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Urban experimentation as a politics of niches

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Abstract

Experimentation has become an increasingly dominant and celebrated practice in urban governance. Used by planners and policy-makers seeking to manage and organize a positive transition to a 'better' world, experiments are generally seen as desirable and even necessary to achieve this goal. The quintessentially political nature of this approach to urban change, however, remains insufficiently addressed in planning and policy literature. This paper argues that experimental agency entails a set of political biases and normative assumptions that deserve to be problematized. Critically building on the analytical insights of evolutionary theory, we develop a critique of experimental action, arguing that experiments express a 'politics of niches' which occur across three processes: the creation, selection and retention of emergent practices within established institutional orders. Using empirical evidence from contemporary practices in Amsterdam, we sketch four trajectories of niches: death, marginalization, assimilation and transformation. We conclude by reflecting on the political implications of experimentation for urban theory and practice.

Keywords

Experiments, niches, institutions, politics, planning

Introduction

Experiments have become widely popular for the organization of urban governance in cities (Evans et al., 2016). They have found fertile ground among politicians and urban practitioners seeking new ways to address the social, environmental and economic problems of their cities, while testing new technologies and processes (Hodson and Marvin, 2010).

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By means of experiments, city governments often celebrate the innovative potential that start-ups, local associations and new technologies could have in addressing issues of housing affordability, sustainable mobility, energy use reduction, waste processing and urban agriculture, to name a few (Broto and Bulkeley, 2013; Kisby, 2010; Savini, 2017). Nonetheless, despite the general optimism for 'testing' solutions 'on the ground', there is little critical reflection on the political logics that drive experimental action today and the specific institutional conditions that determine the way experiments are identified and promoted or, alternatively, suppressed (Caprotti and Cowley, 2016). Experiments are inherently political because they aim to disrupt and transform a particular institutional order (Avelino et al., 2016; Hoffman, 2013). Yet, there remains little research that explicitly engages and conceptualizes the variegated types of politics underlying experiments being carried out in cities. As a consequence, urban experiments tend to be considered always positive and desirable, or reductively approached by policy-makers as a problem of effective management for socio-technical innovation. We lack a critical reflection on the underlying politics of experimentation in contemporary urban governance.

In this paper we first develop and illustrate a conceptual framework that can help problematize the relationship between experimentation and systemic change in urban policy-making and planning; second, we explore the multiform political processes that underlie this relationship. In order to achieve this goal, we make choices that contest existing understandings in the mainstream literature on urban experimentation. Building on a relational ontology, we start from the observation that potentially disruptive social practices emerge *everywhere* and at *every moment* in cities, but that only some gain the ability to change contexts. This process is quintessentially political, as institutions, which we see as constituted of both regulations and concrete physical structures, enable practices that reproduce particular social relations of power and hamper practices that instead have the potential of disrupting them. In order to disentangle this dynamic, we adopt a conceptual framework centred on the evolutionary notions of variation, selection and retention of emerging social practices (Hodgson and Knudsen, 2010; Lewis and Steinmo, 2012). We bring politics into the framework by asking: (a) 'What, who and how varies?'; (b) 'what, who and how selects?'; and (c) 'what, who and how retains?'. Within this evolutionary framework, we conceptualize the emergence of new social practices in cities as a process of 'niche construction' (Odling-Smee et al., 2003), a process in which social practices collide with the institutional environment (regulations, physical structures) conductive to their further development. We argue that, with such a perspective, it is possible to conceptualize experimentation as the political acts of *defining* and *creating* niches, by influencing both the social norms and physical spaces in which new social practices (can) emerge and thrive. We define four ideal-typical possible paths for niches: 'death', 'marginalization', 'assimilation' and 'transformation'. Niches can in fact disappear, become marginalized, be assimilated in the dominant order without significantly changing it, or ignite a transformation of existent institutions. Set in the city of Amsterdam, we illustrate with concrete examples four possible trajectories that niches can take, sketching their paths and the politics behind them.

The city of Amsterdam is actively employing experimentation as a trigger for socio-technical and economic innovation. In the last 10 years, and building on a longer-term tradition of proactive governments in planning, the local government has initiated and promoted several urban laboratories and test-beds in all kinds of sectors, from the circular reuse of materials to smart mobility services. This process has been set up in collaboration with several local cultural and economic institutions, a lively and growing network of start-ups in the creative sector and corporate actors that are explicitly repositioning themselves in the field of smart urban technologies. Drawing on this context, we conclude with a plea for

both policy-making and researchers to pay explicit attention to the variety of political drivers that lead urban experiments in cities.

The evolutionary logics of urban experimentation

The use of evolutionary perspectives to understand social dynamics has been the target of fierce critique in the social sciences because it has offered a framework that supported liberal views on economic entrepreneurialism and the maintenance of capitalism (Alvedalen and Boschma, 2017). It has also been accused as overlooking social power relations (MacKinnon et al., 2009). However, despite these critiques, its analytical qualities offer useful entry points for a reflection on the political processes of urban experimentation. The evolutionary perspective sketches possible lines of conflicts and power asymmetries between emergent practices and consolidated regulatory and physical environments, which are pervaded by particular relations of power. Acknowledging both the critique and the analytical qualities means to reject the idea of a natural law, using instead evolution as a 'metatheoretical framework' that orients research towards the processes of variation, selection and retention between emerging social practices and their regulatory and physical environment (Hodgson and Knudsen, 2010; Lewis and Steinmo, 2012). It does not see the regulatory and physical environment as exogenous to social practices, but also as their product. Their reciprocal relation is 'co-evolutionary', where particular actions always reproduce or contest particular conditions, which in turn co-determine the future range of possibilities of new actions (Bertolini, 2018; Moroni, 2010; Ostrom, 2000).

Social practices can both reinforce the status quo or alter it, through so-called processes of 'niche construction' (Odling-Smee et al., 2003). Niches can be defined as institutional spaces or episodes wherein social practices generate opportunities for disruption in their regulatory and physical context. As such, they exist in a permanent tension within a particular socio-economic order, or what in the transition literature is defined as a 'regime' (Geels, 2010; Grin, 2008). From this position of tension, niches may instigate change of the institutional order, albeit in a non-linear, largely unpredictable and uncontrollable fashion.

Variation, selection and retention are the three foundational processes of evolutionary change. Accordingly, relations of power can be identified as processes of (a) variation, (b) selection and (c) retention *of social practices* (Breslin, 2010; Hodgson, 2005). A critical view on this process should then pose the following questions: (a) 'what, who and how varies?'; (b) 'what, who and how selects?'; and (c) 'what, who and how retains?'. According to this analytical perspective, 'what' refers to the systemic dimension of the three processes, 'who' to the social actors enacting and performing them, and 'how' to the actual processes occurring in social and physical space. While analytically distinct, these three dimensions are, however, ontologically interdependent: systems condition actors, actors enact and perform systems, and both only exist as a practised dynamics. Yet, this analytical distinction allows us to define experimentation as political acts of governing processes of variations, selections and retention of niches. These acts result from institutionalized power structures that condition the way actors define their roles and resources around emerging niches. We herewith problematize these three processes in the following way:

(a) **'What, who and how varies?'** In urban processes variation occurs as the result of a multiplicity of spatialized collective and individual practices. The understanding that cities are complex phenomena, which are irreducible to definite subjects, but constituted of ever-changing relations is today a widely agreed assumption of relational geography and planning (Graham and Healey, 1999; Healey, 2007; Murdoch, 2005). This perspective suggests that the subject of variation in urban processes is the nexus of everyday practices of

inhabitants in their large variety of spatial expressions and representations. These include dwelling, moving, caring, working, consuming or spending leisure time, in addition to the collective practices of urban organizations, such as producing and delivering goods and services. These individual and collective practices are essential to the reproduction and change of established urban regulatory and physical patterns. New practices emerge because a particular institutional order is neither stable nor solid, but is instead constituted by multiple layers of norms that can continuously contradict and conflict with each other (Giddens, 2013). Relational networks of actors emerge at the regulatory and physical interstices of cities, where, for example, legal requirements may be less clear, spatial usages are less strictly determined or where formal democratic processes of representation are less present. In sum, urbanization is an emergent phenomenon, triggered from the dynamic and messy interaction between global economies, local formal institutions, social norms and existent discourses. The subjects of variation in a relational understanding of cities are thus dispersed and emergent. Collective and individual practices might appear with or without an initial predefined goal or purpose. Some social practices might contest or reinforce a certain institutional order, while others might not and yet, eventually turn into agents of systemic change. The idea that cities are heterogeneous and perpetually dynamic constellations of social practices allows us to outline the first point of our critique to existent works on experimental urbanism: potentially disruptive social practices are emerging *every-where* and at *every moment* in the city, but only some turn into agents that can transform existing contexts.

(b) 'What, who and how selects?' Given point (a), the logic behind the selection of practices becomes a key question in the analysis of niche construction. In his strategic-relational approach, Jessop (2001) points out that institutions constitute relations of power that allow particular actors to strategically select, in time and space, certain practices to nurture and exist, and exclude others. In urban policy and planning, these institutions are every-where, visible in the form of land use regulations, boundaries of spatial development or maintenance (Savini et al., 2014), spaces of mobility or staticity (Von Schönfeld and Bertolini, 2017), or borders of private property. They might be embodied in both immaterial entities (such as a law or regulation) and material entities (such as physical artefacts). Institutions, both as concrete spatial conditions and as immaterial rules and norms, provide the principles by which selections are made in cities. They are a-personal by definition but are enacted, performed and potentially contested by actors: they are always enforceable by particular actors at particular points, yet not generated by one actor or the other intentionally (Immergut, 1998). It is by focusing on these processes that defining certain practices as 'conformist' or others as 'non-conformist' or even 'disruptive' of a particular order, both symbolically and physically, becomes possible. For example, institutions are deeply influencing the workings of the housing market, through established regulations and economic rules enabling the commercial lending, renting, buying and selling of houses, but hampering other forms of housing allocation, such as squatting. In the case of selection by means of physical artefacts, consider the enablement of 'conformist' single-household living arrangements and the hampering of 'non-conformist' collective living arrangements by the existing housing stock. This institutionalist understanding of processes of selection paves the way for our second political understanding of urban experimentation: existent institutions, constituted of both regulations and physical structures, can enable particular types of practices that reproduce particular relations of power and hamper other types of practices that instead have the potential to disrupt them.

(c) 'What, who and how retains?' Given that (a) cities are full of potentially disruptive social practices and that (b) the existent institutional order allows some to grow rather than

others, it remains to problematize why certain new practices are able to endure the existent institutional order and transmit their properties to other practices. Retention refers to the reverse process of selection, whereby social practices manage to shape (rather than being shaped by) social norms and physical structures. Here again we can distinguish between two different types of processes in the city. On the one hand, 'conformist' social practices can legitimize prevailing regulations and artefacts (that is, the institutional order). On the other hand, 'non-conformist' social practices can contest prevailing regulations and artefacts, thus bearing the seeds for alternative institutions which represent their 'deviating' characteristic, as in evolutionary processes of niche construction. Retention refers to the capacity of certain practices to contest or reproduce existent norms and spaces and, in turn, to protect new practices against processes of potentially hampering 'negative' selection. For illustration, think again of the lending, renting, selling and buying of houses according to the existing laws and norms as (re)producing existent institutions. Practices such as squatting are, by their nature, contestant towards dominant institutions, which pose a continuous threat to their retention. However, sometimes they might be able to force dominant institutions to adapt and stabilize into a new order, and thus retain these and similar practices. This process involves changes in both the regulations that respond to these practice and in the physical fabric of the city, such as new combinations of land uses in support of hybrid live/work spaces of cooperative housing (Chatterton, 2016). Looking at retention mechanisms provides us with the last entry point for a political view on urban experimentation: if emerging social practices are of different kinds, with some being reproductive of the existent institutional order and others being non-conformist and disruptive, it is then important to problematize the conditions under which the latter are able to have an impact on the existent institutional order. This means focusing on the conditions under which social practices build the capacity to structure into niches, synergize with other niches to affect existent institutions and possibly lead to new institutions.

Figure 1 summarizes the interlinkage of these three processes, highlighting what we define as the processes of institutional stability and change. Stability does not mean staticity. As stated above, cities are dynamic entities, existing in processes of strengthening, contesting, producing and reproducing existent regulations and physical space (Murdoch, 2005). This process entails both the sustaining of particular conformist practices *as well as* the hampering or outright destruction of those practices defined as non-conformist or disruptive, carried out through the selection pressure of prevailing regulations and physical constraints. Change can conversely be understood as the process of destabilization of existent regulations or physical urban spaces, and as an attempt to construct alternative niches. This process thus occurs both through the formation, maintenance and enlargement of non-conformist practices as well as through the de-legitimation of existent social norms and physical spaces. It is important to note that the processes of stability and change occur continuously, since cities are places of perpetual conflicts and tensions (our point (a) above). Social practices are socio-physical and the expression of broad socio-economic processes. This characterization of institutional stability and change provides us with the foundations for characterizing the political dimension of urban experimentation, which we elaborate upon in the next section.

The political dimension of urban experimentation

The processes described in the above framework are never neutral, natural or automatic. Each of these processes is 'intrinsically political' in that they 'may appear as strategic attempts to reconfigure power in an uncertain context by dominant socio-economic and
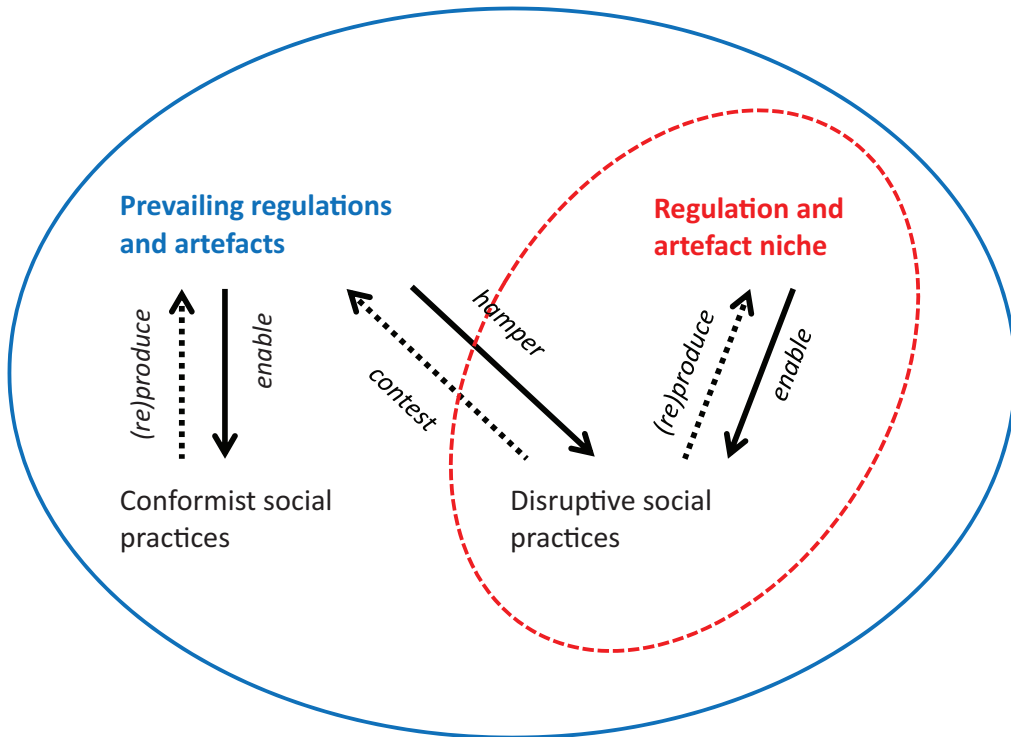
Figure 1. Dynamics of institutional stability and change in the socio-spatial domain. The large oval represents the prevailing regulation and artefacts, the small oval a regulation and artefact niche. Source: adapted from Bertolini (2018).

political actors' (Bulkeley et al., 2015: 50). Within this framework we propose to define experimentation as the act of *defining* and *creating* niches, by influencing both the social norms and physical spaces of selection and retention of social practices. A niche becomes 'experiment' when an emergent social practice is identified as a possibility of institutional change by actors that, in turn, organize a process of experimentation to govern its legacy. We acknowledge that we depart here from more commonly adopted definitions of experimentation. However, this is for us an essential step. Understanding the root of experimentation as the definition and creation of niches, geared towards the selection and retention of emergent practices, allows emancipating the notion of experiment from a techno-managerial paradigm to experimentation (Savini, 2018): it permits us to consider that experiments can either promote practices that reproduce and reinforce existent institutions or nurture possible practices that can destabilize and instigate radical change (Evans et al., 2016). The political logics that determine those actions of protecting or suppressing particular niches – what we call 'politics of niches' – is still one of the less investigated aspects of institutional change in the literature concerned with socio-technical innovation (Smith and Raven, 2012: 1030). From our evolutionary perspective, it becomes clear that niches can take different paths and have multiple relations with their institutional environments. Actors in power could certainly choose to nurture niches and make them grow or address the institutional barriers that prevent niches from thriving (Smith and Raven, 2012). Yet, as our framework and the discussion below shows, there is a more diverse scope for experimental action that can reflect multiple political logics.

There are three political acts that constitute an experimental process, therefore leading to different paths of experimentation.[1] The first is the *definition* or *creation* of a niche as such, which occurs as the identification of a practice that is set in distinction to or against a specific order. The political act of recognizing a particular space or social practice as a niche is a necessary precondition for any action that intends to nurture or suppress those spaces or practices. The way actors recognize niches is fundamental to determining the legacy of the niche in the future. A particular space or practice in cities can be recognized as an 'issue', a 'problem' or, more generally, a 'matter of concern' (Latour, 2007: 815). This recognition is, however, not automatic, and potential niches are often ignored by actors in power that (more or less) deliberately deny or suffocate the innovative potential of the niche.

The second political act of experimentation lies in the establishing of the *direction* of change of that particular niche. The very act of recognizing a niche as a possible seed of institutional change implies an understanding about the direction of change. In identifying a direction of change, actors formulate ideas about the change and the particular potential of a niche (Karvonen and van Heur, 2014). In conducting experimentation and in enabling particular niches to grow, actors mobilize assumption and normative ideas on whether a particular niche should 'conform' to a particular order or rather 'transform' it (Smith and Raven, 2012). In so doing, they also establish a vision of the 'direction' in which a niche should head. To understand the legacy of niches, it is therefore crucial to uncover who chooses one particular trajectory over another, through which resources these choices are carried out, and which particular imaginaries of the future these choices build upon. As we show below, some niches are considered to be conforming and reinforcing a particular state of things, while others may be explicitly recognized by actors as transformative. The possibility to determine the transformative or conservative relation between a niche and a particular institutional order allows us to have a more diversified understanding of experiments and allows problematizing different pathways to experimentation. Some experiments may be explicitly directed to manage the development of a niche towards a defined goal – perhaps assimilation to a dominant order – while others may instead be geared to let the niche grow so as to disrupt particular institutional conditions in place. The political act of establishing the possible path of a niche will determine how the process of experimentation will be set in motion and the resources that will be mobilized.

The third political act of any experimental process lies finally in the choices made for the mobilization (or, on the contrary, *laissez-fair*) of particular *resources* to condition the evolution of the particular niche. This is the moment in which the complex 'machinery' (Latour, 2007: 816) of government, private actors, university institutions and civic organizations attempt to coordinate and regulate the niche, or conversely decide to not do so. This latter aspect of experimentation has been widely researched in the literature, which has treated experiments as the organized act of 'managing' or 'nurturing' a niche (Smith and Raven, 2012). These views, however, overlook the fact that actors in power may instead chose to ignore and marginalize a particular niche, by means of inaction, or instead act upon a niche to control it, or keep it alive without making it grow. They could also deliberately organize resources to suppress that niche. This latter possibility helps to problematize the established understanding that experiments are always good or always transformative, and urges scholars to appreciate the broad spectrum of possible actions towards niches, including both those that *open and close possibilities* of urban change (Dikeç, 2016).

When applied to the making of urban experiments, this conceptualization opens several possibilities to question the way experiments are carried out in cities and to identify several possible trajectories of experimentation. Moreover, it allows rethinking experimentation

from a problem of management or technological innovation, to one of political recognition of social innovation. The first understanding leads to question the way to nurture or even create a niche for a particular predefined goal. The second instead leads to questioning the conditions (who, what and why) that determine which niches are recognized and which are not, which ones are nurtured or which ones are instead left to die. If experimental action is intended to organize this tension by providing particular regulatory and physical conditions to the actors involved in it, then the political judgements behind this organization need to be made explicit. By disentangling these politics we might be able to critically uncover the disruptive value of experiments, or alternatively to identify other experiments as co-opted, 'fake', mere expression of a populistic discourse that is inherently conservative (Swyngedouw, 2009). Conversely, we might be able to see how the *not* framing of emergent practices as experimental might effectively neutralize a potential change, whether deliberately or not.

The trajectories of niches

In order to articulate and illustrate the conceptualization above, in this section we identify and illustrate four different trajectories of niches in the context of urban development, policy and planning: death, marginalization, assimilation and transformation. These four trajectories are ideal-typical. In practice there will be many more nuances, hybrids and shifts from one trajectory to another. The function they have here is to show that fundamentally different trajectories are possible and that policy and planning might have a role in influencing which one is taken. We see this awareness as a precondition of a much-needed political deliberation when making choices about urban experimentation. With some illustrative examples from Amsterdam, we attempt to show that urban experiments are constructed based on different political interpretations of what niches are and of their transformative potential. We contend that a niche's path towards systemic change also depends on whether or not policy-makers and planners recognize them as niches and, if so, which type they are seen as. The specific approach used by policy-makers and planners to address these niches co-determines whether the transformative potential of emergent practices is retained and promoted or, instead, is neutralized or co-opted. Table 1 summarizes the four trajectories by means of the related evolutionary path, the relationship between niche and institutional order and the policy and planning approach.

It is important to underline here that both our characterization and examples deliberately intend to broaden the scope of what is usually considered as experimentation by many scholars. The literature mostly focuses on the trajectory that we label here as 'assimilation', or to a much lesser extent, 'transformation'. We aim to show instead how there might be a disruptive potential in practices that are *not* recognized as experimental, and how practices that are recognized as experimental might, conversely, *not* be as disruptive as claimed to be. We are aware that the examples we use can be considered, at best, sketches. Still, we believe that they usefully illustrate and better articulate the conceptual argument of this paper.

Death: Occupy

Emerging socio-spatial practices continuously attempt to generate and conserve an institutional niche needed in order to thrive or survive. They may, however, fail to do so and disappear – yet this never occurs by accident. Some of the reasons might be internal. The emerging practices might not show an ability to stabilize, because of, for instance, a lack of functional connections to related practices taking place elsewhere. Such internal processes,

Table 1. Summary and characterization of the four ideal-typical trajectories of niches as experiments.

Trajectory of the niche (characterization as experiment)	Evolutionary path of the niche	Niche-institutional order relation	Policy and planning approach towards the niche
Death (non-experiment)	Disappearance of the niche	Suppression of the niche	Denial or ignorance Active counteracting or stigmatization
Marginalization (permanent experiment)	Retention of practices without replication	Permanent tension Isolation of the niche	Exceptional ruling Trans-legality Discrimination
Assimilation (instrumental experiment)	Retention and replication of practices without transformation	Niche justifies and validates regime Co-optation and active manipulation of the niche	Active promotion of selected experiments Active design of laboratories Promotion of transfer
Transformation (radical experiment)	Retention of practices with transformation	Regime change	Advocacy Activism

however, never happen in a political vacuum; deliberate interventions will always have a role in establishing conditions of survival. There are basically two ways in which policy and planning may play a role in the death of a niche. The first is by simply denying its existence and effectively 'letting it die'. Often this is enough to make any retention of new practices impossible. A non-conformist and potentially disruptive niche can, however, be actively suppressed, most notably by activating or even reinforcing the selection pressures of dominant norms, regulations and spaces, as with rigorous law enforcement concerning the permitted use of space. Often, all these processes act in combination. The death of a niche means that the emerging niche, made of a set of practices, regulations and spaces, will not enlarge in systemic change. Yet, in many cases, the niche will survive in the memory of some individuals, and eventually may serve as inspiration for the development of new niches. However, for the time being, the disappearance of the niche means the stifling of its transformational potential. In providing an example of a death of a niche we wish to reverse the idea that experiments are always forward-looking or positively integrated in a new system. The challenge with identifying the death of niches is that a 'dead niche' is by definition non-existent, and the practices, social norms and physical spaces that emerged have been suppressed or lost in history. An evolutionary framework allows for the interpretation and analysis of experiments from a systemic and therefore historical perspective. It allows for the explanation of a particular present state as the consequence of events or counter-events in history. When analysing dead niches, it is therefore useful to look at those social practices that had large disruptive potentials for a particular institutional order, but were deliberately suppressed and never recognized as experimental by dominant institutions.

'Occupy Amsterdam', with its spatial and social expressions, offers an example of a practice that explicitly intended to offer an opportunity to disrupt established institutions and succeeded for a brief period before dying (for a more extensive study see Uitermark and Nicholls, 2012). As such, it illustrates the dynamics of denial and suppression that lead to what can be defined as a 'failed experiment', a niche that *could have become* an experiment because of its disruptive potential towards an institutional order. Following the spark of the 'Occupy Wall Street' movement, the 'Beursplein' in front of the Amsterdam Stock Exchange was occupied on 15 October 2011. As elsewhere, the occupants advocated for the rights of

the poor against the rich, who were seen as taking *de facto* hold of the world, country and local politics. The occupation thus addressed broad, societal issues. It also, however, featured a strong urban dimension; urban public space was transformed into an arena of permanent and radical contestation of the dominant political economic regime and a place to discuss potential alternatives. The occupation of public space was also a way to concretely experiment with alternative ways of living and socializing in the city, as in similar movements elsewhere (Bertolini, 2015). Instead of a place focused on state and market regulated commercial and circulation purposes, public space was temporarily reclaimed as a place of political debate, multicultural expression, gratuitous leisure and consumption, all the while relying on self-regulation for its management.

Occupy Amsterdam represented an attempt to redefine the social and political institutions of the city, as well as a reconfiguration of the potential use of public space in the city. Yet, it is striking to see how the climate surrounding the experiment dramatically and rapidly shifted from one of enthusiasm and tolerance to one of disillusion and repression. At the beginning of the occupation there was newfound activist energy, support by the population and positive coverage by the media. The local authorities tolerated and even facilitated the occupation with non-violent policing and the installation of chemical toilets. With time, however, the internal balance shifted and divisions grew among the activists. Public opinion became indifferent if not irritated by the long-lasting occupation of the square and the apparent disservices that it may have created. Moreover, established media began to paint a bleak image of the movement. Local authorities shifted their facilitative role to one of repression. On 8 December 2011 the police finally forced the removal of the tents and arrested several of the occupants. Since then, the movement has virtually vanished. Today there is no remaining sign of this episodic emergence of a radically innovative social practice in Amsterdam's public space.

Explanations for the dramatic shift from being one of the largest Occupy encampments in the world to an effective disappearance have been related to both internal and external factors (Uitermark and Nicholls, 2012). Internal factors include the inability of the movement to productively connect to other social movements and activist milieus in the city, such as the squatter movement (discussed in the next section). Externally, policy and planning played a large role. The shift from tolerance and, at times, support, to containment and active suppression affected this outcome. This example shows how a disruptive niche that claimed to set new ways to regulate the Amsterdam (and global) economy and urban space (by both its proponents and the municipality at its initial stage) was not seen as an experiment to be nurtured or extended to other parts of the city. It was, instead, repressed by means of violence, policing and negative and indifferent media exposure to the public.

Marginalization: squatting

The marginalization of niches occurs when potentially transformative niches coexist with institutionalized orders within specific urban spaces. This condition does not involve the disappearance of the niche in time, but rather the niche remains in permanent tension with the institutional order. While it is retained, there is no replication in space and no structuration of its transformative elements into new regulations. It instead exists in a permanent temporariness. This condition is far from being peaceful, stable or non-conflicting. The transformative potential of a niche is thus recognized, yet isolated or diverted, in order to maintain the difference between the niche and the regime.

Marginalization processes can have different features, yet they present distinctive characteristics that distinguish them from processes of niche suppression or assimilation

(discussed below). Marginalization does recognize the transformative, disruptive value of niches but only occurs through a double narrative that simultaneously affirms but denies, valorizes but discredits, recognizes but inherently ridicules the niche as an 'ineffective' transformative practice. Narratives of marginalization by established powers often refer to niches as 'good but unrealistic', 'creative but utopian', 'positive but unrealizable' in concrete contexts. Niches are marginalized when they are made specific, unique, one-time events, unable to generate transformative processes that may influence other contexts and practices. The institutional approach to marginalized niches is consequently that of regulatory and spatial discrimination, perpetuated through practices of exceptional ruling and physical insulation that maintain the (insulated) life of a niche. This process takes place through a de-politicization of the transformative potential of the niche, where political debate is substituted by a managerial approach to experimentation: specific offices, institutions and legal frameworks are created to organize this managerial process. These practices are often defined as instances of conflict management rather that experimental interventions.

The evolution of squatting in Amsterdam, which eventually resulted in a progressive marginalization and de-politicization of the movement, is a prime example of a permanently tense relation between niche and dominant institutions.

Squatting began in the 1960s, during the extensive redevelopment of housing in the city. In the early 1970s, political movements such as the Provos proposed a different approach, based on highly affordable and occupied housing. The beginnings of the movement already witnessed the pressure of established powers, which aimed at reducing squatting through isolation. The rapid and often violent rise of the squatting movement in Amsterdam triggered a series of attempts by left-wing national governments to decriminalize without legalizing the practice through regulatory frameworks that tolerated certain conditions. They included long-term vacancy of a dwelling and a whole series of procedures for accessing and inhabiting buildings. Since then the relations between squatting practices and regulatory frameworks have been characterized by a stable condition of conflict. Squatting has been regulated by specific laws and, as in many other European countries, it necessitated 'light or permissive' rules (Martinez López, 2013) rather than clear-cut legal–illegal boundaries. In fact, the practice became regulated on a case-by-case basis under civic law. This approach kept squatting practices alive, while at the same time freeing up space for urban redevelopment and gentrification in other parts of the city. Squatting became a 'parallel economy'.[2] The first anti-squatting law was promulgated in 1993 (*Huisvestingwet*), at the time of a powerful urban growth coalition in the Netherlands that judged squatting as problematic in light of urban renewal. Between 2004 and 2010, the anti-squat political coalitions built up passive consensus within major Dutch cities and eventually established the contemporary Squat Act (Kraakwet) in 2010.

While the current law criminalizes squatting, building on narratives that stigmatize the movement in light of rapid gentrification and a rising housing market in the city, squatting is not dead. It is instead aggressively marginalized by penal law, which equips the government with the legitimacy to enforce evictions. Even after hundreds of evictions in the city, squatting still takes place. Squatters portray themselves as creative groups for innovation, where new lifestyles, political ideas and social relations can be nurtured. Yet they continue to exist within a regulatory framework that permanently threatens them (VanHoose and Savini, 2017). Today, squatting exists as a trans-legal political activism, where each case is argued in the court of law. In many cases, squatters have found other ways to exist, by defining specific and peculiar definitions of ownership, by organizing alternative frameworks of co-housing (e.g. *Sowieto*, *Nieuwland*) or by constituting themselves as nomad organizations that move from one place to another (from eviction to eviction).

The institutional marginalization of these insurgent practices has deeply changed the character of squatting. In fact, squatters in Amsterdam have been progressively diversifying, with some groups being turned into third-sector cultural service providers and others remaining at the margins of the local political spectrum as radical, self-organizing political groups. As Uitermark argues, 'it is possible for some segments of urban movements to retain their subversive identity, to stay outside the state and to nevertheless become part of urban development strategies' (Uitermark, 2004: 689). Yet, this enduring relationship between squatters, the state and market institutions is, in our view, not always co-optative or assimilative. The 'breeding place' policy of Amsterdam oriented to the temporary reuse of vacant buildings for creative industries and artistic purposes certainly shows a process of co-optation. However, other squatting practices have retained their radical character in permanent (legal and political) tension with established institutions. The difference between marginalization and assimilation lies therefore in the political intention: the first is a passive managerial politics of conflict maintenance, the second, as we show below, is an active practice of nurturing niches and the legitimization of an existing institutional order.

Assimilation: 'smart' urbanism

Assimilation occurs when emerging practices are defined as experimental by established institutions, but their transformative potential is co-opted by existent networks of actors aiming to legitimize an established institutional order. A particular initiative in the city is identified by a set of powerful actors as something 'new' or 'embryonic' and to be experimented with. Actors define these initiatives as experimental for several reasons: new technologies are used, different types of actors are involved or different kinds of urban form are produced. Given this first point of variation, the selective biases of existent institutional order comes into play, providing boundaries that eventually resize, adapt and mutate practices in their intentions and working mechanisms. In the particular case of assimilation, a niche is first recognized as transformative and innovative by its environment, but contrary to marginalization or death, the environment acts upon the niche to disempower its political value. This process is not at all passive, but entails an active capacity of institutions to retain the innovative aspects of the niche and to transform it, reducing its potentially transformative aspects by 'capturing' it (Gaede and Meadowcroft, 2015). This process occurs through a large use of justificatory narratives of experimentalism, the deployment of tools of stimulation for particular types of niches and a general tendency to celebrate experiments. The peculiarity of assimilation is in the paradoxical relation between the emerging practices and the institutional order: the institutional order selects and retains particular practices as 'transformative', and in doing so actively 'upscales' the niche and at the same time understates its deeper potential for change. Assimilated niches are those that, while being initially recognized as potentially transformative, are conditioned to empty their transformative potential in order to survive.

Niches oriented to 'smart' urbanism serve as a good representation of this process. In this particular field of practices, innovative niches are both defined as innovative as well as found within institutional contexts that are strongly pinned over powerful economic interests (Söderström et al., 2014). Amsterdam is no exception. Selected as the most innovative city of Europe in 2016, Amsterdam is presented by city officials as a living laboratory for experimentation,[3] where niches are created and radical change is prototyped. Yet, looking at the brief and intense history of the Amsterdam Smart City network, it becomes clear that the network of niches in the city was promoted by a coalition of actors in key positions of power witnessing little change in the existing regulatory and physical frameworks of the city.

The platform *Amsterdam Smart City*, founded in 2007, works today as an interface between different processes. It aims at connecting different innovative practices and creating synergy to generate scaling up and institutional innovation. The history of this platform goes back to the mid-1990s, when a large network of corporate actors gathered together to discuss and address the transition of the Amsterdam municipality to a new knowledge economy. The *Kenniskring* of Amsterdam (*Stichting Kenniskring Amsterdam*), funded in 1994, included a number of institutional members and founders from the Ministry of Finance, a Shell research and technology officer, the director of the business division of ING bank, representatives from Tata Consulting, energy provision companies and many others of a similar league.[4] In 2006, this network founded a spin-off think-tank, the Amsterdam Innovation Motor (AIM), which aimed to capitalize on several ongoing investments in the city, already initiated in the years of Amsterdam's economic growth from the 1990s. The AIM represented a smaller organized unit, which included an ICT project manager (today the chief technology officer of the city of Amsterdam). AIM took the initiative to fund the Amsterdam Smart City platform, which built on the rising principles of the 'internet of things' to create a synergy between two ongoing investments in the city – the redevelopment of the optic fibre internet infrastructure by KPN (a major telecommunications company) and the renewal of the energy grid by Liander (the primary energy provider in the city). The Amsterdam Smart City platform was in fact created to connect the interventions of energy and internet providers in the city.[5]

Since its foundation, the Amsterdam Smart City platform has been used as an institutional container to connect a broad array of projects of very different natures. In 2011, the platform contained only 16 projects (smart grids, smart biking, fibre-power and parking), while today it is home to about 90 projects and more than 100 partners. Today the platform is a showcase for different practices and serves as a space where niches can be connected, brokered and synergized with others. Many of these niches are truly radical, developing social relations of reciprocity, sharing and reorganizing the material flows of the city or promoting slow mobility against car use. However, the transformative potential of these niches appears to be dissolving within the imagination of a growing smart city, being framed within a government–corporate project of Amsterdam's urban development. The local government has valorized this initiative, but within its own concept of a smart city that includes innovative experiments in health, circular economy and smart mobility and tourism. This role was institutionalized into the *Chief Technology Office*, chaired by the chief technology officer (previously a member of the AIM). The office, composed of 20 people, works under the direct oversight of the mayor of Amsterdam, and has responsibility for mobilizing innovative ideas and connecting them with policy. Today, it organizes all kinds of activities, such as the Start-up in Residence programme (for new companies) and coordinates major infrastructural investments on traffic policy, urban security, crowd management and the sharing economy within the city. Despite the large variety of presented experiments within the frame of the smart city, these practices appear to have only a slight transformational impact on the regulatory and physical spaces that produced them.

Transformation: cycling

Niches may also be able to transform existing regulatory and physical environments. In some cases, the niche ceases to be a niche, transforming into a new established order, with new actors, regulations and urban spaces being produced and old ones being dismissed. In other cases the niche might stay a niche, but then continuously and effectively challenge the existent order, remaining in permanent – both critical and constructive – tension with it.

This tension is constitutive of the political value of a transformative experiment. It distinguishes transformative experiments from marginalized ones: the former produce a productive political tension with institutional orders, which therefore adapt and change, while the latter are insulated and silenced. As with the other trajectories discussed above, internal dynamics may explain such development, such as the strong ability of a niche to functionally connect an even greater diversity of related social practices. Policy and planning might, however, play a decisive role. Established institutions and coalitions of actors might initially ignore the emerging niche or try to suppress, marginalize or assimilate it (as discussed above). They will, however, eventually be forced (by public opinion, judiciary action and many other instruments) to question and transform themselves, leading to the radical adaptation of dominant regulations and physical spaces.

An example of such a transformative niche in Amsterdam is cycling. Prior to the Second World War, cycling was widely practised in Amsterdam. After the war, the use of bicycles dramatically declined as motorization and suburbanization increased. In the 1950s and 1960s many expected cycling to disappear. Midway through the 1970s, however, the declining trend was inverted and interest in cycling began to rise. The increase in bike use has continued since, making it today the primary means of transportation in many areas of the city, particularly in the historical centre. Through all of these developments, policy and planning remained reactive rather than proactive: while Amsterdam is often seen as the cycling capital of the world, this occurred largely 'by chance' (Oldenziel and de la Bruhèze, 2016). Before the war, policy and planning were forced to accept the popularity of cycling, even though primary efforts and ambitions were focused on developing public transport. After the war the main goal of proactive policy and planning became that of accommodating the car in the urban fabric. Policy and planning started to explicitly facilitate cycling only in the 1970s, yet this change in direction was a result of external pressures, such as the popular resistance to wholesale urban renewal, often led by planning activists and advocates (Bertolini, 2007; De Boer and Caprotti, 2017). These activists and advocates not only contested the dominant regulatory and physical order, but also actively experimented with alternatives, like illegally painting bike lanes, or pushing local authorities to consult with cyclists when making municipal transport plans.

After the 1970s, policy and planning in Amsterdam became much more cycling-friendly, as now visualized by the ubiquitous dedicated lanes and traffic signals. However, according to critical observers, there is still no evidence of a policy that actively *promotes* cycling (Oldenziel and de la Bruhèze, 2016), as there is, for instance, for public transport in the urban core and regional corridors, or for the car in the wider metropolitan area. In this sense, and in spite of its strong presence in the city, cycling can still be seen as a niche, however large and strong, rather than a new order, and many of the current policies for cycling facilities remain experimental. After all, Amsterdam is part of a global and national context in which the car remains king (Jeekel, 2013; Urry, 2004). The global dominance of the automobile can also be felt in Amsterdam, for instance in the local impacts of Dutch national policy that promotes massive investment in the regional motorway network and refrains from implementing financial or fiscal measures for restraining car traffic. Together, such national plans and polices result in the continuous growth of car traffic in and around the city, stimulating car ownership and use. As of yet there is no evidence of national policy and planning seriously challenging the strong grip of the car on Dutch society as a whole, or its entanglement with the economy, culture and everyday living and working arrangements. The national economy is still heavily dependent on car-centric sectors such as the petrochemical industry and road-based logistics. For many in the Netherlands, the car is still a status symbol and icon of individual freedom. In many everyday contexts, including in

Amsterdam, full participation in society still requires the availability of fast, individual, motorized transportation. For all of these reasons, we contend that cycling is still a niche, with many current planning and policy interventions having the feature of experiments. Yet, by incessantly tackling the institutional regulatory and physical barriers that attempt to hinder its future, the cycling niche keeps holding the promise of transformative capacity in the city.

Conclusions

In this paper, we have proposed a way to more directly relate urban experimentation to the evolutionary and political dynamics of institutional stability and change. Urban scholars and practitioners increasingly celebrate the value of experiments in addressing the fundamental social and environmental problematics of today's cities. Public governments, urban activists, businesses and households are being directly engaged in the search for alternative technologies and social practices by means of experimentation. This paper contends that the notion of experimentation needs to be emancipated from a managerial understanding of social innovation which sees experiments as 'good' and 'desirable', as something that can be crafted to achieve predefined goals. We question instead the politics through which experiments are defined, framed and constituted.

An analytical-evolutionary perspective sheds light on the selective processes that pervade experiments, and reveals the underlying political assumptions on socio-spatial change that drive experiments. There are three main mechanisms through which political choices are constructed. First, experiments are constituted by an active recognition (or denial) of the ability of emergent practices to disrupt established regulatory and spatial conditions. The very naming of a practice as 'experimental' entails a political judgement about its transformative potential. Cities are full of emerging socio-spatial practices that turn into niches – generative spaces for new practices and institutions – yet only a few gain the status of 'experiments'. This process of recognition should not be underestimated, as it is the necessary condition to make choices over nurturing, promoting or denying a particular social practice. Second, understanding the tension that exists between niches and a constituted institutional order entails political judgement concerning the power asymmetries that impact the construction of the future, or the trajectory of niches. The very essence of experimental action is to first make evident the tension between a dominant regulatory/physical environment and a social process that collides with it and possibly may change it. Without recognizing and problematizing the tension between an established and an emerging order, it is impossible for policy-makers to grasp the long-term implications of particular experiments. Third, the setting up of experiments and the adaptation of the surrounding conditions that affect these experiments entail a political judgement of what hinders or enables a particular emerging niche, allowing consequent mobilization of policies to intervene upon these niches. This latter step, as we have learned from the examples, is what allows organizational, financial and material resources to nurture innovative practices. It also allows for their suppression through the mobilization of resources to actively counter them.

The politics that characterize urban experiments affect the trajectory of socio-spatial niches. In this paper, we suggested that the relation between niches and dominant regulations and physical spaces is neither linear nor dichotomous. Niches do not simply 'die' or 'prosper'. As we argue in this paper, they can also exist in a permanent state of marginalization or assimilation, and there may be shifts between different trajectories. The way experiments interact with the institutional order is therefore more complex than what

managerial approaches to niche creation suggest. Experiments may fail, with niches dying or not being identified as such. They may reproduce and legitimize an established order, remaining isolated practices within an unchanged system. When marginalized, niches may be used to control the inherent struggle of institutional change, as an 'exception that confirms the rule'. When assimilated, they can be instrumentally used by powerful coalitions of actors to justify a particular course of action. Only in some rare cases do niches significantly affect the established order, and only in these cases is there a transformation. Transformation might come in the form of the establishment of a new order, but also of a continued, productive tension between a niche and an existent institutional order which is in constant adaptation.

Studies of urban experimentation, as we contend, should consider the politics underlying this diverse spectrum of possible pathways and outcomes more explicitly. We have offered a new framework to articulate this consideration. We urge policy-makers, spatial planning and transition scholars to rethink the meaning of urban experimentation by problematizing the political contexts in which experiments take place. This means, first and foremost, being open to redefining what an experiment actually *is*. Two aspects are paramount in this respect. First, making transparent and debatable the intended relationship between the to-be-supported niche and the dominant order: is it meant to be isolated from it, assimilated by it or transform it? Or should perhaps planning aim to effectively terminate the niche? Second, a type of planning and policy consistent with this aim should be applied, along the lines sketched in Table 1, and illustrated through the illustrative cases of squatting, smart urbanism, cycling and Occupy, respectively. These cases also suggest that 'policy' and 'planning' do not necessarily refer to a proactive or interventionist approach towards emerging social practices but, depending on the situation, can also refer to a deliberate choice to let things happen by simply protecting the regulatory and physical niches where citizens, dwellers and users can interact with each other. The current wave of urban experimentalism is certainly a call for action, setting the stage for innovation to tackle the social and environmental urgencies present in today's cities. Nonetheless, addressing the political meaning of this action, without reducing it to a mere problem of management, remains crucial in the appreciation of the diversity of social practices that emerge in cities, and the diversity of futures they might lead to.

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Notes

1. The following categorization is largely inspired by the analysis of Latour (2007).
2. https://fr.squat.net/2010/04/25/les-squats-aux-pays-bas-depuis-1945-par-jaap-draaisma-et-pat rice-riemens.
3. http://waag.org/nl/project/amsterdam-living-lab.
4. https://www.amsterdameconomicboard.com/app/uploads/2012/04/Nieuwsbrief_1_2009.pdf.
5. http://internetofeverything.cisco.com/sites/default/files/pdfs/Amsterdam_Jurisdiction_Profile__ 051214REV.pdf.

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