p. 7

Further Resources

- Dance Engaging Science project website
- Motion Bank project website
- Follow-up workshop website
- deLahunta, Scott (2012) Interim Report: Off the Beaten Path (Meeting 1-3). Dance Engaging Science (DeS) Interdisciplinary Research Workshops. Reference Nr. 1/84 930, 25 November 2012
- Jung, Christian (2013). Kunst trifft Wissenschaft: Das Tanztheaterprojekt «Dane Engaging Science» [PDF link].
- Vass-Rhee, Freya (2013): Promising research, questioning education: The Dance Engaging Science Workshops. In: Edith Boxberger & Gabriele Wittmann (eds): pARTnering documentation: approaching dance. heritage. culture. 3rd Dance Education Biennale, Munich: ePodium Verlag, p. 50-53.

Suggested citation

SHAPE-ID (2021). Researchers and performers shared their knowledge in Dance Engaging Science. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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[3] «... the discussions were marked, as Kate Stevens noted, by "tensions" related to two concerns: the search for questions of mutual interest and the desire to find a "middle ground" where dance could be studied for dance's sake itself." (Vass 2013, p. 51)

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Rivers, Time, and Collaborative Research

Introduction

Standard time is measured on atomic clocks, calibrating business and personal interactions on a technical basis. Might rivers be more meaningful timekeepers? Might their ebb and flow encourage us to nurture our environment and the relationships that matter most? Experimental philosopher and artist Jonathon Keats invites people to consider different ways of thinking about time in relation to observation of place from the perspective of science, art, and philosophy.

Keywords

Rivers, time, environmental sciences, arts, collaborative research, integration, anthropology.

Discussion

Rivers are icons of climate change. They are also highly sensitive indicators of present climate conditions, records of historical climate, and predictors of climate in the future. Climate scientists research all of these factors by observing watersheds and the ecosystems they sustain. Rivers are places that provide social shelter and comfort, and that build a community identity. They have also driven participatory processes, as in Ticino, Switzerland (Buletti & Ejderyan 2020).

Conceived by Jonathon Keats, **River Time** is a multifaceted civic initiative intended to bolster public appreciation of river systems – and people's understanding of their significance as climate indicators – by enlisting rivers as timekeepers.[1] Instead of being calibrated by the pulsations of cesium atoms in remote laboratories, local time is measured by the flow of local rivers, speeding up or slowing down with the myriad environmental factors that affect watersheds daily, seasonally, annually, and over the course of generations. Standard project elements include an online fluvial clock[2] and seasonal almanacs that people are invited to create by observing their local watershed throughout the year and noting characteristic conditions each month that can be used to reckon the fluvial month in future years.[3] Additional elements may include public activities such as concerts in which time is kept by a river-calibrated metronome.[4]

[1] http://alaskarivertime.org/pdf/Keats%20-%20Recalibrating%20Civilization.pdf

[2] http://alaskarivertime.org/Clock

[3] https://www.anchoragemuseum.org/visit/calendar/details/?id=61088

[4] http://alaskarivertime.org/Observations#galleryV-4

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As well as an open-ended investigation of our relationship with time and place, **River Time** is simultaneously a provocation.[5] The time kept by atomic clocks gives us the false illusion of control: being able to manage the present and predict the future. With fluvial clocks, time is alive with contingencies. Users experience the complexity of the global environment. We come to terms with where planning and prediction fail us: the limitations of what we can know about the future – and the threat of hubris.

Originating in Alaska as a SEED Lab project of the Anchorage Museum,[6] **River Time** is a global initiative,[7] and will be deployed next on the rivers of Switzerland. **River Time** is also a case study in art-and-science collaboration, which serves as the basis for research on interdisciplinary and transdisciplinary research by the Transdisciplinarity Lab (tdLab), Department of Environmental Systems Science at ETH Zurich (Switzerland). Through an on-going collaboration, we jointly – artists and social scientists – elaborate research questions that address the challenges of integrative research. We also develop new tools for scientific research using artistic interventions, building on previous work conducted by Keats in collaboration with the Neuroprosthetics Laboratory at the Ecole Polytechnique Federale de Lausanne.

The **River Time Initiative** has also built strong links with *Climate Garden 2085*, an art-and-science project organized by Juanita Schläpfer-Miller at the Zürich-Basel Plant Science Center at ETH Zürich.[8] *Climate Garden 2085* investigates how plants may grow in future climate conditions, and engages students in the investigative process, through care and maintenance of a set of experimental greenhouses. In collaboration with Schläpfer-Miller, Keats has added a calendrical mechanism that is calibrated by plant phenology, which will vary with the changing climate. His "botanical parapegma" facilitates close observation of the plants that calibrate it, further engaging audiences in their consideration of climate futures.

Drawing on insights from the project **Shaping Interdisciplinary Practices in Europe** (SHAPE-ID), an ongoing H2020 project, the River Time Initiative demonstrates some of the roles the arts can play in inter- and transdisciplinary research. The challenge of including the arts and humanities meaningfully in research and innovation initiatives is not new, but has grown more important in these crisis-ridden times. There is an urgent need for more collaborative work embracing interdisciplinary and transdisciplinary research across and between all disciplines. In this context, *how can the arts and humanities be interrogated by*

[5] https://nautil.us/issue/94/evolving/humans-have-rights-and-so-should-nature

[6] http://alaskarivertime.org/About

[7] https://www.hirmerverlag.de/us/titel-22-22/thought_experiments-1970/

[8] https://blogs.ethz.ch/klimagarten/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

scientific questions and deployed to address scientific questions of relevance to the present? Taking this question as a common line of inquiry, both researchers and artists are building a joint understanding of collaborative practices using anthropological and philosophical perspectives as means of inquiry.

Further Resources

- Buletti Mitchell, N. & O. Ejderyan (2020) When Experts Feel Threatened – Strategies of Depoliticization in Participatory River Restoration Projects. Area. https://doi.org/10.1111/area.12686
- Buletti, N., Utz, S., Ejderyan, O., Graefe, O., Lane, S. N., & Reynard, E. (2014). Définitions et mise en œuvre des processus participatifs dans l'aménagement des cours d'eau en Suisse [Definition and implementation of participatory processes in Swiss river works]. Fribourg, Lausanne, Switzerland: Université de Fribourg. PRE-PRINT version. Article published in : Bulletin de l'ARPEA/ Journal Romand de l'Environnement. N°271 (Hiver 2017): 41–50.

Suggested citation

SHAPE-ID (2021). The River Time Initiative uses art and philosophy to think differently about time. Case study compiled by Bianca Vienni Baptista. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

RURITAGE – Heritage for Rural Regeneration

Introduction

The transdisciplinary RURITAGE project turns rural areas into laboratories to show how natural and cultural heritage can act as engines for regeneration. It aims to use the expertise of a range of disciplines and professions to promote change towards sustainable development in real-life environments.

Keywords

Cultural heritage, natural heritage, (landscape) architecture, rural planning, urban sociology, digital humanities, geo-information-system techniques, landscape & ecosystem services, natural history, evaluation & monitoring, business models and tools, social innovation graphic & game design, systems solutions

Summary

This transdisciplinary project on rural regeneration is funded by the Innovation Action funding scheme of Horizon 2020. Coordinated by architects, the consortium consists of 38 partners from 19 countries, and includes research organisations, education establishments, private for-profit entities, and public bodies. The partners analysed the lessons learnt from already established natural and cultural heritage sites, identified potential new sites, and co-developed innovative heritage-led regeneration plans for the six chosen replication sites. They also aim to foster networking, mobilise investments, and increase local employment.

> **Rural areas all over the world are facing chronic economic, social and environmental problems. This is resulting in unemployment, disengagement, depopulation, marginalisation or loss of cultural, biological and landscape diversity... The RURITAGE project suggests that the challenges of rural areas can be overturned by utilizing heritage potential.**
>
> Ruritage website

The project team understands cultural and natural heritage as part of a “broader definition of cultural ecosystem services”, providing both tangible and intangible benefits to local residents and visitors. The project identified six key topics for further work (so-called systemic innovation areas): art and festivals, integrated landscape management, migration, pilgrimages, resilience and sustainable local food production. Arts and Humanities disciplines were involved in the co-design of the research and contributed to the identification of these systemic innovation

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areas as well as additional cross-cutting themes[1]. In addition, 'Arts and festivals' are also examined as a means for societal change:

> **Art and festivals are… becoming increasingly popular in rural areas as a means to revitalize local communities. Making arts more accessible to rural communities… has an impact that goes well beyond what can be measured in economic terms. By enabling participants of all ages and abilities to take part in artistic activities, RURITAGE generates new cultural capital and further increases creativity. Successful reinforcement of rural societies through arts creates inclusion through awareness of diverse cultures and identities.**
>
> Ruritage website

Project outputs are varied: An online Replication Toolbox provides a collection of good practices and lessons learned, a Decision Support System, a serious game for stakeholder involvement, and a step-by-step replication guide. A Digital Rural Heritage Hub has been developed to facilitate knowledge exchange. Six co-developed innovative heritage-led regeneration plans support regeneration in the replication cases. In addition, a RURITAGE Atlas tool has been created that enables the integration of various sources into a virtual map, and the analysis of interactions between them. Finally, a webinar series, and several academic and policy-related publications have also been produced.

Beyond these digital outputs, physical rural heritage hubs were established:

> **The hub is constituted by a community of local stakeholders as well as a physical meeting place where co-creation activities take place… It is thereby a living lab where local stakeholders and inhabitants cooperate for developing new heritage-led regeneration strategies for their territory.**
>
> Ruritage website

Collaborative monitoring and evaluation procedures are also important components of the project. These aim to collect new evidence for rural regeneration innovations. A methodology for Community-based Heritage Management and Planning (CHMP) and a set of evaluation criteria for changes in community capital[2] were negotiated in a group decision process that allowed for different weightings across the cases (Olmedo and Barrientos 2019). Dashboards are used to monitor, compare and learn from the replicator cases, and at the time of writing (April 2021), the Global Performance Indicator of community capital

[1] E.g. cultural ecosystem services, mental wellbeing, cultural and natural heritage safeguarding, appreciation and interpretation

[2] Community capitals comprise cultural, natural, built, social, human, and financial capitals.

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indicates improvements of 17-30% in the replication sites compared to the baseline levels (ruritage ecosystems website).

To sum up, this architecture-led, transdisciplinary project illustrates how a joint framework (e.g. systems innovation areas, cross-cutting themes, community capital types) and joint intellectual tools (for transferring lessons learnt on replication cases, for participatory planning, for monitoring) were developed to guide group decision processes. Monitoring and evaluation criteria have also been thoroughly negotiated and are shared for learning and monitoring purposes. Furthermore, the easy-to-read website showcases that a common language has been found to effectively communicate complex issues.

Importantly, the project is an example of *arts in research,* – drawing on the AHSS-specific expertise of contextual knowledge for policy application[3] – as well as *research about arts* – when considering arts and festivals as one of the systemic innovation areas.

Further Resources

- RURITAGE project website
- RURITAGE on cordis
- Olmedo, David; Barrientos, Francisco (2019): Monitoring Programme and Procedures. D4.2.
- Dashboards on RURITAGE ecosystems website

Suggested citation

SHAPE-ID (2021). The RURITAGE project demonstrates how natural and cultural heritage can be used for rural regeneration. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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[3] AHSS knowledge can facilitate the scaling of policy to local levels based on a nuanced understanding of regional and local issues and stakeholder participation.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

SHAPE-ID
Shaping interdisciplinary practices in Europe

CASE STUDY | TRINITY LONG ROOM HUB ARTS & HUMANITIES RESEARCH INSTITUTE

Building a culture of interdisciplinarity

The **Trinity Long Room Hub** was founded by Trinity College Dublin in 2006 as its flagship research institute dedicated to advancing Trinity's Arts and Humanities. It represents a research community spanning over 20 disciplines, along with the university library. It supports research excellence at all levels with a focus on advancing high impact and high-profile interdisciplinary research.

This case study presents highlights and lessons from its ongoing journey towards **building a supportive culture for inter- and transdisciplinary research.** Some of its programmes and supports have brought steady, incremental change. Others have been game-changers in accelerating the transformation process.

> Interdisciplinarity is complex and the myriad of factors that create the optimum conditions for it require ongoing innovation and evaluation of programmes, supports and incentives.

The vision for the Trinity Long Room Hub (TLRH) dates back to 2004 when the Arts and Humanities community at Trinity successfully lobbied the university for a unifying research infrastructure to overcome its fragmentation. Trinity secured state funding for the building that is now home to the institute. The physical infrastructure was designed to cultivate an environment for interdisciplinarity. It provides a dedicated study space for early career researchers, offices for fellows and research teams, and meeting spaces for the community to convene to discuss their research outside of their disciplines and with the public.

Having a mission, a state of the art infrastructure and an active research culture does not automatically create the conditions and environment for interdisciplinarity. Disciplines and individuals juggling ever growing demands need dedicated programmes and supports to incentivise experimentation with new approaches. The active support and engagement of the community being served by the institute is critical. A **focused and energised team of people who can drive change** in communication and support capacity building for public engagement, research funding applications and research impact is also required. External contexts, funding and political forces matter. The institute needs to be a pioneer in leading new research approaches so that it in turn can be an advocate and an influencer for the change that its community needs to excel in a rapidly changing research environment and world.

Good Practice Tips

01 Culture change takes time – allow for incremental change

02 Build a team that is innovative and agile

03 Consult with your core stakeholders and build community at all career levels

04 Build on academic strengths and interests and seek funding strategically

05 Create a virtuous cycle – pioneer, engage, enable, transform, amplify

Listen to our interview with Trinity Long Room Hub Executive Director, Dr Caitriona Curtis

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EARLY CAREER RESEARCHERS & FELLOWS|

Enabling inter- and transdisciplinary engagement at an early career stage is pivotal to longer-term culture change. Working with its 9 partner schools, each year the Trinity Long Room Hub hosts over 40 ECRs who have expressed an interest in experiencing and contributing to its interdisciplinary environment. In addition to quality study space and common meeting areas, **regular and structured informal community building is provided** from the outset. Initiatives like weekly coffee mornings with diverse researchers, visiting fellows and practitioners, reading groups, workshops, and public engagement activities prompt researchers to engage with contemporary global challenges and address why their research matters.

The institute's short-term visiting fellowship programme comprised of scholars, artists in residence and public policy fellows enriches the environment and creates a non-hierarchical forum to explore a wide range of disciplinary and career perspectives, **fostering collaborations and openness and curiosity about diverse approaches and concepts**.

> "Community building creates a space for nurturing dialogue and collaboration. It unleashes sparks capable of transforming research outlooks and directions. An institute should be a bridge builder.
>
> TLRH Executive Director Dr Caitriona Curtis

PUBLIC ENGAGEMENT |

The Trinity Long Room Hub has been an advocate for driving transformative change in the **communication of Arts and Humanities research** by articulating its value to wider audiences. As well as providing the infrastructure for its community to host over 300 research events a year, often public, its signature activities connect diverse communities to create a space where informed discussion can take place and perspectives can change. Researchers are actively involved in public debate and work to influence public thinking and public policy not just through research dissemination but through engaged and meaningful discourse.

The **Behind the Headlines** programme has been one of the key drivers of change in how the TLRH community engages with topical societal issues, giving researchers a platform to provide a research-informed view on contemporary issues. This platform puts the Arts and Humanities on an equal footing with STEM disciplines and raises awareness of the value of Arts and Humanities research in public debate, as well as stimulating future collaborations.

Profile: Early Career Researcher

Amelia McConville is an interdisciplinary PhD researcher working towards her doctorate on visual poetics, poetry, and Neurohumanities at Trinity College Dublin. She is funded by the Irish Research Council Government of Ireland Postgraduate Scholarship.

"As an interdisciplinary researcher working on visual poetry, poetics, and Neurohumanities, the Hub provided me with so much more than just a desk space at a crucial point in my studies. Whether it was learning about the nuances of someone else's doctoral project during our weekly Coffee Morning 9-minute presentations, striking up a chance conversation in the Ideas Space over lunch, founding a Reading Group, or spontaneously attending an evening lecture each week, the opportunities for collaboration and enriching my own perspective were frequent and many. I think of the Hub as the optimum environment for any early career researcher -- an atmosphere of focus and opportunity with room for the informality and chance conversations that can take your research -- and life! -- in new and exciting directions."

Watch Amelia's SHAPE-ID webinar presentation.

Profile: Public Policy Fellow

Mary Doyle was inaugural Public Policy Fellow at the Trinity Long Room Hub. She retired from her role as Deputy Secretary General in the Irish Government Department of Education and Skills in 2018. Since 2012 she had responsibility for Higher Education Policy, Funding and Legislation, later taking responsibility for Further Education.

As part of the TLRH's commitment to raising awareness of the relevance of Arts and Humanities research to addressing grand societal challenges, it appointed its first Public Policy Fellows in 2019 to help address the potential of Arts and Humanities research and expertise to influence and inform policy development. The policy research interface is also a new area of focus for Trinity and for Ireland and has highlighted in particular the importance of supporting individuals across both communities to develop and sustain longer term relationships Mary Doyle's experience of working with the TLRH community led her to engage with national funders and academies and her 2021 paper Research for public policy and society: building a stronger architecture for Ireland is now being considered collaboratively across a range of stakeholders including Government, the Irish Higher Education system and Research Funders. Mary has also contributed to a SHAPE-ID webinar and the SHAPE-ID blog.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

FUNDING | Securing strategic large-scale funding is critical in building capacity for interdisciplinarity and raising the international profile of the institute for partnerships. In 2017, supported by a dedicated research programme officer, the TLRH secured funding for its first MSCA COFUND programme. It enabled the appointment of 9 fellows for 12-month periods with interdisciplinary proposals addressing the university's Arts and Humanities led themes **Digital Humanities**, **Creative Arts Practice**, **Identities in Transformation**, **Making Ireland** and **Manuscript, Book and Print Cultures**. The fellows brought momentum to the themes, built community and networks and explored the challenges – including publication and funding routes – of building collaborations in these areas as well as the emerging areas of neurohumanities and environmental humanities.

This experience also informed the development of the **Human+ COFUND programme**, funded in 2020. Small-scale initiatives can also initiate larger projects. In 2016, the TLRH organised a workshop on Interdisciplinarity for Impact (funded by the Irish Research Council), which became the first step in the successful **SHAPE-ID** H2020 grant proposal. Hosting SHAPE-ID has accelerated interest in inter- and trans-disciplinarity in the Hub and across the wider university community.

ARTS & HUMANITIES LEADERSHIP | While many factors are outside the control of an institute, it can be an agent of change by actively influencing discussions at a university, national and international level and as part of networks of similar institutes driving the pace for change. Since the beginning, the TLRH set out to actively lead in **spearheading Arts and Humanities-led research approaches and methodologies which position humanity, creativity and culture at the centre of measures to tackle complex societal challenges**. These build on areas of strategic interest to its research community. For instance:

- In 2014-17, the TLRH secured EU funding for an international research exchange programme on Cultural Trauma (SPECTRESS), with 9 partners around the globe.
- In 2018-19, it built on the SPECTRESS network to secure a CHCI A.W. Mellon Foundation Grant for a Global Humanities Institute on the Crises of Democracy.
- In 2020 the institute secured philanthropic funding to establish a Democracy Forum that will bridge the divides between academia, government, civic society and the media by translating Arts and Humanities research into real-world practice and activity.

> I was able to ask new questions about the direction of my projects. The Hub's focus on the place of the humanities in larger conversations allowed me to think about the kinds of conversations I want my work to be involved in.
>
> 2018-19 MSCA COFUND Fellow Dr Katherine Zieman

Enterprise Engagement

Start with an honest conversation on values and build a collaboration with small steps initially.

In 2018 the Trinity Long Room Hub organised a workshop with enterprise organisations to begin a conversation about how the humanities and enterprise could develop meaningful partnerships. On foot of this the Hub and the Dock, Accenture's global research and innovation hub in Dublin, collaborated on a public lecture series, "What does it Mean to be Human in the 21st Century?" This series explored technology developments and their impact on all aspects of individual and societal well-being.

The success of this collaboration led the Trinity Long Room Hub to develop, with the ADAPT SFI Research Centre for Digital Media Technology, the Human+ fellowship programme 2020-25, co-funded by the European Commission with enterprise partners including Accenture. 18 fellows will work with multidisciplinary supervisory teams across the Humanities, Computer Sciences and enterprise on diverse aspects of how to develop human-centric approaches to technological innovation.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Acknowledgement | We thank Caitriona Curtis, Jane Ohlmeyer, Mary Doyle, Amelia McConville, Aoife King, and Giovanna Lima for reviewing this case study.

Suggested citation | SHAPE-ID (2021). The Trinity Long Room Hub has built a culture that supports inter- and transdisciplinary research. Case study compiled by Doireann Wallace. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

University of Utrecht Liberal Arts and Sciences Degree Programme

Introduction

In the Liberal Arts and Sciences Programme students design their individual curriculum cutting across the Humanities, Natural Sciences and Social Sciences. Teachers, tutors and alumni create a learning environment that supports the development of interdisciplinary competences, transferable skills and appropriate coherence to continue studying in (disciplinary or interdisciplinary) master programmes.

Keywords

Bachelor Programme, learning for life, interdisciplinarity, humanities, natural science, social science, transferable skills.

Summary

In the three-year Liberal Arts and Sciences (LAS) bachelor degree programme, students can combine courses from the humanities, sciences and social sciences. This interdisciplinary approach allows students to study complex problems using a range of different perspectives and tools.

The LAS degree is growing in popularity and attracts slightly older students, often with wide-ranging interests who wish to design their individual curriculum. In this they are guided by a tutor and a major advisor who help to maintain a certain level of coherence in the curriculum, by, for example, making sure that they take sufficient laboratory science courses to be seen as competent researchers. Such an approach to education suits students who can cope with uncertainty (not knowing where their degree will end up), the possibility of failing in courses that are outside their field of specialisation and the requirement to write two BA thesis (see below).

In the Programme's first year students can explore various disciplines in all departments – science, social science and humanities – and also take courses on connective thinking (The Writing Academy) and a multidisciplinary project. The second year the students choose a major in one of the three domains, or possibly an interdisciplinary major and deepen their knowledge and skills. During the second year, students also take a course on interdisciplinary research methods (The Thinking Academy). During the third year, students focus finishing their major and interdisciplinary requirement, and they may take a minor, do an internship, or study abroad. As part of their final evaluation, students write two theses: a disciplinary thesis (which is part of their specialisation) and an interdisciplinary capstone (part of the integrative core). As students have to demonstrate excellence in both areas, the programme is more demanding that a single discipline course.

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LAS programme staff understand that they are educating students along a spectrum where some will acquire expertise in one additional area that complements their main interests, whereas others will become fully-fledge inter- and transdisciplinarians.

> **Graduates in this program have come to see interdisciplinarity as a way of both thinking and living, and have additionally developed a sense of agency over their education and future careers.**
>
> **Ria van der Lecq, founder of LAS, 2016, p. 79**

Students also have to write an e-portfolio reflecting on their studies and staff are involved in longitudinal research on interdisciplinary education. Several projects in the research group Subjects of Interdisciplinary Learning and Teaching (SILT) focus on the development of "meta-skills" such as analysing, debating and writing about research, (interdisciplinary) research collaboration, transferable skills, science communication, and 21st century skills such as self-authorship. These skills are developed in various formats: courses, group assignments, regular feedbacks, project-based learning, student-graduate/alumni-exchanges, tutorship and portfolio work.

After graduation, about 90% of students continue with a Master's programme. Nearly a quarter continues to pursue a Doctorate degree. "Thanks to the high standards set by both programmes in terms of independence and creativity, our students are well equipped to embark on successful careers in academia, the private sector, in NGOs and the civil service» (programme website 'education').

To sum up, this case illustrates how an ID/TD learning environment is created that enables the development of competences – such as flexibility and awareness of complementary roles – to deal with complexity and real-life challenges, as well as to collaborate across sectors and disciplines. Mutual understanding and common cognitive grounds between Arts and Sciences are fostered.

Further Resources

- LAS programme website 'education': https://www.uu.nl/en/education/school-of-liberal-arts/education
- LAS projects: https://www.uu.nl/en/education/school-of-liberal-arts/projects
- Research group Subjects of Interdisciplinary Learning and Teaching (SILT): https://transmissioninmotion.sites.uu.nl/subjects-in-interdisciplinary-learning-teaching-silt/
- Lecq, Riavan der (2016): Self-authorship characteristics of learners in the context of an interdisciplinary curriculum: Evidence From reflections, Issues in interdisciplinary studies, 34, 79-108.

Acknowledgement

We thank Iris van der Tuin and Merel van Gochfor reviewing this case study.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Suggested citation

SHAPE-ID (2021). The University of Utrecht Liberal Arts and Sciences programme provides inter- and transdisciplinary education. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

The AHRC Science in Culture Theme

Introduction

With the Science in Culture Theme, the UK Arts & Humanities Research Council (AHRC) has created a funding scheme that invites the Arts and Humanities and STEM disciplines to initiate and foster collaboration.

Keywords

Funding, culture, sciences, philosophy, neurosciences, psychology, literary and theatrical scholars, clinicians, psychiatry

Summary

The Science in Culture Theme "aims to encourage mutual exchanges between the sciences and the arts and humanities that offer scope for developing new areas of research, methodologies, research frameworks, styles of thinking and/or ways of working across the disciplines" (AHRC website). The AHRC formulated four disciplines-overarching questions to stimulate interdisciplinary research that reflects on and makes use of AH-specific contributions. A symmetric relationship is envisaged: the AHRC wants to "pursue topics that cannot be successfully addressed by either side alone" (Science in Culture home page). With a theme-specific assessment criterion it encourages research with "potential to make a novel contribution to the development of reciprocal relationships, cross-disciplinary innovation and mutual exchanges between the arts and humanities and the sciences." (Large Grant Call, p. 19). Furthermore, the applicants are encouraged to support the capacity building of early career researchers on interdisciplinary research settings and methods e.g. by mentoring, training or dual PhD supervision (one supervisor from AH disciplines, one from STEM disciplines).

The Science in Culture Theme grants Large Funds, Exploratory Awards and Innovation Awards. Several projects funded by the Science in Culture Theme are described in AHRC case studies. We especially recommend the following case studies as they illustrate several factors for successful AHSS integration.

Profile: Centre for the Study of the Senses (Large Grant)

This case study illustrates how the Centre for the Study of Senses fosters interdisciplinary community building for a common understanding of "how the different senses contribute to our perception of the environment, and awareness of ourselves" (website). It motivates researchers to pool knowledge from different disciplines and to contribute to a new framework for multisensory experience which serves as powerful unifying concept. Different ways of knowing are acknowledged and co-production of knowledge is envisaged e.g. by jointly designing and conducting experiments. The principal investigator emphasises the reciprocal relationship between the sciences and the arts and humanities.

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Furthermore, collaborations with artists and partners from the nonprofit and public sector, as well as restaurants (to conduct taste experiments) indicate impact beyond the academic world. The centre's website indicates that there has been some follow-up funding and partnerships beyond the AHRC's funding period and that institutional arrangements enable and nurture collaboration between disciplines, e.g. by funding workshops to encourage networks for further interactions and by organising an annual conference. In addition, different approaches towards objectivity and subjectivity in research have been explicitly addressed (e.g. events on "embodied Inter-subjectivity", "perceptions", "objectivity") which may support mutual understanding between disciplines.

Profile: Beckett and Brain Science (Exploratory Award)

This case study illustrates concrete cross-fertilisation between the arts, sciences and medical practitioners. The project is based on using literature to interrogate current concepts of mental disorder. In AH-led, transdisciplinary workshops new narrative frameworks to express the experience of chronic and life-limiting conditions have been explored. These frameworks serve as intellectual tools to challenge clinical categorisations of mental disorders, as well as to communicate across disciplines. Based on the workshop experiences, a pedagogical performance workshop format was designed for doctors and medical trainees (which was commissioned beyond the project's funding period). AH researchers in turn learnt about "new lexicons for explaining and describing human experience". The project gained media attention and resulted in an interdisciplinary paper, a joint book, podcasts, as well as a follow-up collaboration.

Overall, the Science in Culture Theme enabled projects with strong AH-(co)-leadership and diversified outputs – papers, books, podcasts, workshop formats, conferences, exhibitions, videos, documentary films, media reports, etc. – for interdisciplinary and disciplinary advancements, but also for the benefits of stakeholders. Furthermore, it nurtured teambuilding – several teams continued their collaboration and successfully funded follow-on projects beyond the scope of the AHRC funding schemes.

Further Resources

- The Culture in Sciences Theme on the AHRC Website
- Dedicated Website of the Culture in Sciences Theme
- AHRC Case Study on Rethinking the Senses
- Center for the Study of Senses (CenSes)
- Case study on Beckett & Brain Science
- Further information on Beckett & Brain Science
- See also case study "The role of chickens in society" in this toolkit, whose first project was funded by the AHRC Culture in Sciences Theme.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Suggested citation

SHAPE-ID (2021). The Arts and Humanities Research Council Science in Culture funding scheme fosters collaborative research. Case study compiled by Isabel Fletcher and Sibylle Studer. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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Funding interdisciplinary research

The mission of the **Irish Research Council** (IRC) is to enable and sustain a vibrant research community in Ireland by supporting excellent researchers in all disciplines. As part of its wider mandate to enhance Irish research, the IRC funds basic research and supports education and skills development through postgraduate and postdoctoral scholarships, as well as awards for established researchers. A core pillar of the IRC's mandate is to enrich the pool of knowledge and expertise available for addressing Ireland's current and future challenges and deliver for citizens through collaboration and knowledge exchange with government departments and agencies, enterprise and civic society. The IRC recognises the need for **interdisciplinary and intersectoral research to address grand challenges** and in their Strategic Plan 2020-2024 commits to leading the development of the Irish research system as an international exemplar for such collaboration and to developing pathways for interdisciplinary engagement with enterprise and employers to build capacity.

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn
www.research.ie

#LoveIrish Research

This case study profiles some of the **funding mechanisms the IRC has developed to support interdisciplinary and intersectoral research capacity building** through strategic partnerships, workshop grants and schemes designed to empower Arts, Humanities and Social Sciences (AHSS) researchers to engage in interdisciplinary research.

> We tend to think of the research challenges of our time in terms of scientific discoveries and driving the next leap in the frontier of knowledge. However, research and science arguably also face a grand challenge of interdisciplinarity.
>
> Peter Brown, Director, Irish Research Council

CREATIVE CONNECTIONS | In late 2015, the Irish Research Council (IRC) launched a new call titled '**Creative Connections: Workshops to Cultivate Interdisciplinary Research in Ireland**'. The call aimed to encourage higher education and research institutions in Ireland to come together and formulate joint proposals for funded workshops on Interdisciplinary Research, to be delivered during 2016. A Creative Connections workshop hosted by the Trinity Long Room Hub in 2016, Interdisciplinarity for Impact, was the first step of a journey that would see the **SHAPE-ID** Horizon 2020 project funded.

The Creative Connections Synthesis Report summarised recommendations for institutions and funders from the workshops. Funders wishing to increase interdisciplinary engagement were advised to **facilitate interdisciplinary networking and development**, for instance through collaboration with other funders and support for interdisciplinary conferences; and ensure **stable funding supports for interdisciplinary research**, including a regular annual funding programme run in collaboration with enterprise and the community and voluntary sector. The need to ensure interdisciplinarity is core to the research question and not superficial was also highlighted.

Good Practice Tips

01 Seed funding is valuable in giving researchers time to build interdisciplinary relationships and capacity.

02 Work to embed interdisciplinarity in national strategies.

03 Ensure predictable annual funding calls for interdisciplinary research.

04 Build partnerships with enterprise and civil society to drive and fund engaged research around grand challenges.

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Networks, Partnerships and Capacity Building

NEW FOUNDATIONS | The New Foundations scheme supports eligible researchers who intend to pursue research, networking and/or dissemination activities within and across the diversity of disciplines. This scheme provides support for research actions, the development of networks and consortia, conference and workshop development, and **capacity building for interdisciplinary collaboration**.

Strand 4 partners with the Department of Foreign Affairs to offer Networking & Collaboration Grants for prospective global North-South Research Partnerships, providing researchers with an opportunity to carry out networking activities or form consortia. It is intended as a pipeline for COALESCE applications.

Watch IRC Director Peter Brown's presentation at the SHAPE-ID webinar on Funding Interdisciplinary Research

COALESCE | The COALESCE programme funds excellent research addressing national and European/ global challenges as set out in the challenge frameworks now in place. The call is run in partnership with a number of Government departments and agencies, who fund specific strands.

Strand 2A is an open call for **interdisciplinary research addressing national or global societal challenges**, which must be led by AHSS Principal Investigator with a STEM co-principal investigator, with a budget of up to €220,000 per award.

It aims to cultivate excellent interdisciplinary research addressing global societal challenges, enhance collaboration between researchers in Ireland and policymakers and/or civil society, nationally or internationally, support the development of capacity in the research system for interdisciplinary and challenge-based collaboration, **and support the development of AHSS research leadership within an interdisciplinary context.**

Strand 2B is a partnership with the Irish Department of Foreign Affairs, and requires **the lead PI to work with a co-PI in** any Official Development Assistance (ODA)-eligible country on the African continent; any ODA-eligible Small Island Developing State; Vietnam; Palestine; Laos; Cambodia; or Myanmar, with a budget of up to €350,000 per award.

Project Profile: Building a Pipeline

Dr Elaine Murtagh (University of Limerick) was initially funded under New Foundations Strand 4 to build the *Learning in Motion Network,* which brought together researchers from Ireland (UL) and Palestine (Birzeit University) to develop a collaborative research proposal for the COALESCE call. The seed funding for consortium building led to a successful application to COALESCE Strand 2B.

Learning in Motion: embedding gender-responsive, play-based pedagogies in teacher education in Palestine addresses the Sustainable Development Goal on 'Gender Equality' by examining how gender responsive and play-based pedagogies can be embedded in teacher education programmes in Palestine. The co-PI is Dr Ahmad Aljanazrah (Birzeit University). A community-based partner, 'Right To Play', will codesign and co-deliver the bespoke training programme. The research will then examine the impact on teacher educators' practice and on student teachers during their school placement experience. This project will support rights and needs of both girls and boys in the education system in order to contribute to greater gender equality in learning environments that are physically, socially and emotionally safe.

Project Profile: AHSS interdisciplinary leadership

Professor Poul Holm (Trinity College Dublin) was funded under COALESCE Strand 2A for the FoodSmartDublin project, which aims to encourage a behavioural shift from eating high trophic level seafood (tuna, salmon, cod – the tigers and lions of the sea) to lower trophic and more sustainable local seafood (seaweed, molluscs, non-target species) by unearthing historical recipes and reconnecting Dublin residents with their tangible and intangible coastal cultural heritage. A multidisciplinary team of historians, marine ecologists, social scientists and digital humanists, applies an interdisciplinary and intersectoral approach between academia, industry and the public to establish sustainable knowledge exchange on responsible seafood consumption.

Together with innovators from the seafood industry and agents of change from NGO ECO-UNESCO, the academic team develops and disseminates historical local recipes that include its history and ecology, runs interactive sustainable seafood workshops and builds a framework to co-create knowledge flow and increase ocean literacy to overcome challenges that keep Irish people from eating more diverse seafood.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Acknowledgement | We thank Jennifer Cassidy, Raasay Jones, Peter Brown, Eavan O'Brien, Cordula Scherer, Poul Holm, and Elaine Murtagh for reviewing this case study.

Suggested citation | SHAPE-ID (2021). The Irish Research Council has developed innovative funding support for interdisciplinary research. Case study compiled by Doireann Wallace. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

CLARIN: Common Language Resources & Technology Infrastructure

Introduction

CLARIN provides tools and services for transdisciplinary research in various Arts, Social Sciences and Humanities disciplines, which benefit from the use of computational linguistic technology. Through its network of members and observers CLARIN stimulates transnational access to its services, serving as an umbrella for various scholarly initiatives.

Keywords

Infrastructure, research, support, sustainability, training, language, Arts, Humanities, Social Sciences

Summary

CLARIN is an ERIC (European Research Infrastructure Consortium), constituted by smaller national consortia operating in its member countries. Its mission is to "create and maintain an infrastructure to support the sharing, use and sustainability of language data and tools for research in the humanities and social sciences." Unlike DARIAH, which focuses on various data types and methods through distributed tools and services, CLARIN aims at federating the language resources by adopting own standards and certifying its Service Providing Centres. This is to ensure the compatibility between linguistic resources (e.g. corpora) and tools for processing them in various languages.

CLARIN aims to support researchers, students, educators, developers, policy makers, citizen-scientists. Importantly, CLARIN caters not only for the community of linguists but also for other scholars in AHSS disciplines as Artificial Intelligence, Literary Studies, History, Journalism and Media Studies, Ethnography and Anthropology, Migration studies, Political Studies, Sociology and Psychology.

Researchers interested in an overview of opportunities offered by CLARIN can take the advantage of the Virtual Language Observatory to locate the resources they may wish to analyse and then choose a particular analytical tool through the Language Resource Switchboard. Scholars requiring individual support in data processing or tailored tools are encouraged to contact National User Involvement representatives who serve as liaisons between the infrastructure and the broader research community. A dedicated page on how to use the infrastructure would be a good place to start.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

Further Resources

- CLARIN - European Research Infrastructure for Language Resources and Technology | CLARIN ERIC
- CLARIN - Common Language Resources and Technology Infrastructure - VideoLectures - VideoLectures.NET
- Tour de CLARIN | CLARIN ERIC
- Twitter: @CLARINERIC

Suggested citation

SHAPE-ID (2021). CLARIN the European Research Infrastructure for Language Resources and Technology provides tools for researchers. Case study compiled by Maciej Maryl. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

DARIAH: Digital Research Infrastructure for the Arts and Humanities

Introduction

DARIAH provides tools and services for transdisciplinary research in Art & Humanities, taking advantage of ICT technologies. Through its network of member countries and cooperating partners DARIAH stimulates transnational access to its services, serving as an umbrella for various scholarly initiatives.

Keywords

Infrastructure, research, support, sustainability, training, Arts, Humanities

Summary

DARIAH is an ERIC (European Research Infrastructure Consortium), constituted by smaller national consortia operating in its member countries. Its mission is to "empower research communities with digital methods to create, connect and share knowledge about culture and society". DARIAH is structured around Virtual Competency Centres (VCCs) which are dedicated to the RI's key areas of interest: (1) e-infrastructure, (2) research and education liaison, (3) scholarly content management, (4) advocacy, impact, and outreach.

DARIAH caters for various A&H disciplines, facilitating transdisciplinary and trans-sectoral cooperation between a range of stakeholders, including researchers, ICT professionals, librarians, and archivists. They can participate in over 20 transdisciplinary, self-organised Working Groups, focused on specific issues such as different types of data (biographical, bibliographical, lexical geospatial), ethics, visual media, digital methods, etc.

DARIAH is targeting not only researchers acquainted with new technologies who consider themselves digital humanists, but also scholars following more traditional, disciplinary approaches, who wish to broaden their approach by taking up new methods and tools. Such services may be useful on various stages of research – from discovering and collecting assets, structuring, annotating and analysing them, to publishing and disseminating. Unlike CLARIN, which works towards federating its resources and services, DARIAH is more of a distributed infrastructure, focused on enabling access to and uptake of a variety of tools developed by its partners.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 822705

The infrastructure has a strong teaching component, offering access to various resources through DARIAH Campus and Parthenos training modules. It also maintains the Digital Humanities Course Registry, monitoring the relevant learning opportunities available all over the world. Researchers who wish to integrate digital methods into their disciplinary research workflows can approach DARIAH through various avenues: by participating in DARIAH events, joining Working Groups, contacting national members or creators of DARIAH-affiliated tools.

Further Resources

- DARIAH | Digital Research Infrastructure for the Arts and Humanities
- Dallas, Costis, et al. 2017. 'European Survey on Scholarly Practices and Digital Needs in the Arts and Humanities - Highlights Report'. Zenodo.
- DARIAH can help researchers to use digital methods at every stage of their research | DARIAH Campus
- Twitter: @DARIAHeu

Suggested citation

SHAPE-ID (2021). DARIAH the European Research Infrastructure Digital Research Infrastructure for the Arts and Humanities provides tools for researchers. Case study compiled by Maciej Maryl. In: SHAPE-ID (2021): Case studies collection on inter- and transdisciplinary research. Zenodo. 10.5281/zenodo.4743691

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