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Social Transformation through Prefiguration? A Multi-Political Approach of Prefiguring Alternative Infrastructures

Simone Schiller-Merkens *

Abstract: »Soziale Transformation durch Präfiguration? Ein Multi-Politischer Ansatz der Präfiguration alternativer Infrastrukturen«. Prefiguration unites organizations and collectives as diverse as post-growth organizations, common good organizations, community-supported agriculture, transition towns, or ecovillages in their fundamental critique of contemporary capitalism and the belief in the urgency of a major social transformation toward sustainability. It refers to realizing imaginaries of radically alternative futures in social practices, of bringing about the future by enacting real utopias in the present. Prefiguration is an increasingly fashionable concept in the social sciences, but it is still rarely used in scholarship on infrastructures. This paper shows the potential relevance of this concept for studying infrastructures, in particular to address the social transformation of contemporary infrastructures toward radically alternative, revolutionary infrastructures. It therefore starts with providing insights into the common and yet rather narrow understanding of social change and transformation in literature on prefiguration. Building on scholarly reflections on the politics of social transformation and the crucial role of organizing in transformative social change processes, the paper derives a multi-political approach where prefiguration is considered in its intricate linkage to other forms of politics. Furthermore, the paper outlines the conceptual relationship between prefiguration and infrastructures, proposes conceiving radically alternative infrastructures as being created through prefigurative organizing, and discusses a few exemplary challenges of prefiguring alternative immaterial and material infrastructures. It generally suggests that a fundamental social transformation of our societies and infrastructures requires prefigurative organizing, understood through its multi-political lens.

Keywords: Prefiguration, prefigurative organizing, alternatives to capitalism, real utopia, social transformation, politics of social change, infrastructures, sustainability.

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1. Introduction

Urban citizens collaborate with farmers in their region to build solidarity-based exchanges; workers occupy and recover factories and introduce democratic and participatory forms of organizing their work; neighbors exchange their services among each other through timebanks; social entrepreneurs think about how alternative concepts such as degrowth, the economy for the common good, or social solidarity economy can be realized in their organizations; and others decide to live together in ecovillages in autonomous and self-sufficient ways. These are but a few of the manifold examples of how people engage in organizing their economic exchange and relationships in alternative ways – ways in which alternative moral values such as solidarity, community, equality, and democracy predominate over economic ones. Underlying all of them is a deep concern with the currently dominating economic system; contemporary capitalism is considered as having led to devastating consequences for people, nature, animals, and the planet. It is coupled with the strong belief that a fundamental transformation of the economy and society is urgently needed and that such a fundamental social change asks for a form of politics with a focus on already living the envisioned social change through building alternatives in the present.

Literature refers to this kind of politics as prefiguration, prefigurative politics, or prefigurative organizing (Monticelli 2021; Schiller-Merkens 2022; Yates 2015). Prefiguration means to instantiate envisioned future states in the “here and now” of everyday practices. It is the idea of realizing imaginaries of radically alternative futures in social practices, of bringing about the future by enacting “concrete” or “real utopias” (Dinerstein 2015; Wright 2010) in the present. These practice-based and embodied forms of organizing have been considered as crucial for any fundamental transformation toward an alternative economy (e.g., Gibson-Graham 2006; Holloway 2010; Monticelli 2018; Schiller-Merkens 2020; Wright 2010; Zanoni 2020). Prefigurative organizations and communities are seen as models and building blocks that reflect how an alternative economy could look, thereby challenging capitalism and holding the potential to cumulatively generate a qualitative shift in the dynamics of the economy: “The central theoretical idea is that building alternatives on the ground in whatever spaces are possible serves a critical ideological function by showing that alternative ways of working and living are possible, and potentially erodes constraints on the spaces themselves” (Wright 2013, 20). Prefiguration has been considered as leading to “a systemic collapse (without rupture) after which alternative modes of living and organizing that now are marginal will become prevalent” (D’Alisa and Kallis 2020, 3).

Studies on prefigurative movements, communities, and organizations provide deep insights into prefigurative practices, values, and organizing principles, helping us to understand the achievements and struggles in the members' everyday attempts to realize a radically alternative future in the present (e.g., Farias 2017; Forno and Graziano 2014; Graeber 2013; Kokkinidis 2015; Litfin 2014; Maeckelbergh 2009, 2011; Reedy, King, and Coupland 2016; Reinecke 2018; Simsa and Totter 2017; Sitrin 2012, Vieta 2020; Zanoni et al. 2017; Zanoni 2020). And yet there is little debate about whether and how their prefigurative praxis might bring about the fundamental social transformation that is envisioned other than by instantiating glimpses of alternatives in present practices. As I will show in this paper, one of the reasons for this lack of attention is the common perception of how social transformation through prefiguration evolves. Prefiguration is usually associated with a particular trajectory of social change that is non-revolutionary and unfolds incrementally. The transformative change of the economy and society toward sustainability is assumed to happen in numerous free spaces on the ground, in the cracks and niches of contemporary capitalism (Holloway 2010). It is through multiplication in ever more local prefigurative sites that the current system should gradually erode. According to Parker (2021, 7) though, "the bigger issue here is whether prefiguration can bring about what it promises," whether it is likely that such a "karst-like mechanism of erosion" (Monticelli 2021, 112) can bring about a major socio-ecological transformation of the economy and society.

Interestingly, similar concerns have been raised in scholarship on infrastructures where, in light of the devastating ecological crises, alternative, sustainable infrastructures are called for. Contemporary infrastructures that have long promised modernity, development, and progress (Appel, Anand, and Gupta 2018) are increasingly seen as "toxic legacies of radically human-centered thinking and action" (Boyer 2018, 226), and thus as "a critical problem in anthropocentric modernity" (Boyer 2016, 2). Material infrastructures such as electricity lines, oil pipelines, ports, and roads, as well as the related immaterial infrastructures of laws, knowledge, institutions, and organizations, have made the promise of capitalism for economic growth, capital accumulation, job creation, and market access real for a few, but they came with devastating consequences for the planet and its people, animals, and nature (e.g., Appel, Anand, and Gupta 2018). For instance, inequalities for people living in deprived areas who lack sufficient services for maintaining their health and safety, greenhouse gas emissions, soil contamination, ocean acidification, or the extinction of species can be directly related to the societal infrastructures of our times – infrastructures designed according to capitalist exigencies and values, treating nature, people, and animals as abundant and never-ending resources for economic productivity.

To address the urgent need for alternative, sustainable infrastructures, Boyer (2016, 2018, 2022, in this volume) argues that we need to cultivate what he, with reference to Marx, refers to as revolutionary infrastructure – infrastructure whose potential energy is strong enough to permanently overcome or to “blow” our anthropocentric infrastructural arrangements (Boyer 2016, 8). Such cultivation of revolutionary infrastructure happens, according to him, as “decentralized small-scale action” that will “incrementally disable” (Boyer 2018, 240) contemporary infrastructures. He discusses his ideas with reference to a localized, sustainable, and diverse model of a solar energy economy and mentions its strong resonance with prefigurative initiatives, such as degrowth and cooperative economy, transition towns, and community-owned renewable energy projects. He considers these exemplary communities, organizations, and movements as able to build a revolutionary infrastructure that will be “feminist, colorful, queer and ecological” (Boyer 2016, 18), thus reflecting alternative moral values such as equality and sustainability. So, what Boyer actually calls for, without denominating it as such, is prefiguration. I, therefore, propose in this paper that the creation of a revolutionary infrastructure happens through the prefigurative organizing of collective action, through prefiguration in numerous collectives on the ground. Here again, the question becomes whether such incremental, decentralized, and localized collective action can be forceful enough to overthrow contemporary infrastructures, particularly considering their pervasiveness, performativity, and perdurance. Purdy (2018) even talks about a “global infrastructure Leviathan” that “tells us how to live in [the world].” The same question thus also arises among infrastructure scholars: “How can we coordinate action to generate ‘sustainable’ modern infrastructure at a planetary level?” (Boyer 2016, 1-2).

The aim of this paper is twofold. First, it aims to underscore the importance of a multi-political notion of social transformation through prefiguration to address the core concern of a fundamental, radical social change toward sustainability in our societies and economies. I, therefore, provide insights into the common understanding of social change and transformation in literature on prefiguration, showing that it is usually associated with three interrelated aspects: (1) It is a holistic social change that encompasses changes in various areas of social life. (2) Through changes in social practices, actors prefigure or instantiate an envisioned broader societal change (in other words, social transformation). (3) Social transformation evolves slowly and incrementally through diffusion, multiplication, or replication in multiple dispersed prefigurative sites. Based on various scholarly reflections on the politics of social transformation and on the crucial role of organizing in transformative social change processes, I point out the limitations of this rather narrow understanding. I then describe a more encompassing, multi-political notion of

social transformation through prefiguration where prefiguration is considered in its intricate linkage to other forms of politics.

The second aim of this paper is to outline the relationship between prefiguration and infrastructures and to thereby reveal the fruitfulness of a further dialogue between the respective scholarly communities. Building on the practice-based approach, I conceptually relate prefiguration and infrastructures and propose viewing alternative, revolutionary infrastructures as being created through the prefigurative organizing of social practices and relations. Furthermore, I discuss exemplary challenges of prefiguring alternative immaterial and material infrastructures. I conclude this paper by arguing that a multi-political approach is central for the collective creation of radically alternative infrastructures. In short, a fundamental and radical social transformation of our societies and infrastructures requires prefigurative organizing, understood through its multi-political lens.

2. Prefiguration and the Understanding of Social Change and Transformation

2.1 Prefiguration as a Form of Politics

Prefigurative organizations and communities organize economic exchange and relationships in alternative ways – ways that embody the seeds of an envisioned future beyond capitalism, both by creating imaginaries of an alternative future and by showing their viability in social practices. By “anticipat[ing] or enact[ing] some feature of an ‘alternative world’ in the present” (Yates 2015, 4), they elicit hope and nurture imaginations about the feasibility of alternative futures.

Prefiguration is mainly used in relation to movements, communities, and organizations that embody progressive left-wing politics and share a critique of contemporary capitalism (Maeckelbergh 2016; Monticelli 2018; Schiller-Merkens 2022). They strive to establish progressive alternatives that “clearly diverge from the central organizing principles of capitalism” (Parker et al. 2014, 26), including a free market, division between capital and labor, and profit motive, based on alternative moral values such as equality, fairness, democracy, freedom, community, and solidarity (also referred to as anticapitalist [Wright 2019] or postcapitalist [Gibson-Graham 2006] principles). Prefiguration refers to a particular kind of politics, with politics understood as “collective attempts to create social change” (Yates 2015, 2), that differs from contentious politics. In the latter form of politics, broader societal changes are thought to be brought about by claiming changes from the state or other power holders, usually through using a confrontational action repertoire that

includes street protests, blockades, strikes, and riots (McAdam, Tarrow, and Tilly 2001). The critique of the status quo is given a voice in and through those actions and expressed in collective claims on target authorities. In contrast, through prefigurative politics, critique is not expressed by making claims on authorities; although contentious tactics can be coupled with prefiguration (see later and, for instance, Maeckelbergh 2016; Monticelli 2021). Rather, prefiguration means raising an “experiential critique [...] rooted in everyday life, in the body, in social relations, in communal practices” (Dinerstein 2017) and, thus, to engage in direct forms of political action that already embody the envisioned social changes. According to Monticelli (2018, 511), prefigurative initiatives “end-up [sic] (re)politicizing what is usually non-politicized: everyday life, the spaces of private, economic and social (re)production through conscious processes of organization and not-necessarily through confrontational actions.” D’Alisa, Demaria, and Kallis (2015, 329) write that

they are attempting to change an economic system, increasingly perceived as unfair and ecological disruptive, by building an alternative in the cracks of the former, based on greater mutual solidarity between individuals and more sustainable connections with the environment.

Thus, prefiguration entails both the critique and negation of given realities – usually of contemporary capitalism – and the creation of new realities, or the instantiation of alternative futures in the present (Dinerstein 2015; Kokkinidis 2015; Schiller-Merkens 2022).

2.2 Understanding Social Change through Prefiguration

Prefiguration is associated with a particular understanding of social change and transformation.¹ One aspect is that social change through prefiguration usually extends beyond the economic realm and includes changes in various areas of human life, such as in technological, ecological, cultural, and political areas (given the expansive nature of capitalism in all of these areas). Maeckelbergh (2016, 122), therefore, talks about “an embodied process of reimagining all of society” and Monticelli (2021, 99) about a “holistic

¹ In this paper, the understanding of social change and social transformation is informed by practice theories (Giddens 1984; Reckwitz 2002; Schatzki, Knorr Cetina, and von Savigny 2001). From a practice theoretical perspective, social change refers to changes in social practices, occurring as a condition to and an outcome of changes in rules (collective beliefs, values, norms, regulations) and resources (Giddens 1984). Social change can take place, for instance, in the social practices of groups, organizations, and communities; in the social practices that are peculiar to particular organizational fields and markets; and in social practices that extend widely in time and space and constitute the economy and other societal spheres. The latter kind of social change is oftentimes denominated in the literature as fundamental, broad, or major and referred to as social transformation. From that perspective, social transformation can be considered as a particular type of social change, namely one that is holistic and extends beyond the boundaries of particular markets and economic sectors, entailing changes of practices, rules, and resources in various societal arenas in which economic exchange and relations take place.

approach to social change.” She continues by saying that “[i]f contemporary capitalism is conceived as an encompassing form of life rather than a mere system of economic production, then the only way to transcend it is by embodying alternative forms of life” (Monticelli 2021, 114), which includes changes in multiple interconnected areas. One example is the prefigurative movement of community energy that

does not only challenge the dominant socio-technical system of centralised energy-production based on fossil fuels through its focus on decentralized solar or wind energy production. It also challenges underlying political and economic structures by introducing alternative business models and organisational forms such as energy cooperatives. (Avelino, Monticelli, and Wittmayer 2019, 72; see also Besio, Arnold, and Ametowobla 2022, in this volume)

Another aspect of understanding social change through prefiguration relates to the questions of how social change occurs and where its locus lies. Social change is primarily conceived as “localized politics” (Gibson-Graham 2006), taking place at the local level of movements, communities, and organizations whose practices, forms of organizing, and values differ from dominant ones in the economy. It happens through direct social action and, thus, “upon directly transforming some specific aspects of society by means of the very action itself” (Bosi and Zamponi 2015, 367). This creation of alternatives constitutes social change at the micro-level of particular organizations and communities. As Reinecke puts it (2018, 1300), “[a]ctivists model or prefigure the future society at a micro-level that they hope to realize at a societal level, thereby instantiating radical institutional transformation in and through practice.” Hoping to thereby realize at least instances of a broader societal change and the belief that such social transformation of the economy and society is urgently needed is central to prefiguration. Studies have shown, though, that many prefigurative actors not only attempt to bring about broader societal change through changing their everyday practices but already mobilize accordingly beyond the confines of their own organizations and communities. Yates (2015, 15, 19), for instance, who studied autonomous social centers, writes that the members’ “preparedness to act in order to change wider society” was coupled with the ambition to become “an ‘example’ to be seen and communicated; people wanted to ‘inspire’ change and diffuse perspectives.” Kokkinides (2015, 862) describes that members of workers’ collectives aimed to disseminate and circulate their political ideas beyond the boundaries of their own collectives; they not only wanted to create “a laboratory for social change” for themselves but also to inspire more people to participate in comparable political actions. Similarly, Farias (2017, 7) writes that members of an intentional community saw the invitation of outsiders into their communes “as a necessary condition for social change” with the “primary goal [...] [of] stand[ing] as an engine for similar movements.” Thus,

while the core locus of social change through prefiguration lies in the prefigurative organizations and communities themselves and in their instantiation of an imagined broader social change, this strive to contribute to social transformation through “material reality and experimentalism” (Monticelli 2021, 112) is oftentimes coupled with activities to diffuse their alternative ideas, beliefs, and practices to outside actors (Schiller-Merkens 2022).

This leads, finally, to a related aspect with regard to the way in which social change and particularly the broader social transformation is perceived to evolve, that is, in incremental ways through multiplication in ever more prefigurative sites. Erik Olin Wright, in his seminal book *Envisioning Real Utopias* (2010), denotes the underlying mechanism of social transformation as “interstitial” because it is based on the development of prefigurative initiatives in the interstices of the current economic system – in the free spaces that capitalism is leaving. The idea is that over time, the “multiplicity of interstitial movements” (Holloway 2010, 11) creates “cracks” in the structure and logic of capitalism. In terms of Wright (2010, 321), interstitial transformation evolves as a “process of metamorphosis in which relatively small transformations cumulatively generate a qualitative shift in the dynamics and logics of a social system.” Through diffusion and replication of prefigurative practices and forms of organizing in multiple locations, capitalism is imagined to gradually erode (Adloff and Neckel 2021). According to Monticelli (2021, 113), it is a karst-like change that evolves slowly over time and “may require time to produce visible changes on a large scale.” Similarly, Maeckelbergh (2016, 129-30) states that because it involves a “wholly different set of social relations, political structures and economic practices [...] such massive social and structural changes cannot be enacted in a short time frame.”

To summarize, social change through prefiguration is usually associated with three interrelated aspects: (1) It is a holistic social change that encompasses changes in various areas of social life. (2) Through changes in social practices, actors prefigure or instantiate an envisioned broader societal change (in other words, social transformation). (3) Social transformation evolves slowly and incrementally through diffusion, multiplication, or replication in multiple prefigurative sites.

3. Prefiguration and Infrastructures

As described in the introduction, several infrastructure scholars share with prefiguration scholars the belief in the urgency of a radically alternative economy and society, one that fundamentally respects the planetary boundaries of our life on earth. They agree in their critique and negation of contemporary capitalism with its “happy biopolitical promises [...] of endless growth, wealth, health, and productive control over ‘nature’” (Boyer 2018, 226). Both

Boyer (2016, 2018) and Purdy (2018, 2019), for instance, are therefore convinced that only through radically changing our infrastructures will it be possible to overcome the anthropocentric grip on Earth. Before getting to the questions of how to get to such radically alternative infrastructures and which challenges are entailed, this chapter aims to further clarify the relationship between prefiguration and infrastructures. Conceptually, the practice-based approach in the study of infrastructures is particularly useful to build upon.

The practice-based approach to infrastructures generally suggests a mutual dependency between infrastructures and social practices. According to Shove (2016, 244), infrastructures enable multiple practices, “while practices are ways of using infrastructure.” Infrastructures thus co-evolve with social practices – she refers to them as “infrastructures-in-use” – and understanding their change and dynamics in time and space requires studying them in relation to the kinds of practices that both enable and constrain certain types of infrastructural dynamics. As proposed throughout this paper, particularly the experimental practices of prefigurative organizing by progressive movements, communities, and organizations are the kinds of practices that enable alternative infrastructures and make it possible to incrementally go beyond and replace contemporary infrastructures-in-use.

Adloff and Neckel (2019) connect this practice-based approach of infrastructures to imaginaries of the future, in particular to imaginaries of sustainability and the trajectories toward them. They differentiate three imaginaries of sustainability, each of which is related to distinctive practices of sustainability as well as enabled and constrained by societal and planetary infrastructures. One of these imaginaries of sustainability is social transformation, consisting of the idea that sustainability requires fundamentally altering existing (infra)structures out of which contemporary capitalism is seen as one of the core (infra)structural impediments to sustainability. As already described, this conviction that a fundamental social transformation is urgently needed is also prevalent in prefigurative organizations, communities, and movements. And indeed, Adloff and Neckel (2019) mention various “transformational” initiatives that prefigure a radically alternative future, among them degrowth, postcapitalism, buen vivir, convivialism, commons, and social solidarity economy. These prefigurative initiatives constitute radical alternatives by experimenting with prefigurative practices that respect the interconnectedness between human and non-human beings (Monticelli 2021) and are based on a non-exploitative, “radically different human-nature relationship” (Adloff and Neckel 2019, 6).

Crucial to prefiguration is thus the organizing of social practices and relations in ways that start from what Purdy (2018) sees as “the conditions of all human action and interaction,” that is, the planetary infrastructure which entails “the global atmosphere, the water cycles [...], the soil and its fertility” (cf. Szerszynski 2022, in this volume). Prefiguration is also an encompassing,

holistic approach to social transformation when it comes to the various dimensions of infrastructures.² It includes the creation of alternative societal infrastructures – material (technosphere) and immaterial (social institutions/relations/organizations) – that respect, care for, and protect the planetary infrastructure. As such, prefiguration “produces” “practices [that] prefigure imaginations of future infrastructures” (Shove 2016, 244), thereby enabling infrastructural dynamics toward sustainability. Thus, the creation and reimagination of practices and infrastructures through prefiguration is an important trajectory toward sustainability because, as Adloff and Neckel (2019, 2) write, “[t]o make infrastructures sustainable, they have to be imagined and created anew.” By bringing to the fore practices that embody reimagined infrastructures and their interrelations, prefiguration not only instantiates the future in the present but also nurtures imaginaries of alternative futures and its revolutionary infrastructures, thereby opening up the future for further social transformation toward sustainable infrastructures. This “doing of alternative infrastructures” can be seen as the performative and “revolutionary path forward” (Boyer 2016, 18) toward sustainability.

Thus, to conclude, prefiguration relates to the idea of realizing imaginaries of radically alternative futures in social practices, of bringing about the future by enacting real utopias in the present. It is a holistic approach to social change (Monticelli 2021) that cannot be thought of without radical changes in societal infrastructures and in their relationship to the planetary infrastructure. Boyer (2016, 18) talks about the need for revolutionary infrastructures that respect the interdependence with the planetary infrastructure and are built through “decentralized small-scale action” that is “responsive to local interests and needs.” These revolutionary infrastructures are created through prefiguration – through the localized collective creation of social practices that envision radically alternative future infrastructures in the present. However, as will be argued in the following, social transformation toward sustainability requires a whole bundle of politics to accompany prefiguration.

² The understanding of infrastructures in this paper follows Purdy (2018), who differentiates material infrastructures that include roads, rails, and utility lines from immaterial infrastructures such as legal systems and markets, both of which enable certain forms of communication and cooperation among people and have material effects like the global carbon and nitrogen cycles or the food system. He sees the fundamental areas and cycles of the natural world as a third kind of infrastructure, referred to in this paper as “planetary infrastructure.”

4. Social Transformation toward Sustainable Infrastructures

4.1 Some Scholarly Reflections on the Politics of Social Transformation

Any attempt to answer the question of what is required to realize the urgently needed social transformation of our societies, economies, and, hence, infrastructures is an ambitious endeavor, and certainly a desperate one in a single paper. But what we can do here is briefly look at scholarly reflections on this question to then, in the following chapters, derive a multi-political notion of social transformation through prefiguration as well as to point out a few exemplary challenges that can arise in prefigurative politics for a broad and radical social change toward sustainability.

Erik Olin Wright (2010, 2013, 2019) has written extensively about how to radically change our societies toward anticapitalism, which is understood as an ecological, egalitarian, democratic socialist society in which economic activities are primarily controlled by civil society. Given that capitalism is deeply engrained in all kinds of societal institutions and infrastructures, he is skeptical whether a focus on bottom-up, incremental change that is primarily bound to small and local spaces can lead to a fundamental shift toward a radically alternative society. He instead suggests to

combine the progressive social democratic and democratic socialist vision of changing, from above [through the state], the rules of the game [...] with more anarchist visions of creating, from below, new economic relations that embody emancipatory aspirations. (Wright 2019, 62-3)

He thus considers state support for prefiguration as crucial for prefigurative initiatives to become the “robust collective actors” (Wright 2019) who are able to considerably contribute to social transformation toward sustainability. As the most likely trajectory toward a radical alternative society in which moral values of equality, solidarity, democracy, and sustainability predominate over economic ones, he proposes a combination of various strategies of social transformation (Wright 2010). It is the combination of interstitial strategies where actors collectively create real utopias through prefiguration with symbiotic strategies where civil society collaborates with the state to open up greater space and support for prefiguration, and occasionally with ruptural strategies where revolutionary confrontations between opposing social forces should destroy the power of countermobilizing actors. Wright thus not only emphasizes the crucial role of collective action in and out of civil society but also underscores the importance of a multi-political approach to social transformation. Prefigurative direct forms of politics should be combined with confrontational and contentious forms toward countermobilizing

political and economic elites, as well as with forms of collaborating with progressive parts of the state to achieve changes in institutional politics.

The collective action or the bottom-up politics of civil society is also considered as crucial by scholars who write about the need for radically alternative infrastructures. With his writings on revolutionary infrastructure that originates in the decentralized, small-scale collective action of prefiguration, Boyer (2016, 2018, 2022, in this volume) seemingly focuses on the interstitial strategies of social transformation. He sees the “path out of the Anthropocene” in “a process of personal and civilizational rebecoming” (Boyer 2018, 239). Such a process is bound to local spaces that allow the formation of collective action in and out of civil society through interpersonal ties and relationships. Although he does not explicitly write about it, organizing is important to allow collective action to emerge and evolve, the importance of which will be described below. Boyer adds that revolutionary, more contentious ruptures are likely to arise in the predominantly interstitial transformation process when he mentions that it “is not to say this will be a peaceful transition of powers or that it will not be accompanied by turbulence, even ‘heat death’” (Boyer 2018, 240). Thus, comparably to Wright, he sees the likelihood of interruptions or ruptural strategies accompanying the radical transformation of societal infrastructures.

Purdy (2018, 2019), as well, underscores the importance of politics and “humanity to act collectively” (Forrester and Purdy 2018) for fundamentally transforming our infrastructures. While he warns us about the “unlimited power” and performativity of the “global infrastructure Leviathan” that we have created (Purdy 2018), he also raises hope – hope that is nurtured by seeing humans not only as infrastructure species but also as political ones: “Humanity is the political animal, the species that explicitly makes its own rules and institutions” (Purdy 2018). So, although we are ruled by contemporary infrastructures, there is also an “emancipating, democratic potential” for social change that he locates in politics:

[O]nly politics can deliberately change the architecture of shared life, change the rules and the built world that humans live in and live by. Democratic politics, in potential, creates a common space where equals have to decide the terms of their coexistence. (Purdy 2019, 20)

In his writings, he wonders who this “agent of politics [...] with the right kind of demands” can be to “grapple with our tyrannical global Leviathan” (Purdy 2018). Similar to Wright, he seems to suggest that both the state and social movements collectively constitute this agent: In particular, a leftist state and the collective action of progressive social movements should be combined to arrive at what he calls a democratic socialism.³ For instance, in one of his

³ And like Wright (2019, Ch. 4) who talks about a democratic market socialism, he is also convinced that “a successful democratic society would never be without markets” (Forrester and

books (Purdy 2019), he describes the collective action of environmental justice activists and progressive governments at regional and state levels in creating egalitarian legal environmental frameworks. While he is convinced that the ecological crises demand a global solution, he is also skeptical about whether the “deeper forms of security and solidarity” that he considers as essential for “a politics that doesn’t aim always at growth” can arise on a global scale. Rather, the “new kinds of solidarity” (Purdy 2019, 26) that he demands emerge and evolve at the local and regional levels, as his example of environmental justice mobilizations exemplifies. So, in short, while Boyer puts explicit emphasis on the localized and small-scale collective action of prefigurative politics that can be accompanied by contentious episodes, Purdy primarily writes about the contentious politics of state-directed claim-making of social movements and the need for institutional politics through the state for fundamentally transforming societies and infrastructures.

4.2 Building Alternative Societal Infrastructures: The Role of Organizing for Social Transformation

Besides combining various kinds of politics, scholarly work on social transformation toward sustainability also addresses another crucial aspect – the “task of organization” (Parker 2021) that is needed to become the collective force able to transcend capitalism. How can prefiguration be “transformative” if bound to small and single prefigurative initiatives at the local level? Social transformation toward sustainability requires organizing and organization – it requires building the kinds of societal infrastructures that allow interactions within and between prefigurative organizations and communities and also with state actors and other societal elites (Schiller-Merkens 2020).

To understand the task of organization for social transformation, it is worth looking into social movement scholarship that has a long tradition in the politics of collective action. Particularly research on the impact of social movements on social change underscores the importance of organizing and organization. It shows that “the most effective forms of organization are based on partly autonomous and contextually rooted local units linked by connective structures, and coordinated by formal organizations” (Tarrow 1998, 124). Organizing is important, on the one hand, because it fosters coalition-building and cross-fertilization between various prefigurative organizations and communities and allows for sustained collective action across space and time (McCarthy and Zald 1977; Tarrow 2010). The creation of formal organizations – or, in terms of Ahrne and Brunsson (2008), meta-organizations – that coordinate collective action among diverse prefigurative initiatives is an

Purdy 2018). For a controversial debate about the role of markets in a democratic economy and society, see Hahnel and Wright (2016).

important element in what Tarrow (2010) calls an upward scale shift: the extension of collective action for social change at broader levels of society. Besides reducing costs of communication and coordination (McAdam, Tarrow, and Tilly 2001), organized forms of coming together provide important platforms for the struggles over meaning that are relevant for, over time, developing a sense of interconnectivity. Also, infrastructure scholars such as Purdy (2019, Ch. 5), for instance, mention the need for collaborations and alliances between various kinds of movements. He writes that they should start seeing the commonalities of their grievances, concerns, and missions and unite their collective force to become stronger agents of social change.

Prefigurative initiatives involved in meta-organizations could also more effectively coordinate their politics of transformation. Wright (2013, 18) therefore proposes that prefigurative organizations should create larger associations and describes the role of such prefigurative meta-organizations with reference to the example of cooperatives:

[I]f individual cooperative firms join together in larger associations of cooperatives – perhaps even a cooperative-of-cooperatives, collectively providing finance, training, and other kinds of support – they begin to transcend the capitalist character of their economic environment by constituting a cooperative market economy.

Various prefigurative initiatives have already created these kinds of meta-organizations – examples include RIPESS, an organization uniting continental networks of the social solidarity economy (www.ripess.org); GEN as the globally coordinating unit of the ecovillage movement that unites ecovillages of various types (<https://ecovillage.org>); or the ECG (economy for the common good) movement that unites local chapters, associations, and common good organizations (www.ecogood.org). There are also a few “meta-meta organizations” (Ahrne and Brunsson 2008, 16-17) that create connective structures across various kinds of prefigurative movements, one example being ECOLISE (www.ecolise.eu) that fosters collaboration between the global ecovillage movement, the transition town movement, and the permaculture movement with the aim of more forcefully influencing policymaking within the European Union.

On the other hand, organizing between different prefigurative initiatives is also important for another reason. Powerfully addressing the state is difficult if prefigurative action remains local, small, and dispersed in space. Wright (2019, 121) writes that “for these various kinds of civil society-based collective actors to have a sustained efficacy in changing the rules enforced by the state, they need to somehow be connected to progressive political parties capable of acting directly within the state.” Building these connections and sustaining them over time can be facilitated by formal organizations that unite a variety of prefigurative initiatives. State actors who are interested in radically alternative approaches to the current ecological crises more easily connect to a

few meta-organizations that collectively represent alternative solutions than to numerous prefigurative initiatives on the ground.

The role of organizing and organization is sometimes underemphasized in scholarship on prefiguration (Parker 2021). This can be partly due to the common perception of social transformation through prefiguration as mainly resting on the interstitial strategy of transformation that is – misleadingly – associated with a lack of organization. It is also related to prefiguration’s closeness to anarchism and its deep criticism of the state as well as its skepticism toward formal organizing.⁴ But, as Young and Schwartz (2012, 234) assert in their critique of Holloway’s (2010) interstitial approach to social transformation, “successful liberation requires building complex organizations that unite prefigurative liberatory movements into formations capable of engaging dominant institutions, particularly the state.” Thus, social transformation toward sustainability rests on building alternative societal infrastructures, and this includes organizing and organization within and beyond prefigurative organizations and communities.

5. Toward a Multi-Political Approach of Prefiguration

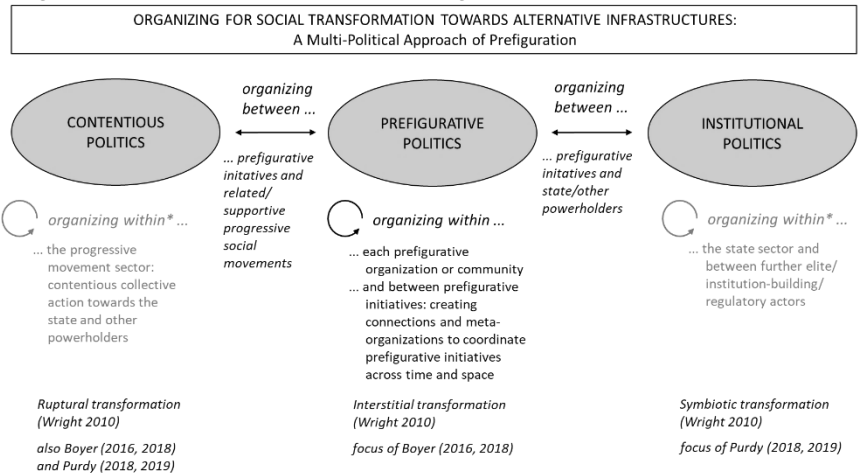
As we have seen, both the role of the state and the “task of organization” are less developed in the debate about prefiguration. But while social transformation through prefiguration is sometimes associated with evolving only through multiplication in ever more prefigurative sites, both literature and “real-life” examples already go beyond it by showing the importance of mobilizing among each other and of making claims toward state institutions. And indeed, scholars of prefiguration have already described how prefigurative organizations, movements, and communities combine different kinds of politics – both prefigurative politics and contentious politics of claim-making toward the state and other powerholders – in their strive for social transformation (e.g., Maeckelbergh 2016; Monticelli 2021). With reference to Wright, Purdy, and other writers on social transformation, we can add that a fundamental societal change requires changes in institutional politics, also through collaborations between social movements and state actors. Maeckelbergh (2016, 130) therefore asks for more analyses that look into how “prefiguration is integrated within a larger set of [transformative] practices” and “that can grasp how political innovation works on multiple levels at once, across time and even from one place to the next.”

This suggests a revised, multi-political perception of social transformation through prefiguration: While it is primarily conceived of as a form of politics

⁴ See Schiller-Merkens (2022) for more information on the relationship of prefiguration to anarchism and Open Marxism.

where the envisioned social transformation is instantiated in present practices, its intricate linkage to other forms of politics should be taken into account. Prefigurative actors strive for a fundamental social transformation, and for this to happen, it is crucial to also draw on other forms of politics to organize for transformative social change beyond their own confines (see Figure 1).

Figure 1 A Multi-Political Approach of Prefiguration



*organizing and organization are also central tasks in contentious and institutional politics but not the focus of prefigurative actors

6. Challenges of Prefiguring Alternative Infrastructures

Fundamentally transforming the current economic system, or eroding capitalism (Wright 2019), becomes particularly challenging if one looks at how its persistence is supported by existing societal infrastructures. As “networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space” (Larkin 2013, 328), societal infrastructures are designed to reproduce the current economic system across time and space, which is a major challenge for broader social change. According to Appel, Anand, and Gupta (2018, 4), material infrastructures like “oil rigs and electrical wires, roads and water pipes, bridges and payment systems articulate social relations to make a variety of social, institutional, and material things (im)possible.” Capitalism is deeply inscribed into existing infrastructures, and using them contributes to capitalism’s reproduction, persistence, and stability. “[C]apitalism can be performative only because of the many means of producing stable repetition”

(Appel, Anand, and Gupta 2018, 16), in which existing infrastructures play a central role.

For these reasons, social transformation toward sustainability cannot be thought of without fundamental changes of contemporary infrastructures. An alternative economy would rest on alternative infrastructures; it would require transcending the built-in boundaries of existing infrastructures with which capitalism is constantly reproduced and that contribute to capitalism's perdurance and longevity. And yet the "concrete glue of [that] infrastructure" (Appel, Anand, and Gupta 2018, 31; see again also Purdy 2018) seems to make it rather impossible to create alternatives. From this perspective, it is understandable why the origin of alternative infrastructures is seen in local, decentralized, and small-scale collective action (Boyer 2016). Prefiguring alternatives is particularly possible in the local niches and spaces that provide a certain degree of freedom from the current economic system. But saying that it is possible does not mean that it is free from any struggles, contestation, or critique. Numerous challenges can arise in the attempt to prefigure alternative infrastructures, only a few of which can be mentioned here as examples (see for further discussion, Schiller-Merkens 2022).

6.1 Challenges of Prefiguring Alternative Immaterial Infrastructures

Combining different kinds of politics creates a variety of challenges for prefigurative actors. Demands such as collaborating with the state and applying strategic forms of organizing are sources of continued conflict and struggles, particularly in the light of the plurality and diversity of thoughts, ideas, practices, and strategies among prefigurative actors (Schiller-Merkens 2022). For instance, Casey, Lichrou, and O'Malley (2020) provide insights into the plurality of interpretations and political stances that are present in one prefigurative community only. In their case study of an ecovillage in Ireland, they show its members' divergent activist positions and identities, with some being anarchist and in favor of more radical political approaches to social transformation and others preferring less contentious, reformist approaches. According to Casey and her colleagues (2020, 14), "what draws the members together [...] is prefiguring a sustainable future." How this sustainable future can be achieved, by applying which politics of social transformation, will certainly be the subject of ongoing interpretations and struggles. These challenges multiply if one looks at more than one prefigurative initiative. Monticelli (2021, 113) describes it as follows:

Prefigurative politics is embodied by a multiplicity of communities belonging to different social and political contexts worldwide, organized and networked differently, each with a distinct belief with respect to if and how to relate to the state and to capitalism.

Some prefigurative initiatives believe in an active role of the state in social transformation and seek to influence state policies or target the state for support. Others consider the state as being fully corrupted by capitalism, unable to contribute to any fundamental social transformation, and generally mistrust its institutions. Particularly the latter sometimes pursue what Wright (2019) calls a strategy of escaping capitalism (which he dismisses as ineffective with regard to social transformation): They insulate themselves from capitalism by building secluded communities with strong boundaries for the outside world. These communities usually have strong anarchist identities, and thus not only oppose any kind of state support but also reject attempts at formally collaborating with other prefigurative initiatives through meta-organizations, seeing both as ways toward authoritarianism that threaten their liberative ideals (Young and Schwartz 2012).

However, even among prefigurative actors who believe in the role of state action for social transformation and are in favor of formalized forms of organizing, in the light of the plurality and heterogeneity of prefigurative initiatives, struggles and challenges will pertain to their interactions (Schiller-Merkens 2022). The principle of economic growth, for instance, is fundamentally rejected by post-growth organizations, whereas cooperatives, worker-recovered enterprises, common good organizations, and social solidarity enterprises might not reject it if it does not harm moral values such as equality, democracy, or solidarity. Banerjee and colleagues (2021, 346) mention the example of the Mondragon cooperative model that is based on values of participatory democracy and labor solidarity but is rather uncritical toward the growth imperative of capitalism and “still plays by the rules of a growth economy.” To represent this diversity of prefigurative projects and initiatives rather than negate it, Roelvink (2016) proposes an organizational form that she calls “concern group.” It is a platform where a variety of initiatives regularly meet and discuss – initiatives that instead of developing a clear collective identity are united in their critique of contemporary capitalism and in their quest to prefigure a broader social change of the economy in their social practices. While such concern groups could provide arenas for continuously debating and negotiating the common project of social transformation toward sustainability, they would still remain “conflictual spaces” of struggle and contestation in which “different ideas of a sustainable future” come to the fore (Adloff and Neckel 2021, 159).

6.2 Challenges of Prefiguring Alternative Material Infrastructures

Prefiguration is experimental – it entails to develop and experiment with alternative social practices to the ones that dominate in society. For these kinds of practices, material infrastructures oftentimes do not yet exist; instead, they need to be developed in and through experimental social praxis. The lack of

alternative or revolutionary infrastructures that enable further prefigurative organizing can be conceived by some actors as a barrier so high that it impedes continued prefiguration. To continue their prefigurative projects, prefigurative initiatives are sometimes forced to approach capitalist institutions or the state that is perceived as capitalist. For example, although intentional communities and ecovillages are usually highly critical of public infrastructures as reproductive engines of capitalism, they oftentimes have to negotiate access to infrastructures such as for water, energy, or waste disposal because developing their own autonomous and self-organized infrastructural solutions would be too challenging. Facing public regulations and legal requirements that weaken their prefigurative ideals, they can then end up in constant contestation and struggles with public authorities. All of this can set boundaries around their attempt to free themselves from public infrastructures that they consider as unfair and unsustainable (Appel, Anand, and Gupta 2018). And even if some prefigurative initiatives successfully create their own revolutionary infrastructures, constructing them brings all of the struggles to the fore that arise in new settlements – struggles related to the co-evolution of immaterial and material infrastructures in the making (see, for instance, Amin 2014).

Whether radically alternative infrastructures can be created and sustained over time is another critical challenge. Minuchin's study of a peripheral urban settlement project in Ecuador (2021) exemplifies that the supposedly free urban spaces for prefigurative projects are not as free as expected. Instead, he describes that these spaces can also provide lucrative investment opportunities for private investment and construction firms whose infrastructural solutions are designed to allow for real-estate accumulation. Driven by capitalist values of growth and capital accumulation, their infrastructural solutions are opposed to and compete with the ones of the prefigurative communities that primarily pursue values of solidarity and cooperation. He further describes that NGOs that are active in such prefigurative urbanization projects can also have divergent ideas about appropriate infrastructures, which might again be contradictory to the ones developed by the prefigurative actors. Overall, his study reflects that the development of revolutionary infrastructures can happen in spaces in which conflicts over the production, access, and governance of infrastructures between opposing actors prevail, compromising the potential of prefigurative actors to create and sustain radically alternative infrastructures.

Furthermore, existing material infrastructures and/or the lack thereof might make certain forms of prefiguration impossible. For instance, as Boyer (2018) points out, the publicly funded infrastructures that were developed throughout the period of Keynesianism (mid-1930s to mid-1970s) have deteriorated under neoliberalism, being nowadays in “a creeping sense of decay” (Boyer 2018, 224). Likewise, Appel, Anand, and Gupta (2018, 5) write that “[i]n

the absence of maintenance work on one hand, and neoliberal refigurations of infrastructure grids on the other, existing infrastructures have deteriorated to such an extent that they are breaking down more often.” While these infrastructures have been conceived according to the exigencies of capitalism and might thus be seen as bases for only reproducing a contested system, particularly the more elementary material infrastructures that were publicly funded in the past are oftentimes also a basis for prefigurative praxis (such as the supply of water, energy, transportation). For example, prefigurative organizations that seek to transport their goods to their customers in the most sustainable ways still have to rely on the given infrastructures of transportation such as the network of railroads (or the lack thereof), of streets, and other logistical networks. These infrastructures reproduce the reigning unsustainability when these infrastructures were originally planned, allowing for the smooth traffic of polluting means of transportation. Thus, even while prefigurative initiatives reject the current system and its infrastructures and are highly critical of them, their formation and further development still depend on them in many ways. Prefiguration develops within capitalism, not outside of it, and the contested system provides resources for alternative and prefigurative praxis. Struggles with, against, and beyond capitalist social relations (Dinerstein 2015) pertain to the prefiguration of radically alternative, revolutionary infrastructures.

7. Conclusion

The general aim of this paper has been to present and discuss a multi-political approach to prefiguring radically alternative infrastructures, and to thereby show the fruitfulness of relating the mostly distinct literatures on prefiguration and on infrastructures with each other. To do so, the paper has provided insights into prefiguration and the respective understanding of social change and transformation. It has shown how social transformation through prefiguration is commonly associated with three interrelated aspects. These include first, a holistic approach to social change that encompasses the creation of alternative societal infrastructures – material (technosphere) and immaterial (social institutions/relations/organizations) – that respect, care for, and protect the planetary infrastructure; second, the idea that an envisioned social transformation of contemporary societal infrastructures is instantiated in prefigurative practices and revolutionary infrastructures; and third, that the trajectory of social transformation toward sustainability evolves slowly and incrementally through multiplication in ever more prefigurative sites.

The paper has further outlined a few scholarly reflections on what is required to realize a fundamental social transformation toward sustainable infrastructures, thereby also noting the skepticism of whether a transformation

that only builds on direct forms of action in dispersed local spaces can actually be effective. Based on the recent idea of mutually reinforcing types of politics involved in prefiguration (e.g., Monticelli 2021) as well as Wright's (2019) conviction that eroding capitalism requires a combination of various kinds of politics, it has then developed a more encompassing notion of social transformation through prefiguration that reflects the intricate linkage of prefiguration to other forms of politics. Because to say it clearly, social transformation toward sustainability would be a massive political project of fundamental social change in all areas of society. Scholars studying social change processes from different angles therefore agree in that it would require various kinds of politics – localized politics in the form of prefiguration, contentious politics targeting the state, and also institutional politics where state actors directly engage in social transformation. That is why we need more analyses that provide deeper insights into how different kinds of politics are integrated and aligned in processes of social transformation toward sustainability (Maeckelbergh 2016). As a basis for these kinds of analyses, this paper suggests a multi-political approach to prefiguring alternative infrastructures that relates to the bundle of politics with which social transformation through prefiguration should become associated.

Furthermore, the paper has shown the relationship between prefiguration and infrastructures and has discussed a few challenges of prefiguring alternative societal infrastructures, for both immaterial and material ones. We might end by asking what that means for the creation of radically alternative infrastructures. How do we come to revolutionary infrastructures at a larger scale? Appel, Anand, and Gupta (2018, 31) pose this question in the following way:

Can we produce a world that can be distinguished from the constitutive divisions of modernity and its progressive readings of the future, given that the epistemic and concrete glue of infrastructure binds that future to our present and our past?

While it is illusionary to answer this question here, we might still end with a sense of hope and optimism. This paper has underscored the important role of prefiguration whereby imaginaries of alternative future infrastructures are created and instantiated in present prefigurative practices, which then nurtures further prefiguration of and for radically alternative infrastructures. It has further emphasized the relevance of a multi-political approach to prefiguration, which also includes coupling prefiguration with organizing and organization – or organized collective action between prefigurative infrastructural projects in different places and communes – and with collaborations with the state, or with the progressive parts of the state that believe in the importance of alternative infrastructures and provide respective support. And yet many writers have already described contemporary capitalism's longevity and its capacity to adapt and adopt (e.g., Boltanski and Chiapello 2005;

Purdy 2019). Thus, the outcome of prefiguring alternative infrastructures for social transformation remains open but, as Larkin (2018, 176) suggests when talking about the experiential qualities of infrastructures, infrastructures can stimulate emotions of both hope and pessimism. Prefiguration produces hope (e.g., Dinerstein 2015), and the more alternative infrastructures are created through prefiguration, the more experiences of hope might become possible. The co-evolution of prefigurative organizing practices and alternative infrastructures might pave the way for finally moving away from “the present anthropocentric trajectory” (Appel, Anand, and Gupta 2018, 30) with its capitalist grip on infrastructures.

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Introduction

Philipp Degens, Iris Hilbrich & Sarah Lenz

Analyzing Infrastructures in the Anthropocene.

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Contributions

Sheila Jasanoff

Spaceship or Stewardship: Imaginaries of Sustainability in the Information Age.

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Dominic Boyer

Infrastructural Futures in the Ecological Emergency: Gray, Green, and Revolutionary.

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