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## In search of articulation: A framework to empower transformative innovations

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### Abstract

This article problematises the limits of two predominant trends in urban environmentalism: ‘smart’ lifeworld environmentalism and radical environmental movements. Whereas the former’s reliance on techno-entrepreneurial innovation policy solidifies a structural conservatism, the latter mostly fail to forge broad alliances beyond a community of like-minded, thereby entrapping social innovations in niches. To overcome these limitations, I draw upon the concept of transformative innovation, a particular understanding of innovation that dialectically links improvements in the economy of everyday life with the challenges of contemporary social-ecological transformation, the satisfaction of short-term everyday necessities with long-term ecological imperatives. The ensuing aim of this article is to translate these conceptual reflections on transformative innovation into an heuristic research framework for place-based development strategies. This framework facilitates (1) identifying place-based everyday necessities and popular desires that allow for unconventional coalitions, (2) exploring and problematising deeper structures (i.e. provisioning systems) that enable and constrain their actualisation, and (3) developing discursive strategies to reconfigure relevant provisioning systems to meet those desired necessities while having the potential to enable more sustainable society-nature relations. While the article is purposely theoretical-conceptual, I draw upon an ongoing case-study analysis in Vienna’s periphery to enrich the framework with concrete examples.

### Keywords

Place-based development,  
Foundational economy,  
Provisioning systems,  
Social-ecological transformation,  
Transformative innovation

## Introduction

Since the 1970s, urban-policy discourses have increasingly framed cities as sustainability solutions rather than problems (Angelo & Wachsmuth, 2020). At the same time, as Kaika and Swyngedouw (2014, p. 1) stress, “the *sustainability* of contemporary urban life – understood as the expanded reproduction of its socio-physical form and functioning – is responsible for 80 per cent of the world’s resource use and most of the world’s waste”. Hence, what appears sustainable from a perspective of “lifeworld environmentalism” (Haderer, 2019) is often deeply unsustainable from a perspective of “planetary urbanisation” (Brenner, 2018). The uncomfortable reality is that the reproduction of “smart” (read: increasingly technologised) social-ecological urbanities (as relatively bounded local sites) for the extension of “smart” urban life and its infrastructural network goes hand-in-hand with unsustainable urbanisation processes; resources such as rare earths and minerals, and sinks for e-waste, etc., are acquired from often highly vulnerable places in other parts of the world. As such, the dominant construal of urban sustainability *alias* “green” technological innovation contributes to the reproduction of sustained unsustainability, for it refrains from problematising deeper structures (e.g. institutions, modes of production and living) by promising the stabilisation of a more efficient status quo (Shove, 2018).

Radical environmental movements such as Extinction Rebellion or degrowth activism have sought to combat mainstream urban environmentalism’s structural conservatism and techno-managerial leanings, demanding “system change” and social innovation as “*innovation in social relations*” (Moulaert & MacCallum, 2019, p. 1). However, while raising awareness and experiment in niches, these movements have as yet failed to forge broad alliances beyond communities of the like-minded. Even though ecological concerns have gained significance among populations, milieu studies suggest that for most milieus (traditional, bourgeois-mainstream, established, precarious, young pragmatists, and young distanced) such concerns are barely on par with other everyday-life issues, such as social cohesion, social security, accustomed living standards, and jobs (UBA, 2019). Only the critical-creative milieu and young idealists, i.e. around 18% of the population, ascribe priority to ecological concerns. In a similar vein, Reckwitz (2017) observes an opposition between the cosmopolitan-oriented milieus of the new academic middle class, with a high affinity for climate protection, and the milieus of a traditional middle class and an underclass, which remain sceptical about socio-cultural changes and climate policies. Unable to link ecological demands effectively with popular desires and everyday necessities of majority populations, radical environmental movements mostly fail to forge alliances beyond the critical-creative and young idealist milieus. To enable democratic change, however, broader alliances are necessary to build legitimacy and mitigate populist resistance such as that expressed by the “yellow-vests”.

Seeking to overcome both the limits of “smart” urban lifeworld environmentalism and the failure of radical movements to create broad alliances, this article investigates how to forge radical interventions with pragmatic alliance-building beyond a community of like-minded. Paralleling this endeavour, I draw upon the concept of “transformative innovation” (Novy et al., 2022) to overcome both the techno-reductionism of mainstream innovation policies, which solidifies structural conservatism, and the (partially self-inflicted) entrapment of social innovations in niches, cracks, and margins. Based on that, I develop an heuristic research framework to (1) identify place-based popular desires and necessities that allow for unconventional coalitions, (2) explore and problematise deeper structures (i.e. provisioning systems) that enable and constrain their actualisation, and (3) develop discursive strategies to reconfigure relevant provisioning systems to meet desired necessities while having the potential to enable more sustainable society-nature relations. As such, this framework seeks to support researchers, activists, and political decision-makers in carving out urban and regional development strategies for *desirable* and *feasible* social-ecological action – that is, action that enables a good life within social-ecological boundaries<sup>1</sup> (desirability) and action that can be implemented here and now, in a given conjuncture and constellation of actors (feasibility).

The article is structured as follows: Section 2 discusses the concept of innovation, describing the techno-entrepreneurial connotation that has dominated urban and regional development since the 1970s and outlining concepts of (social) innovation that contest this understanding. Based on this, I introduce the notion of transformative innovation as a dialectical concept to link the satisfaction of desired short-term everyday necessities (e.g. affordable housing and care, economic security, opportunities to participate in everyday life) with long-term ecological imperatives (e.g. reducing CO<sub>2</sub>, sustaining biodiversity). The rest of this article translates these conceptual reflections on transformative innovations into an heuristic research framework. Section 3 briefly introduces an ongoing case-study analysis to enrich the theoretical-conceptual framework presented in this article with concrete examples. Section 4 discusses the research framework and Section 5 summarises the findings and highlights avenues for future research.

### **From techno-entrepreneurial to social innovation and beyond: towards a concept of transformative innovation**

The notion of innovation has a long history, including various moderate to radical social reforms in the 19<sup>th</sup> century (Godin, 2015). Only after World War II did the concept of innovation become almost exclusively reduced to technological and entrepreneurial

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<sup>1</sup> I use the term social-ecological, rather than planetary, boundaries to highlight contested, context- and place-specific aspects, as well as the socio-political nature of boundary-setting processes (cf. Brand et al., 2021).

developments (Moulaert & MacCallum, 2019). With the rise of the entrepreneurial city and related forms of urban governance since the 1970s (Harvey, 1989), this techno-entrepreneurial understanding also co-opted public-sector domains and became increasingly dominant in urban and regional development. Since innovation meant developing “new, superior products, processes, services and organizational forms that result in increased competitiveness” (Hansen, 2021, p. 1), urban and regional development strategies became associated with “a specific part of the economy: traded (i.e. exporting) industries, in particular those characterized by a high research and development intensity, such as pharmaceuticals and information and communication technology” (ibid.).<sup>2</sup> Contemporary notions of “smart” urban development are embedded within this trend.

Seeking to combat the techno-entrepreneurial reductionism of innovation policies and its entanglement in neoliberal urban governance, various schools of thought have sought to reorient the notion of innovation back towards social problems, e.g. inequality, poverty, or exclusion, thereby building upon the concept of social innovation (SI). An influential SI research community has formed around the work of Moulaert and colleagues, defining SI as follows:

It meets genuine needs neglected or exacerbated by the state/market apparatus; it creates new forms of eco-social/institutional relations and politics; and it collectively empowers people (especially marginalised people) to act – not only within the existent systems and modes of governance, but also towards transforming them. (Moulaert & MacCallum, 2019, p. 4)

Hence, offering an antidote to mainstream innovation policies, this concept of SI focuses on “the spaces in which people are creating and enacting real alternatives to existing late capitalist relations” (ibid), thereby stressing the potential of small-scale, local, and bottom-up action as opposed to market-driven, top-down, and technocratic innovation. However, even though Moulaert et al. (2012) are aware that neither neighbourhoods nor civil society initiatives alone can save the city, their scepticism towards state agency and public policies and the primacy they give to grassroots tend to entrap SI in niches, cracks, and margins. The same applies to most degrowth visions of radical, bottom-up SI (Liegey & Nelson, 2020).

A more recent intervention into innovation discourses emanates from the Foundational Economy Collective (2018), a group of (mainly) European researchers working together to develop a new way of thinking about what economic (public) policy should be. They contest the reduction of innovation policies to only one specific part of the economy, i.e. the exporting and predominantly high-tech next-generation industries. Over recent decades, other economic zones – particularly those entailing the mundane economic activities variously termed foundational or everyday – have remained marginalised in urban and regional development agendas (Froud et al., 2020). The Foundational Economy Collective hence

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<sup>2</sup> For similar arguments, see also Moulaert and Sekia (2003) and Moulaert and Nussbaumer (2005).

argues that the provisioning of goods and services that are essential to everyday life and human flourishing should be the central concern of policymaking (Engelen et al., 2017). This implies a different understanding of innovation, one “which is less focused on developing new technical innovations, but rather emphasizes the social consequences of innovations and the ways they are developed and diffused” (Hansen, 2021, p. 2). For example, besides innovative and context-sensitive forms of affordable and high-quality public provisioning of foundational services – not necessarily by central states, but also through intermediary institutions (e.g. housing associations and water cooperatives) – social licensing is a key innovation in foundational thinking, imposing social obligations upon private foundational service providers. Since these providers have in effect “a territorial franchise through their networks and branches”, they should, “quid pro quo”, offer “something social in return”; such obligations might include high ecological standards, proper working conditions, wages and treatment of suppliers, reinvestment of limited profits into socially relevant spheres, or ending tax abuse (Foundational Economy Collective, 2020). Focusing on the critical role of public policy to raise social standards rather than develop competitive industries, the foundational concept of (social) innovation opens novel and essential pathways for place-based policy approaches to development beyond niche experimentation.

The Covid-19 pandemic has demonstrated the literally vital importance of this argumentative shift. Whereas many parts of the economy had to shut down, the foundational economy on which everyday life depends had to continue. This foundational economy consists of existential provisioning (e.g. water, gas, garbage disposal, education, health, social housing) and essential local provisioning (e.g. food supply, pharmacies) – things that enable our survival in civilised societies. The pandemic, however, also demonstrated that a good life cannot be reduced to daily survival, something already recognised by the ancient Greeks’ concern with *eudaimonia*, translated as “the condition of human flourishing or of living well” (Bärnthaler et al., 2020a). Although not crucial for survival, non-essential local provisioning (e.g. restaurants, cafés, retail stores, local craft, cultural institutions) is central to human flourishing, as it invariably sustains social meeting places (Calafati et al., 2019). Its decay in rural areas and on the urban periphery has often led to social problems and polarisation (Klinenberg, 2018). Like the foundational economy, this economic zone has largely operated under the radar of urban and regional development agendas over the last decades (Foundational Economy Collective, 2018). Together, existential provisioning, essential local provisioning, and non-essential local provisioning make up the economy of everyday life (Bärnthaler et al., 2021).<sup>3</sup>

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<sup>3</sup> Besides these three economic zones, unpaid care and housework constitute a further essential, indeed foundational, zone of the economy of everyday life.

Drawing upon these foundational insights and relating them to the challenges of contemporary social-ecological transformation, Novy et al. (2022) have developed the concept of transformative innovation. Their dialectical understanding of innovation links the context-sensitive satisfaction of (short-term) everyday needs with (long-term) ecological imperatives.<sup>4</sup> The economy of everyday life is essential to satisfy needs and enable human flourishing and social cohesion; hence, strengthening it will appeal across large sections of the population, who will welcome improved immediate living conditions (e.g. better public transport, extended social housing, better care facilities, or nearby recreational facilities). Efforts to link long-term ecological imperatives with desired short-term everyday necessities therefore require placing the economy of everyday life and its associated infrastructures, primarily regionally and locally organised, at the centre of political deliberations. Hence, centring innovation on improving everyday life has the potential to foster feasible social-ecological action, i.e. action that can be implemented here and now, in a given conjuncture and constellation of actors, by creating possibilities for broad alliances. This makes the economy of everyday life a privileged entry point for desirable social-ecological action (cf. Bärnthaler et al., 2021; Novy, 2021; Bärnthaler et al., 2020b).

However, to actualise desirable potentials, by which we mean the potential for a good life within social-ecological boundaries, it will not suffice just to strengthen or innovate the zones of everyday life; democratic deliberations on curtailing destructive practices will become increasingly important. As Novy et al. (2022, p. 598f) recognise, “this complicates political action, as it is much easier to add a sustainable practice to available options than to erase one of the existing options”. As such, transformative *innovation* implies a simultaneous process of *exnovation*, exploring contemporary potentials for popular agency by linking “planetary responsibility to local potentials here and now” (ibid., p. 600). While focusing on activities that are crucial for human flourishing and wellbeing, transformative innovation acknowledges that there is no easy win-win policy. As Holgersen (2020, p. 817) reminds us, desirable social-ecological strategies must “contain both creative and destructive components”, for “it is not only enough to plan more environmentally friendly buildings and infrastructure; we also need to actively devalue the landscapes of fossil capital”. Transformative innovations necessitate exnovations and political decisions *for and against*, e.g., particular uses of space. In what follows, I attempt to translate these conceptual reflections on transformative innovations into an heuristic research framework for urban and regional development strategies, able to identify and actualise potentials for desirable and feasible social-ecological action in concrete places.

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<sup>4</sup> This dialectical understanding is inspired by concepts such as “concrete utopias” (Bloch 1985 [1959]), “non-reformist reforms” (Gorz 1967), and “revolutionary realpolitik” (Luxemburg 2006 [1899]).

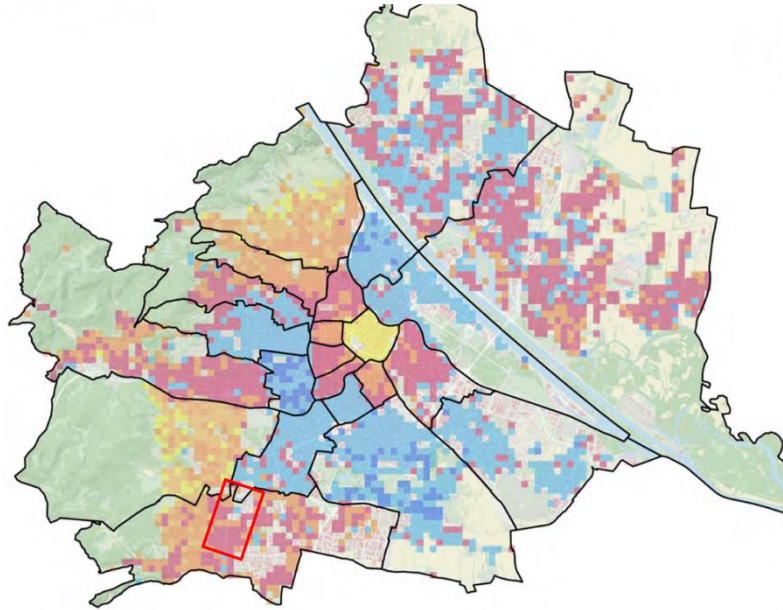
## Methodology and case-study analysis

The research framework (Section 4) has been developed iteratively with an (ongoing) empirical case-study analysis, which I will draw upon in the rest of this article to augment my theoretical-conceptual arguments. I deem it important to emphasise, however, that as analysis remains ongoing, the examples chosen serve as illustration and *not* as full-fledged empirical research. Hence, as the aim of this article is to develop an heuristic research framework, I shall briefly introduce the case study analysis not to draw explicit conclusions, but to demonstrate ways in which such cases can be analysed in line with the transformative innovation concept, and to discuss the theoretical assumptions that underlie this analysis.

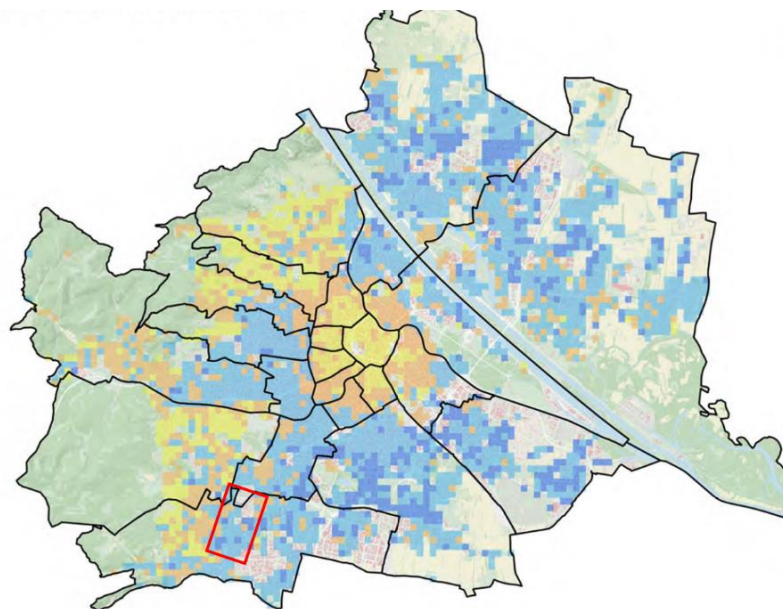
The case study examines recent changes in Atzgersdorf, a neighbourhood located in the southwest of Vienna, Austria. Exploring its place-based conjuncture, i.e. the combination of certain changes and events in the neighbourhood, it investigates potentials for desirable and feasible social-ecological action and strategies to actualise them. Methodologically, it centres on the interpretation of 25 semi-structured interviews with a representative sample of residents in the case study area. Additionally, 89 questionnaires filled in by residents, a one-day citizen forum, and seven expert interviews help to contextualise ongoing local changes. While the interviews with residents, questionnaires, and citizen forum focused on everyday challenges, desires, and normative aspirations regarding the neighbourhood's future development, the expert interviews clarified underlying aspects. The interviews with residents are analysed by means of a discourse analysis, inspired by an heuristic combination of Hajer's (2006) coalition-focused approach, Laclau and Mouffe's (2014) post-Marxist discourse theory, and Fairclough's (2013) critical discourse analysis. The following subsection will discuss these discursive approaches and their role in the research framework in detail.

The case-study area, Atzgersdorf, is located in Vienna's periphery, in its 23<sup>rd</sup> district known as Liesing. Liesing is composed of eight (former) villages, Atzgersdorf being one of them, which were integrated into a common district in 1938. The residents' identification with this neighbourhood has been until now inextricably linked to this village character and associated constructed characteristics such as cohesion (*vs.* fragmentation), calm (*vs.* noise), slowness (*vs.* fast pace), identity (*vs.* anonymity), and stability and order (*vs.* change and chaos) (cf. Liebhart et al., 2019). Besides these socio-cultural attributions, Atzgersdorf's built environment, especially its historic village centre (see Figure 5), is reminiscent of its material village structures. In terms of population, Liesing is the fourth largest district in Vienna and at the same time one of its fastest growing, currently having around 110,000 inhabitants. Its socioeconomic composition is characterised by a high average age (increasing continuously), relatively high average income, low unemployment, low proportion of academics, and high car density (City of Vienna, 2021; see also Figures 1 to 4). These characteristics also apply to Atzgersdorf, suggesting that the milieus of critical-creatives and young idealists are distinctively underrepresented, whereas milieus more sceptical about climate protection,

especially the traditional and the bourgeois mainstream, are overrepresented (cf. Bärnthaler et al., 2020). This feature, characteristic of sub-urban regions (Dangschat, 2020), highlights the urgent need to link climate-relevant policies with other concerns of everyday life to forge pragmatic alliances and mitigate resistance against desirable social-ecological action.

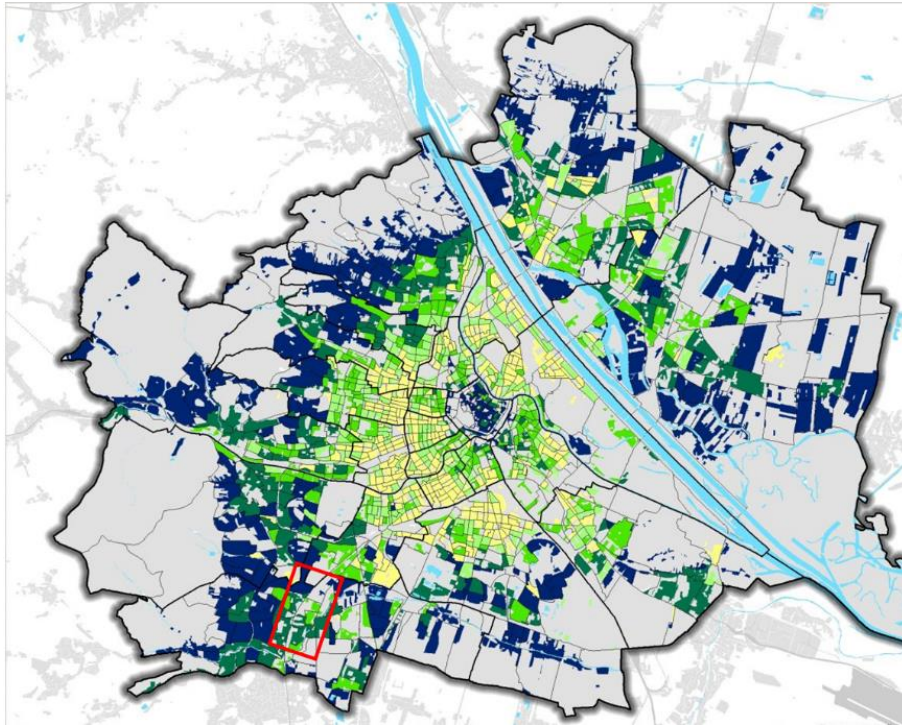


**Figure 1:** Monthly net-income per capita in 2017 (euro; Atzgersdorf in red square):  
dark blue = less than 1,520; light blue = 1,520-1,699; red = 1,700-1,879; orange = 1,880-2,059; light orange = 2,060-2,239;  
yellow = 2,240 and more; source: Molina et al. (2020)

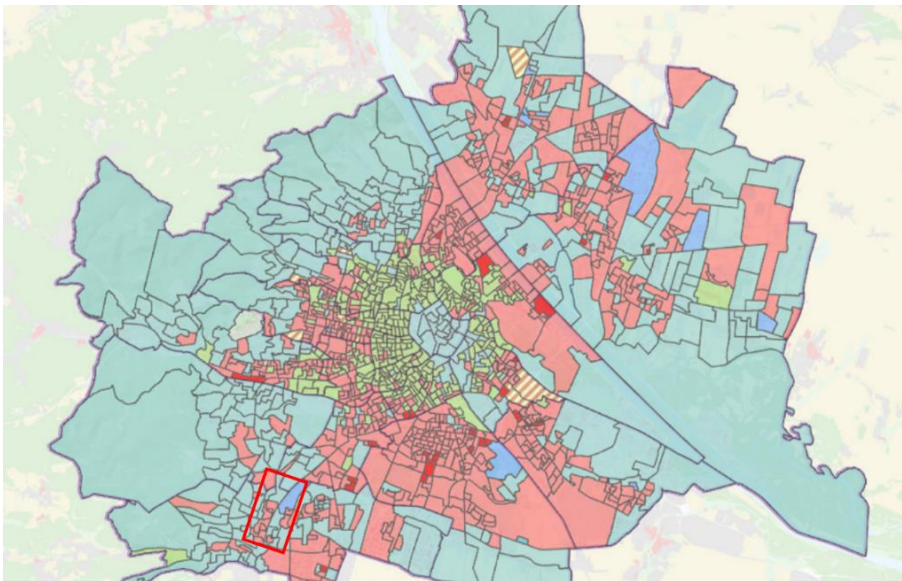


**Figure 2:** Percentage of academics in 2015 (Atzgersdorf in red square):  
blue = less than 6%; light blue = 6%-22.2%; orange = 20.2%-34.4%; yellow = 34.4% and more; source: Molina et al. (2020).





**Figure 3:** Number of private cars per 1,000 inhabitants in 2019 (Atzgersdorf in red square): yellow = 49-271; light green = 271-310; green = 310-363; dark green = 363-442; blue = 442-540; source: City of Vienna (2020)



**Figure 4:** Party with most votes in the 2019 national elections (Atzgersdorf in red square): green = The Greens; red = social democratic SPÖ; turquoise = conservative-populist ÖVP; blue = right-populist FPÖ; source: City of Vienna (2019)

In its recent history, Atzgersdorf has been confronted with two disruptive changes. First, in recent decades it has faced steady decline of the village centre and, more generally, of non-essential local provisioning (e.g. bars, cafés, cinema, clothing stores, local craft and specialist shops); this has inevitably led to shop closures and half-empty buildings. Second, and more recently, Atzgersdorf and its surrounding area has become a target area for (late) post-industrial urban development (see Figure 6). Massive changes in its built environment (e.g. in terms of density) and social composition will draw around 22,000 new inhabitants in and

around the neighbourhood in coming years. Both changes cause discontent in various ways among inhabitants, e.g. with regard to the loss of village identity and social meeting places, high traffic volume, and loss of green spaces. This place-based conjuncture, characterised by the destabilising encounter of decay and development, rurality and urbanity, constitutes the context in which the case-study analysis seeks to identify potentials for desirable and feasible social-ecological action as well as strategies to actualise them.



*Figure 5: Historic village centre (source: Google Street View)*



*Figure 6: One of the new urban development projects (source: GB\* Dutkowski)*

### **An heuristic research framework for transformative innovations**

I use the term “heuristic research framework” as a theory-guided prism for the construction of explanations and strategic interventions (as a form of problem-solving) whereby the

potential of the latter is entirely a consequence of and contingent upon the former, i.e. the framework's contextual explanatory power. As such, I follow Holgersen's (2020) plea that "even though a rigorous analysis of *is* must form the basis for *ought*", at times of escalating crises "we are forced to discuss both at once" (p. 810), i.e. we need to build "alternatives into the very analysis" (p. 814). The framework thus has a normative dimension, seeking to facilitate research on place-based social-ecological action that is both feasible and desirable. In doing so, it attempts to identify potentials to link short-term everyday necessities and desires with long-term ecological imperatives. This is probably one of the most important and challenging contributions to a social-ecological transformation.

In what follows, I outline the contours of this framework, proceeding in three consecutive steps. First, I introduce a discourse-theoretical approach to identify popular desires and everyday necessities that allow for unconventional coalitions. Second, I discuss means to explore and problematise deeper structures, i.e. provisioning systems, that enable and constrain the actualisation of the desired necessities. Third, I develop discursive strategies to reconfigure relevant provisioning systems to meet these (short-term) desires and necessities while having the potential to enable (in the long term) more sustainable society-nature relations.

### **Identifying popular desires as entry points for unconventional alliances: a post-foundational, coalition-focused critical discourse approach**

In the tradition of post-foundational political thought, this framework builds upon the postulate of antagonistic differences that cut through the social, indicating the absence of any pre-given principle on which a society or political community can be founded (Swyngedouw, 2018). Political collectives, alliances, and coalitions – the always unstable 'we' – are therefore understood as coalescing around "nodal points", i.e. provisional and unstable points of reference that temporarily suture<sup>5</sup> social relations and differences into a relatively stable ensemble (Laclau & Mouffe, 2014). Political struggle thus entails a constant effort to establish historical, contingent, and variable links between subject positions. The type of link that establishes such a relation is "articulation" (Mouffe, 2018, p. 88ff). Articulation is a discursive practice, a practice of hegemony, to establish order in a context of contingency. This practice, however, lacks "an ultimate rational ground" (ibid, p. 88). Hence, in contrast to liberal political theorists who build their theories primarily on premises of rationality, Mouffe and other post-foundational political thinkers stress the essential role of passions and affects in the process

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<sup>5</sup> As Jessop (2019, p. 18) explains, "The concept of suture refers to the inevitably temporary nature of attempts to bind different elements and relations together, despite their differences and distinctions. Consistent with its metaphorical connotations, a suture is a short-term fix that is bound to dissolve."

of articulation, i.e. in the effective instituting of nodal points (Mouffe, 2005; 2018).<sup>6</sup> Political mobilisation and the construction of political identities entail an affective dimension – affects bring and hold groups together. Practices of articulation are thus “discursive/affective practices” (Mouffe, 2018, p. 75), because affects play a crucial role in alliance-building. Working with “notions from the ‘common sense’”, connecting with “the aspects of popular experience”, and resonating with “the problems people encounter in their daily lives”, the mobilisation of affects is decisive for designing successful strategies that offer a hopeful vision of the future rather than “remaining in the register of denunciation” (ibid, p. 76).

Hence, identifying feasible entry points that appeal to and mobilise a critical majority of people in the short run requires focusing on those moments of everyday life that people feel *affected* by, i.e. on everyday challenges, frustrations, sufferings, agitations, and contestations in a specific context. These affects always emerge in a particular place and time; they are expressed in conversations, disputes, writings, social-media postings, protests, etc., and as such can be studied as semiotic events. In this regard, discourse analysis is conducive to identifying significant affects in a relevant context empirically, thereby encouraging a triangulation of different methods. However, rather than simply describing the variety of semiotic events in the respective context, *critical* discourse analysis also evaluates them (Fairclough, 2013) – for instance, in terms of their potential to suture certain antagonisms (always partially), thereby creating “chains of equivalence” (Laclau & Mouffe, 2014) as preconditions for “discourse coalitions” (Hajer, 2006). These coalitions, as Hajer (2006, p. 69) stresses, do not necessitate completely homogenous interests, because meaningful political interventions are often based on whether certain statements and arguments simply “sound right” (we might add: and *feel* right).

Discourse analysis brings out, time and again, that people talk at cross-purposes, that people do not really or do not fully understand each other. This is a fact of life, but, interestingly, this can be very functional for creating a political coalition. ... It can be shown that people, that can be proven *not to fully understand each other*, nevertheless together produce meaningful political interventions. (ibid.)

For example, the (ongoing) discourse analysis in Atzgersdorf indicates two powerful antagonistic discourses: the disruptive changes that accompany the urban development process in the neighbourhood are lamented as a loss of rurality on the one hand and welcomed as increasing urban liveliness on the other. These competing discourses assemble through a variety of distinctive semiotic events. For example, those lamenting the loss of rurality express concerns such as the influx of new social groups, a higher volume of traffic and a resultant loss of available parking lots, a loss of green and quiet spaces through massive housing construction, and the destruction of old (social and material) structures by everything that

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<sup>6</sup> As such, they are part of the “affective turn” in the social sciences that occurred in the 1990s, strongly inspired by Spinozian thought (Hoggett & Thompson, 2012).

seems new. Those welcoming change in hope of an increased urban liveliness stress their anticipation of new social groups, more schools, culture, and leisure opportunities as well as livelier and more attractive surroundings. Both discourses, however, share a deep dissatisfaction with the decay of the village centre and non-essential local provisioning over recent decades. This decline is perceived as contributing to both a lack of urban liveliness and a lack of rurality, whereas the latter perception is rooted in memories of when the village was characterised by a variety of small shops, lively streets, and social meeting places. There is thus a distinct desire<sup>7</sup> to reverse this process. Hence, in the short run, strengthening non-essential local provisioning seems to offer possibilities to partially and temporally suture antagonisms, thereby creating alliances beyond communities of like-minded residents.

### **Exploring and problematising deeper structures that enable and constrain the actualisation of popular desires: provisioning systems**

Having identified potentials for discourse coalitions, we can explore the deeper structures that make those coalitions possible. In line with critical discourse analysis, this implies that research must not stop at describing actuality (e.g. actual semiotic events) and evaluating it (e.g. in terms of its potential to forge discursive coalitions by suturing antagonism); it should also explain it by scrutinising its generating structures and mechanisms (Fairclough, 2013, p. 178).<sup>8</sup> What makes the (directly and indirectly) observable dissatisfaction with non-essential local provisioning (and hence the popular desire to strengthen it) possible? What mechanisms have triggered its decay? To make sense of these and similar questions, research needs to engage with – to use Marx’s (1991 [1867], p. 1008) terms – “what is not experienced”, “the secret regulation”, and “hidden basis”. The analysis of context-specific provisioning systems is a promising way to do so.

Provisioning systems are “a set of related elements that work together in the transformation of resources to satisfy a foreseen human need” (Fanning et al., 2020, p. 1). Transforming flows of material and energy into goods and services, provisioning systems are central to the production of specific socio-physical configuration with associated social-ecological implications (Schaffartzik et al., 2021). Structural elements that work together in the provisioning process, enabling and constraining concrete forms of provisioning, include such phenomena as material infrastructures, political-economic regulations, discursive legitimation strategies, actors and their diverse interests, legal structures, and cultural norms

<sup>7</sup> For Spinoza (1996), it is desire that moves human beings to act, whereas affects spur and specify these desires, making people act in one direction rather than another (cf. Mouffe, 2018, p. 73).

<sup>8</sup> This approach to scientific analysis follows critical realist philosophy and its stratified conception of ontology. Critical realists consider “the real” (structures, mechanisms, and tendencies) the deepest ontological layer which exists beneath the shallower layers of “the actual” (actual events resulting from various structures, mechanism, and tendencies) and “the empirical” (observations and measurements of actual events) (Danermark et al., 2005). For a well-elaborated critical-realist discussion on causality in terms of generative mechanisms in urban planning, see Næss (2015).

(Bayliss & Fine, 2021). The analysis of provisioning systems thus transcends a binary division between society and nature, integrating a cultural political economic and socio-metabolic perspective to make sense of the conditions that structure concrete society-nature relations. It further highlights that consumption patterns are not primarily the outcome of individual choices, but depend on provisioning systems that differ historically, geographically, and with regard to the goods and services provided. These provisioning systems are always collectively produced, whereas “collective” refers not to any specific type of institution (e.g. state, non-profit, for-profit) nor to any specific scale (e.g. local, regional, national), but simply means that neither individuals nor households can autonomously provide themselves with these goods and services (Schafran et al., 2020, p. 3).

Returning to the example of Atzgersdorf, discourse analysis has highlighted potentials for discourse coalitions with regard to non-essential local provisioning. Exploring this provisioning system implies scrutinising (the interplay of) essential elements that (causally) contribute to its decay. Such an analysis would engage *inter alia* with financialisation in real estate, e.g. in the form of speculative vacancies of commercial space in the village centre, and with the cultural political economy of car dependence, e.g. reflected in the concentration of shopping facilities in one of Europe’s biggest shopping centres, which borders the district and is easily accessible by car. The construction of this shopping centre in the 1970s changed non-essential local provisioning structures in Atzgersdorf substantially, weakening those within walking distance. The accompanying mono-functional organisation of public space around the private car has resulted in a low quality of walkability and sojourn quality as well as a low attractiveness of public space, as the interviews, questionnaires, and citizen forum confirm. This undermines the potential for non-essential local provisioning to flourish, e.g. for lively meeting places, pleasant pub gardens, and thriving businesses that benefit from poly-functional retail streets (von Schneidemesser & Betzien, 2021; Arancibia et al., 2019). “Hidden” subsidies and incentives for car use, such as free and/or cheap parking, have supported this process by constraining the poly-functional use of urban space that is essential to create places for bodily and sensory interaction rather than mere transitory spaces (Sennett, 2018).

Hence, analysing the non-essential local provisioning system is a precondition to problematise those elements that undermine its proper functioning and, relatedly, the actualisation of specific popular desires and everyday necessities. This, however, is not easy in the case study area, as car dependence is widely construed as the “natural” condition; this is particularly characteristic of both traditional and bourgeois-mainstream milieus (UBA, 2019), which are overrepresented in Atzgersdorf. Complex assemblages of specific discursive legitimisation strategies uphold this “naturalisation”. To take one example, the interviews with residents show that car dependence is problematised primarily *in reference to climate change*; however, this problematisation is perceived as illegitimate as, in an often-uttered narrative,

“climate policies must restrict big corporations, not hard-working people who want to drive their car”. Everyday practices (like driving a car), and potential changes thereto, are considered (ecologically) irrelevant in the face of massive corporate pollution and environmental devastation. This popular discursive construal merges with a political, which, in view of perceived electoral benefits, tends to appeal to consumer preferences, thereby framing car dependence as non-political (Mattioli et al., 2020; Lamb et al., 2020). These discursive legitimation strategies are integral elements in the prevalent (unsatisfactory) configuration of the non-essential local provisioning system.

### **Reararticulating provisioning: a discursive strategy to reconfigure provisioning systems**

As the exemplary analysis in the previous section illustrated, provisioning systems are inherently “material-semiotic” (Jessop, 2004), i.e. they are constituted by dialectical *relations* between semiotic and extra-semiotic elements; an example of this is the relations between cultural practices of sense-making, discursive legitimation strategies, and political-economic regulations of material infrastructures. There is thus an interdependency between semiosis and structuration (Jessop, 2010), between discursive construals and the configuration of provisioning systems. The final step of the research framework attempts to reararticulate particular semiotic elements inherent in a provisioning system to unsettle and dislocate its configuration, thereby opening pathways to reconfigure it.

Recognising the (inter-)relational character of various elements in always-contextual provisioning systems means acknowledging them as configurations of multiplicity and co-existing heterogeneity, as configurations that are always under construction – never closed, never completed. They consist of deep-seated, sometimes “naturalised”, material-semiotic relations as well as of newly established, yet to be made, and never to be accomplished ones; they are socio-spatial arrangements of coexisting trajectories, of a “simultaneity of stories-so-far” (Massey, 2005, p. 9) and their relation to the material. The notion “so-far” points towards their temporality, towards the openness of their process of becoming. This genuine open-endedness, however, does not imply neutrality (cf. Franz & Strüver, 2021) – configurations are always contested and different configurations have different societal as well as socio-metabolic effects. Nor however does it imply that everything is possible and equifeasible. Whereas new discursive articulations can unsettle prevalent configurations, not all are equally likely to be retained (Jessop, 2015), for they need to be translatable into a “common world outlook” that incorporates diverse “interests and aspirations” and is supported by “dominant classes”, “social categories”, and “significant social forces” (Jessop, 1990, p. 43). Therefore, the effectiveness of semiosis, which is never guaranteed in advance, refers to the ability of a discourse to appeal to sufficiently significant interests, desires, and aspirations. Effective articulations are able to reinstitute new nodal points, i.e. new provisional *points of reference* that temporarily suture social relations (Laclau & Mouffe, 2014).

Returning to the case study, the non-essential local provisioning system's analysis shows that its decay is deeply interwoven with the cultural political economy of car dependence, stabilised by a "discursive depoliticisation of transport policy" (Mattioli et al., 2020, p. 7). The discursive invocation of "climate change" serves as a nodal point for this depoliticised discourse of car dependence: climate itself seems hardly affected by neighbourhood action and is thus mentally decoupled from it, so that invoking the climate as an external condition can serve to "naturalise" car dependence by mobilising affective energies against its contestation. Therefore, feasible and desirable social-ecological strategies need to reinstitute nodal points to politicise these hitherto "naturalised" relations. New articulations, in other words, are necessary, for, as Spinoza emphasised, "an affect can only be reversed by an affect opposite to it, which is stronger than that which is to be suppressed" (cf. Mouffe, 2019, p. 160, own translation). Drawing upon collectively self-defined popular desires (e.g. strengthening non-essential local provisioning) rather than on an abstract Nature or Climate, offers potential to mobilise new affective energies, since it invokes concrete, experienced, inhabited, and lived socio-natures. Hence, articulating car dependence *in reference to* the decay of non-essential local provisioning – instead of *in reference to* climate change – has the potential to open it to public debate, deliberation, and contestation.

Such a discursive strategy uses a heterodox rights claim (Lefebvre, 2003; Kohn, 2016), as it appropriates common sense while seeking to change its grammar. While referring to common practices like shopping or having a coffee, claiming a right to non-essential local provisioning can enable desirable social-ecological action. In this respect, searching for articulation means

formulating political claims in such a way that they, on the one hand, strike a responsive chord among different interest groups and seem to be realizable within a given social and political order (a strategy to circumvent, among others, outright opposition by the state) while, on the other hand, actively pursuing the transformation of an established order's fundamentals. (Haderer, 2020, p. 9)

Heterodox rights claims thus involve a search for articulations that may be perceived and heard more widely, having the potential to forge alliances across issues and social groups (creating chains of equivalence), while shifting the grammar towards a specific normative horizon, e.g. a good life for all within social-ecological boundaries. This allows for building legitimacy among "different cultural milieus and social groups that live according to other moral codes and prioritize other objectives than environmental ones" (Novy et al., 2022, p. 601), while always being "aware that one has to strike the balance between the dialectical moments" of short-term agency and long-term change (ibid., p. 599). As such, formulating a heterodox rights claim to non-essential local provisioning means more than asking for more bars, pub gardens, cafés, restaurants, specialist shops, etc.; it also contests prevalent uses of public space, existing mobility concepts, and private-property arrangements. A heterodox rights claim interweaves innovation and exnovation, creation and destruction, enablement



and restriction dialectically. Schäfer et al. (2018), studying rural municipalities in Austria and Germany, provide an insightful example of this dialectic, one that is also relevant for Atzgersdorf. In their field study, local actors are prone to accept restrictive policies

in policy areas that are not strictly related to low-carbon practices, such as assuring the attractiveness of the town center. Even if these activities, such as providing local services (e.g. doctors' offices and shopping facilities) and leisure activities (cinema, swimming facilities, etc.), are primarily motivated by other objectives, the possible synergies with climate policy could potentially be exploited. (ibid., p. 16)

Conflict and contestation, e.g. with respect to diverse mobility demands, will not end. On the contrary, fierce conflicts about parking lots, traffic regulations, modes of living, etc. are to be expected in Atzgersdorf. However, by articulating car dependence *in reference to* a collectively self-defined desire, it becomes a political *problématique* and can thus be debated and contested. As Kohn (2016) argues with regard to heterodox rights claims, they must not be conceived “as a way of resolving conflicts over right, but as a way of staging such conflicts” (p. 187). Success in these political struggles is not a given; whereas destabilising and unsettling the material-semiotic relations that make up provisioning systems opens them for reconfiguration, the latter is desirable only *in potentia*. Given the inherently territorial nature of everyday provisioning systems, public actors, able to exert territorial sovereignty (on multiple scales), are key actors in this political struggle over “the negotiation of relations, configurations” (Massey, 2005, p. 147), in the production and contestation of hegemony.

## Conclusion

“Smart” lifeworld discourses based on a techno-entrepreneurial understanding of innovation dominate current sustainability agendas regarding urban development. However, they intrinsically contribute to sustained unsustainability, as their reductionist focus on efficiency systematically avoids problematising deeper structures, e.g. modes of production and living together. Their inherent technological optimism furthermore operates “within a logic of addition and obsession with the new”, thereby insinuating “that technological change solves socioeconomic problems” (Novy et al., 2022, p. 593). Radical environmental civil-society movements, problematising this leaning, have increasingly drawn upon the concept of social innovation, highlighting the need to transform social relations. However, unable to forge broad alliances (often complemented by a more or less subtle scepticism towards state agency and public policies), those innovations have mostly remained trapped in niches.

The concept of transformative innovation developed by Novy et al. (2022) seeks to overcome these limits. It draws upon the Foundational Economy Collective's understanding of innovation as a way to raise social standards in the zones of foundational provisioning through public policy, while relating it to the challenges of contemporary social-ecological transformation. As such, transformative innovations link the short-term satisfaction of desired everyday necessities (offering potentials for broad alliances) with long-term ecological

imperatives. They thus contribute to transformations that are feasible in a specific conjuncture (implementable here and now, with a specific constellation of actors) and desirable (having the potential to enable a good life for all within social-ecological boundaries). At the same time, they acknowledge that the actualisation of the latter also requires exnovation and political decisions *for and against*, e.g., particular uses of space.

In this article, I have aimed to translate these conceptual developments into an heuristic research framework for feasible and desirable social-ecological development strategies in specific places. Understood as a theory-guided prism for the construction of explanations and strategic interventions, the framework involves three steps. (1) Using a post-foundational, coalition-focused approach to critical discourse analysis, it identifies popular desires and everyday necessities, i.e. those moments of everyday life that a critical majority of people feels *affected by*, in a concrete context. This offers critical entry points for unconventional coalitions in a specific conjuncture. (2) Subsequently, analysing context-specific provisioning systems allows exploring and problematising concrete structural elements that constrain and enable the actualisation of desired everyday necessities. Adding to the common understanding of provisioning systems as sets of related elements that transform resources to satisfy needs, I highlight the material-semiotic character of these systems as relational configurations between and among such areas as cultural norms, discursive legitimisation strategies, and political-economic regulations of material infrastructures. (3) Intervening in the process of semiosis can therefore unsettle the structuration/configuration of provisioning systems. As a discursive strategy with the potential to reconfigure relevant provisioning systems to meet popular desires while enabling more sustainable society-nature relations, the search for articulation builds upon a heterodox rights claim. It appropriates hegemonic language by referring to what is important (in the short term) to a critical majority of people in a particular spatio-temporal context, while shifting its grammar towards the normative horizon of (long-term) desirable social-ecological action. It is not a way to resolve conflicts, however, but to stage them; this will enrich democratic contestation about innovation and exnovation, enablements and restrictions, “about what kind of natures we wish to inhabit, what kinds of natures we wish to preserve, to make or, if need be, to wipe off the surface of the planet” (Swyngedouw, 2009, p. 611).

The case-study analysis, used to enrich the framework with examples, has demonstrated that in the case-study area climate policy is insufficiently linked to popular desires and everyday necessities. “Matters of fact” – e.g. the significant amount of CO<sub>2</sub> emissions from motorised individual transport, its massive land consumption and domination of public space, high levels of fine dust and noise pollution, and the social, ecological, and human-rights costs of raw material extraction for automobility in other parts of the world – are inadequately translated into place-based “matters of concern”, to use Latour’s (2004) terms. One of the most important and challenging contributions to a social-ecological

transformation is therefore to transform the universal into the particular. This involves turning messages that are abstract to a critical majority of people (e.g. “in the name of climate change”) into bulletins that strike a popular chord and mobilise affects (e.g. “to strengthen non-essential local provisioning”). This is essential to shift from a “politics of the environment” to “politicizing the [everyday lived] environment” (Swyngedouw, 2014). Mobilising affective energies around place-specific, everyday provisioning systems, whether non-essential local provisioning, housing, care, or others, can construct new forms of “we” (Mouffe, 1991) that are not organised around, say, shared ethnicity, but around shared everyday needs. The Communist Party’s recent landslide electoral victory in Austria’s second biggest city, centring their programme explicitly on politicising housing, shows the potential of such strategies (Jacobin, 2021). In the absence of desirable coalitions on the national level, local and regional experiments with transformative innovations are crucial for parties to demonstrate, in an electorally convincing way, the constructive possibility of transitioning towards a desired social-ecological transformation, thereby providing the performative basis to recapture the central state (Calafati et al., 2021).

Finally, the shortcomings of this article point towards avenues for future research. First, assessing the actual socio-metabolic effects of concrete transformative innovation strategies would require analysing the stock-flow-service nexuses of current and alternative configurations of relevant provisioning systems (cf. Plank et al., 2021). Second, intervening in and reconfiguring provisioning systems effectively requires a more thorough exploration of different development stages in which the system’s various related elements are situated. For example, Schaffartzik et al. (2021) highlight that, depending on the development phase in which a respective provisioning system (or elements of it) is located, there are different possibilities for intervention. For example, conflicts over land-use rights can be staged in the phase of groundwork; blockades of construction sites or regulation of property rights might help in the construction phase; legal procedures against operation can intervene in use phases; questions of follow-up investment and (partial) dismantling and replacement are essential both during phases of maintenance and at later stages. Third, an analysis of context-relevant actors and their respective power and willingness to mobilise human, monetary, mental, artefactual, and natural resources to intervene in or stabilise particular (elements of) provisioning systems would enrich analysis (cf. Avelino & Rotmans, 2009). Discursive strategies alone will not change complex material interests and the distribution of power and resources. Though insufficient by themselves, they are nevertheless necessary, thus contributing to the de- and reconfiguring, un- and remaking of provisioning systems here and now.

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