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The limited transformational power of adaptive governance: a study of institutionalization and materialization of adaptive governance

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ABSTRACT
Following the economic crisis in 2007–2008, many urban regeneration programmes were replaced with forms of adaptive governance (e.g. slow urbanism). This paper maps and analyses transformational effects of such adaptive governance initiatives through a case of neighbourhood restructuring. It studies whether adaptive governance *institutionalizes* – i.e. transforms the existing governance system – and whether it *materializes* in the built environment. It shows how the adaptive governance initiatives in this case failed to diffuse and endure, and, therefore, the transformational effect on both the existing governance system and the area has been limited. The reasons for this are discussed.

Introduction

The governance concept has arisen from the need to deal with highly complex societal issues, characterized by multiple actors, uncertain futures, and non-linear dynamics (e.g. Dietz, Ostrom, and Stern 2003; Duit and Galaz 2008; Koppenjan and Klijn 2004; Teisman, van Buuren, and Gerrits 2009; Gerrits 2012). Social systems may be prone to sudden radical shifts such as economic and financial crises or major political and policy changes (Gerrits 2008; Eppel 2012). As Duit and Galaz (2008) and Teisman, van Buuren, and Gerrits (2009) argue, the occurrence of unpredictable and radical changes demands flexibility from politicians and policymakers alike. This flexibility should not be limited to individual responses but should include the routines and operations of the governance system as a whole, including its institutions.

This thinking has given rise to the adaptive governance paradigm (e.g. Bovaird 2008; Dietz, Ostrom, and Stern 2003; Duit and Galaz 2008; Gerrits 2012; Meek and Marshall 2018), which has become established in the literatures on governance and public management (see Chaffin, Gosnell, and Cosens 2014; Huitema et al. 2009; Plummer, Armitage, and de Loë 2013 for literature reviews). Its practical implications have been used in resource management, ecosystem management (Folke et al. 2005), climate change (Pahl-Wostl 2007;

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Van Buuren et al. 2015), and, increasingly, other sectors such as national security policy and development aid (Brunner 2010). Its usefulness has also been acknowledged in the realm of spatial governance (e.g. Heeg, Klagge, and Ossenbrügge 2003; Doak and Karadimitriou 2007; Ruth and Coelho 2007), on which this paper focuses. Under such diverse headings as slow urbanism and organic area development, forms of adaptive governance have been experimented with in order to engage with spatial restructuring and regeneration in highly uncertain contexts characterized by dwindling public and private investment capacity, fiscal restructuring, and housing crises.

Such approaches may result in some short-term effects, but an important question concerns the extent to which such attempts actually transform the governance system and its institutions more profoundly so that the system can harness crises in a more adaptive manner (Healey 2006; Mapfumo et al. 2015; Termeer, Dewulf, and Biesbroek 2016). Experiments in governance, such as adaptive governance, may encounter significant barriers that preclude systemic, transformational change (Healey 2006). Transformational change refers to deep, structural, and enduring change to the existing governance system and its institutions (Termeer, Dewulf, and Biesbroek 2016). Although there has been some research (e.g. Plummer, Armitage, and de Loë 2013), there is not much detailed knowledge about the wider and longer-term impact of adaptive governance on existing institutions. The literature on the *transformational* capacity of adaptive governance is limited.[1] Another gap in the literature concerns the effect that adaptive governance may have on the built environment, i.e. material effects. Consequently, this paper addresses the transformational capacity of adaptive governance, with a focus on two aspects: (1) transformations in the existing governance system, which concern the institutionalization of adaptive governance, and (2) spatial transformations, which pertain to the spatial materialization of plans and proposals.

Scholars (e.g. Duit and Galaz 2008; Pierson 2000) have pointed to tensions in pursuing durable transformations of institutions through adaptive governance. With institutionalization and materialization, there is a chance of lock-in consequent to the development of solidified institutions and highly durable physical structures (Gerrits and Marks 2017). The flexibility essential to adaptive governance may be inimical to materialization and institutionalization (see Zijderveld 2000), raising the question of whether adaptive governance can actually institutionalize and materialize without losing its core features.

This paper endeavours to generate insight into the transformational power of adaptive governance, taking into account both institutionalization and materialization. The research question is as follows: **what is the transformational effect of adaptive governance on the governance system and the built environment, and what explains that effect?**

This research question is addressed through a detailed qualitative case study on the Zomerhof area in the Dutch city of Rotterdam.

Theoretical framework

Adaptive governance

In the context of swift and major changes, the effectiveness of governance depends on its capacity to respond flexibly and use reversible strategies that can be adapted to new circumstances, i.e. adaptive governance (e.g. Bovaird 2008; Teisman and Klijn 2008; Duit

and Galaz 2008; Gerrits 2011, 2012). As Van Van Buuren et al. (2015, 1) put it 'such an adaptive approach enables actors to maintain or improve the viability of a system under variable or changing conditions' (see also Fankhauser, Smith, and Tol 1999). The literature on adaptive governance emphasizes the need for flexible approaches in which actors continuously monitor their environment and optimize their response in the face of ongoing changes (Huitema et al. 2009; Olsson et al. 2006; Plummer, Armitage, and de Loë 2013). Learning is essential to the system's ability to deal with new circumstances. Consequently, experimentation and pilots are important pillars of adaptive governance (see Folke et al. 2005; Huntjens et al. 2012). According to Van Buuren et al. (2015), flexible governance arrangements are characterized by: (1) flexibility in decision-making processes that allows for speeding up and slowing down and for the entry and exit of actors during the process; (2) substantive flexibility with regard to scope, time horizon, and goals; (3) organizational flexibility.

There is a tension between, on the one hand, governance arrangements that promote adaptive behaviour and, on the other hand, the formal and informal institutions that prohibit continuous change in the way the government behaves (Duit and Galaz 2008; Cox 2010). Proponents of adaptive governance may push for experimentation and swift changes, but the institutional setting may hold them back in order to safeguard citizens and enterprises from a whimsical government displaying maladaptive behaviour, as well as to guard vested interests. The issue then is the extent to which those adaptive approaches institutionalize.

Institutionalization

Institutions are defined here as the formal and the informal rules influencing and structuring behaviour (Giddens 1984; Ostrom 1990). Formal institutions refer to laws and formal regulations, whereas informal institutions cover social norms, conventions, codes, rituals, routines, and roles (Giddens 1984). Institutions have a stabilizing effect because they structure individuals' behaviour and continue to exist over long periods time (e.g. Zijderveld 2000). They provide stability and meaning to actors' actions (March and Olsen 1996; Scott 1995). Scott (1995) distinguishes three types of institutions: (1) cognitive institutions, which pertain to images, visions, and cognitive frames; (2) normative institutions such as norms and values, including mechanisms for monitoring and sanctioning if certain norms are contravened; (3) regulative institutions concerning formal rules and regulations. We use Scott's typology to distinguish different kinds of institutions in the empirical research and make the empirical analysis more fine-grained.

Studying the function of institutions in governance, Koppenjan and Klijn (2004) distinguish between institutions at the arena level and institutions at the interaction level. Arena rules regulate the setting and determine the type of game that is played. These rules relate to actors' positions, rewards, and definitions of reality (problems and solutions). They also determine who can change the rules. Interaction rules regulate how players treat one another and which specific moves are allowed, as well as access and interaction (Koppenjan and Klijn 2004). Rules about who is admitted to the community are interaction rules. A rule that specifies who makes the access rules is an arena rule.

Scholars have posited that institutionalization involves the development of more or less regular and fixed patterns (Zijderveld 2000). According to Zijderveld, institutionalization

refers to the solidifying of behavioural patterns into normative patterns with rule-like qualities. Strong institutionalization may imply the fixation and formalization of rules.

Here, we focus on two dimensions of institutionalization: the formation of institutions and the stabilization of institutions (see also Duineveld, van Assche, and Beunen 2013). The formation of an institution involves representing and acknowledging the institution (for example by drawing on it) and defining its boundaries (for example determining that a contractual rule is valid for six years only). The stabilization of institutions involves sub-processes of objectification (constructing the institution as an objective truth that exists independent of observation) and naturalization (positioning an institution as part of the natural order of things) (Duineveld, van Assche, and Beunen 2013, 3). Institutions can also destabilize and even de-form, i.e. de-institutionalization can occur.

Materialization

An important dimension of new governance approaches becoming transformational lies in the relationship between the new approach and the built environment. Does the adaptive governance approach transform a specific space physically by modifying material objects? In spatial transformations such as in neighbourhoods, relevant types of material objects include but are not limited to: buildings (e.g. repurposing an abandoned warehouse), transportation infrastructure (e.g. altering a road's capacity), other infrastructure (e.g. adding water holding areas in order to deal with peak discharge), parks (e.g. creating one in order to attract new residents), but also paper objects such as policy reports, maps, and books. Duineveld, van Assche, and Beunen (2013) view the process of materialization as a process of object formation and object stabilization. An important element in object formation is reification, i.e. representing and acknowledging an object as a separate and distinguishable unit. For example, a cluster of trees and shrubs may be acknowledged as a 'park'. Object stabilization involves objectification (socially constructing objects as objective truths that exist independent of observation) and naturalization, which means that the objects are considered part of the natural order of things. Through objectification and naturalization, objects become unquestioned, and they move from the fictitious or aspired to the realm of reality. The development of a material reality is an important dimension in the type of case – urban restructuring – considered in this paper.

The institutionalization and materialization of adaptive governance having been discussed, the next section focuses on the point at which change in governance becomes transformational.

Transformational change: deep, wide, and enduring change in institutions and materials

Transformational change generally refers to 'a major shift in characteristic features and functions, resulting in a fundamentally new system or process' (Mapfumo et al. 2015), i.e. a qualitative change that causes a major discontinuity in the system under consideration, as well as enduring change (Termeer, Dewulf, and Biesbroek 2016). Some literature contrasts transformational change and incremental change, the latter involving decisions that aim to 'maintain the essence and integrity of an incumbent system' (Park et al. 2012, 119). However, this position overlooks the fact that many incremental changes may eventually result in a major change (Lindblom 1979; Termeer, Dewulf, and Biesbroek 2016). Lindblom (1979) argued that sequences of small changes may accomplish changes

more quickly than radical attempts to change everything at once, simply because the latter may arouse antagonisms.

A new governance approach has transformational effects if it changes the institutional and material realm *deeply, widely*, and *enduringly*. The existing literature does not define the exact width of change required for it to be considered transformational. Any absolute measure that would define a hard boundary between 'wide' and 'limited' change is contestable. This paper assumes a qualitative gamut from non-transformational to transformational change. In line with this study's qualitative approach, we aim to unpack processes of transformation in a qualitative way and elucidate the mechanisms through which transformational effects come into being.

Deep change

Deep change refers to the altering of assumptions underlying a particular system, including values and logics. This contrasts with superficial change, which modifies existing practices without changing their underlying logics and assumptions. In terms of institutional transformation, this means that it is not only the institutions that regulate interactions between actors that must have changed, but also the frames and rules that underlie the interaction rules; the institutions at the arena level must have altered. Consequently, there is a change in the rules that determine the 'logic of the game' and the definition of reality (e.g. a frame that defines what is considered a problem or a solution).

A deep material change implies that the logic and values underlying material objects change. This goes beyond introducing new material objects in a neighbourhood or improving existing objects by renovating them. An adaptive governance approach has transformational effects in the material realm when materials become fundamentally flexible. For example, a street can function flexibly as a road for cars or as a festival ground. In addition, the existence of material objects becomes flexible in the sense that objects can be removed or dismantled, i.e. they are adapted to temporary use. Decomposable houses or container houses serve as examples of this.

Wide change

Wide change has a broad scope rather than a narrow one that aims only at a limited specific element within a system. Transformational change therefore covers large chunks of a system. A broad scope may also refer to the multi-dimensionality of change or multi-level change. For adaptive governance to be transformational, the newly formed practices that have formed and stabilized institutionally must spread or 'travel'. Actors closely involved in governance innovations may believe strongly in them and may have their practices guided by them, but the new governance approach must be adopted in other arenas, at other governance levels, and in other organizations (Healey 2006) for it to become transformational. This means that the newly formed and stabilized institutions '[. . .] have to challenge and shift an array of already routinized governance processes, with their complex mixture of conscious and taken-for-granted modes of practice. New concepts have to "jump" boundaries and "break through" resistances, involving implicit and explicit struggles' (Healey 2006, 305). Following Healey, we argue that 'episodes' of governance innovation need to resonate elsewhere in order to be seen as legitimate and to endure and have transformational effects.

Wide change in materials occurs when material objects travel or are widely reproduced, for example in a wide range of organizations. An example is the introduction of the enduring flexibility of street use elsewhere, on the basis of experiences with the

original spatial project. Thus, temporarily usable material objects and adaptive functions of material objects are introduced beyond the original project.

Enduring change

The third element of transformation is endurance. This implies that newly formed and stabilized frames, norms, and formal rules (regarding adaptive governance) remain in place over a prolonged period. For example, a particular type of flexible contract is not used for two or three years only, but continues to be applied over a decade or more; or a certain new norm about operating flexibly is upheld in the long term.

Enduring change in the material realm occurs when an adaptive approach to material objects is not merely something short-lived. For example, a square continues to function flexibly as an event ground, a garden, or a parking zone over a long period of time.

The conceptual framework used in this paper is depicted in Figure 1 and summarized in Table 1.

Research methodology

Research strategy and sampling

This study takes a qualitative research approach, conducted through a single, in-depth case study. A qualitative approach was chosen because: (1) it fits the qualitative nature of the research question: we study *how* institutionalization and materialization transform the social and the material, rather than magnitudes or frequencies of processes
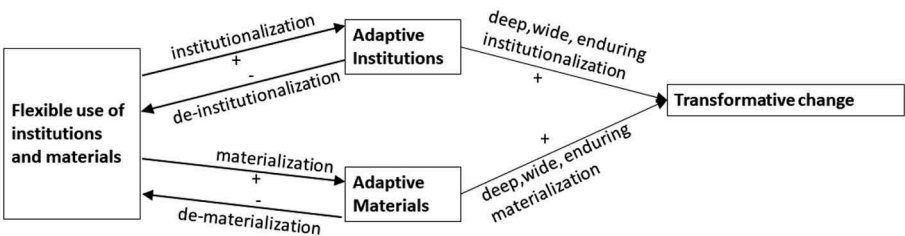

Figure 1. Conceptual model.

Table 1. Overview of theoretical framework.

	Main characteristics
Adaptive governance	Flexible process, flexible content, organizational flexibility
Institutionalization of adaptive governance	Formation and stabilization of flexible institutions
Materialization of adaptive governance	Formation and stabilization of flexible materials
Transformational effect: depth of change	Deeply changed institutions: altered values, altered arena rules (arena rules more adaptive)
	Deeply changed materials: flexible function of materials, decomposable materials, moveable materials
Transformational effect: width of change	Institutions have travelled into multiple organizations and places
	Material objects or particular functions of objects are reproduced elsewhere (in other organizations and places)
Transformational effect: endurance over time	Long-term change in frames, norms, regulatory arrangements
	Long-term change in type and/or function of materials

(e.g. Mahoney and Goertz 2006); (2) there are no uncontested quantitative measures for transformation, materialization, and institutionalization that could be used (e.g. Baldwin, Chen, and Cole 2018). Therefore, research on the exact operation of these mechanisms requires a qualitative, in-depth case analysis (Denzin and Lincoln 1994; Levy 2008). We deliberately chose a *single* case study, although this precludes comparative analysis. It allowed us to follow the case for an extended time; this was germane, as the study is on how institutionalization and materialization endure over time. The prolonged time period proved crucial for understanding the transformational impact of adaptive governance. The single case also enables a more in-depth study than multiple cases would have done. This was important given the wide scope of our concepts and the complexity of the processes studied.

Given the theoretical considerations, strategic sampling (Flyvbjerg 2006; Yin 1984) was considered appropriate. The case should be a clear instance of adaptive governance that was intended to have a lasting impact, should cover an extended period of time, and should be accessible to the researchers for a prolonged period of time. Consequently, we selected the ZoHo regeneration programme in Rotterdam, the Netherlands. Spatially, it is confined to the Zomerhof District (hence, ZoHo). Key actors explicitly embraced a flexible way of governing and considered this a norm. Temporary use and repurposing of buildings and public spaces became observable over time as the initiative started to create impact. Therefore, the case fits the characteristics defined above. The circumstances for adaptive governance becoming transformational were good in this case (committed key actors and failing classic, hierarchical governance). This case can be considered a critical case (Yin 1984), implying that, if adaptive governance does not become transformational here, it will probably not become transformational elsewhere either (compare Flyvbjerg 2006; Yin 1984). The case selection was also partly guided by a convenience argument; we wanted a case relatively close to the university so that we could gather data easily and repetitively. Therefore, we only considered cases in Rotterdam and ignored options outside the city.

Research methods

We collected data from 2013 (when the first initiative started) to 2019 (when ZoHo was formally tendered for redevelopment). Data were collected from various sources. Firstly, we conducted over 100 conversations with all key actors involved with ZoHo. These conversations – not interviews – varied from a quick chat to structured focus groups. We also conducted seven semi-structured in-depth interviews with the main stakeholders in the area. Secondly, we conducted participatory observations. Early on, we negotiated access to the site as an academic partner. This allowed us to be frequently on-site, with one of us working from an office in the area once a week for a six-month period. We also joined approximately 30 of the many formal and informal meetings, ranging from formal strategic discussions to community-building activities. We took notes of the discussions and meetings and kept a diary. In addition, we included written records such as policy papers, spatial plans, expert reports, newsletters, and various internet-based communications to which we had access (e.g. Facebook site, LinkedIn site). Being present and involved helped in establishing lasting relationships with the actors in the case. This increased their openness and thus the quality and quantity of

data obtained. It also enabled triangulation of what interviewees said during interviews and what they did at meetings and events.

We reconstructed a timeline as the case evolved (Figure 2). Those events that were relevant in light of the theoretical framework were then further detailed using data from all sources.

Several measures were taken to ensure research validity in the face of possible bias arising from participatory observations: we involved two researchers who could correct each other's potential biases, alternated periods of relatively high involvement in the area with periods of disengagement, and gathered data from different sources including stakeholders with different perspectives and reports from various actors to prevent a one-sided view.

Case study: restructuring the Zomerhof area

First follows an introduction to the area and the policy context. We then describe how adaptive governance developed over time in two main phases, namely 'upsurge of adaptive governance' and 'decline of adaptive governance' (see Figure 2). The last empirical subsection analyses whether the institutionalization and materialization of adaptive governance was transformational.

ZoHo

The Zomerhof area is a neighbourhood in Rotterdam, located right next to the city centre. It features a mixture of housing and commercial property in the shape of offices and units for light industry. A large chunk of the housing is social housing, about 90% of which is owned by one housing association called Havensteder. The commercial property dates mostly from the 1950s. The buildings were well-maintained but were never modernized and had become technically obsolete and aesthetically outdated. Until 2013, when adaptive governance was introduced in the area, the area looked decidedly unattractive, with hardly any pleasant public spaces and closed facades at street level. The offices and light manufacturing industry created some activity during the day, but
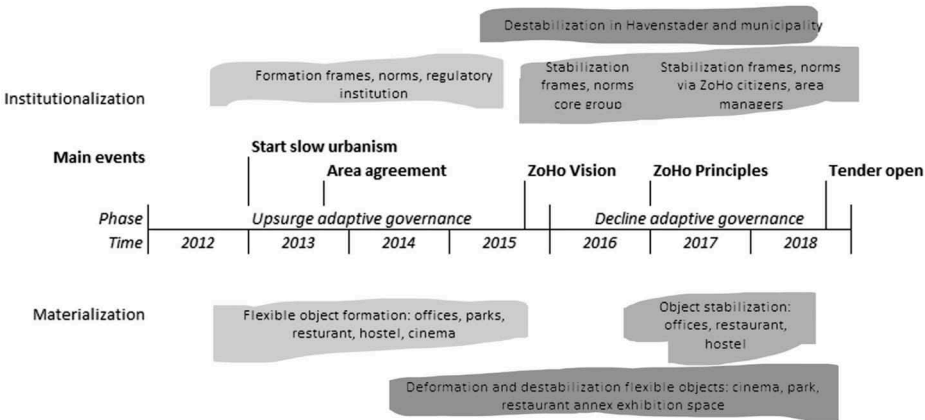

Figure 2. Timeline of the evolution of ZoHo with the main events and phases highlighted.

the area appeared desolate after sunset. Rents were relatively low because of the lack of modernization and the unattractiveness of buildings and public spaces.

In 2013, there was consensus among the actors that the buildings needed to be either renovated or replaced. These buildings were mostly owned by Havensteder, which had acquired them in order to redevelop them. Havensteder had a direct interest in improving the area because of what it considered to be its social duty and because improvement would add value to its property holdings. However, this plan never took off because of the economic and financial crisis that caused a collapse of the housing and the commercial property market. Consequently, the financial position of Havensteder and of the prospective buyers of its holdings took a severe hit. Havensteder could no longer afford to execute its restructuring plans, and no other party was able or willing to buy the planned new properties from Havensteder. Consequently, it was left with a derelict urban area.

Policy context

Local government made drastic cutbacks after 2008. This also impacted the possibilities in the Zomerhof area because the authorities were unable and unwilling to invest in the area. In its search for alternatives, the local government tried to stimulate initiatives by private parties and citizens. The municipality assumed a facilitative role, not least because of its lack of resources. Nonetheless, the local government had, and has, significant competences and authority: it draws up spatial zoning plans, and it is responsible for local infrastructure and public spaces. From 2016, in tandem with the economic recovery, the municipality's financial position had started to improve and there was some more room for investment. However, this had not yet led to large municipal investments in the area.

At national level, the Dutch Minister of Housing introduced a policy that severely restricted the competences of housing associations, which were forced to abandon commercial activities and to focus on social housing. What is considered social housing was defined more strictly than before. Commercial properties had to be sold off. The direct implication for the Zomerhof area was that Havensteder could not even develop the commercial property that it had acquired at the beginning of the crisis. Plans were made to sell the property through a tendering procedure.

Phase I: The upsurge of adaptive governance (2012–2015)

When it became clear in 2012 that large-scale restructuring was not possible, Havensteder decided to renovate the buildings one by one, together with other parties and the tenants. One tenant that took an important role was STIPO, consultants in spatial development and place-making. In 2013, the parties involved started a process of adaptive governance or *place-making through slow urbanism*, as the actors in the field called it that time. Below, we describe how adaptive governance materialized and institutionalized during Phase 1. We discuss (a) materialization and (b) institutionalization of adaptive coordination, adaptive use of rules, adaptive planning, and experimenting.

(a) Materialization of adaptive governance

From 2013 onwards, the adaptive way of working materialized in a large number of small-scale initiatives. There were many temporary materializations in public spaces and buildings during numerous smaller events. There were temporary stages, flags, and other decorations, temporary greenery, bars, exhibitions, and pop-up shops. One actor spoke of an 'acupunctural approach' to emphasize that material change had occurred in many small locations. Multiple offices in buildings were used flexibly, especially in the first years after 2013 when office space could be used by anyone for any purpose, and even be turned into a cinema or exhibition space. Thus, the function of the offices was flexible and adapted to users' needs. Another development was the materialization of a vegan restaurant in a railway carriage on a plot that was actually designated for other activities. The owner of the restaurant also turned the vacant area in front of this restaurant into a herb and vegetable garden. The plot owner, Havensteder, allowed this, because it made the plot and its direct surroundings more pleasant at no cost to Havensteder. A club for 3D printing materialized in a garage box. During the first year, the printing club did not fully meet the national fire-safety requirements. However, the public official involved used his common sense and saw that the rule did not really fit the situation anyway, that nothing dangerous could happen, and then informally allowed temporary exemption from the rules. Later on, the printing club made the necessary changes and continues to exist today. Other materializations that were made possible through the adaptive way of working included a pop-up cinema in one of the offices (formally cinemas are not allowed in offices) and a hostel located in an abandoned school building. Here also, initially not all existing regulations were met entirely, and full compliance was achieved only later on. Finally, some parking spaces were turned into a pocket park. No formal permissions were requested, although this would have been a formal requirement because there are strict rules about the number of parking spaces in relationship to the number of offices and houses. The pocket park was simply 'done' by a few actors, but its construction was informally aligned with relevant individuals in the municipality. The pocket park was meant to contribute to 'unpaving' the area and making it more climate-change-proof. The idea was to create this initiative first on a small scale, to entice others to do the same and enlarge it. Interestingly, initially informal arrangements to maintain the park did not work well and the place looked unattractive. However, the pocket park succeeded in gaining wider attention within the municipality, and the municipality acquired an EU subsidy to turn this into a site for climate adaptation. Thus, the bureaucracy responded and used its resources to improve the park. During Phase II (the decline of adaptive governance, see below), the small enticing experiment developed and materialized into a larger park that was more permanent and less flexible in use. A large 'ZoHo' sign was erected, thereby signifying to passers-by that they were entering the ZoHo area.

A 'ZoHo Vision' materialized in 2015, in the shape of a large map on A0 posters. The vision was not only a material object in itself, but especially a step in bringing slow urbanism closer to materialization. The map represented and acknowledged certain material developments and positioned the development as an objective (mapped) truth that existed independent of experience. STIPO also published materials (books and so forth) featuring slow urbanism in the Zomerhof area. As part of those books, ZoHo became objectified and gained authority as a valid and appraised way of working.

(b) Institutionalization of adaptive and horizontal coordination

During this phase, decision-making processes about the regeneration were characterized by informal horizontal coordination and mutual alignment among stakeholders, rather than local government hierarchically taking the decisions. Local government set the boundaries through existing rules and regulations, but it played a minor role in the actual regeneration of the area, whereas private parties (tenants) and Havensteder had prominent roles. Instead of trying to hierarchically dictate what others should do, actors tried to entice and enrol one another in initiatives. Enticement and appeal were more prevalent than hierarchical command and control. Coordination among the three main players took place through intensive informal communication, with few fixed procedures or arrangements. It was the same for the coordination of activities among entrepreneurs in the area. Consequently, decision making was fairly flexible.

New initiatives and actions were coordinated by a core group of three representatives of STIPO, Havensteder, and the municipality. They met weekly and discussed ideas and plans on a level basis. The representatives were called area coordinators or area managers within their organization, at the level of policy advisors. Hierarchically, they were positioned just below middle management. Although they had significant discretion, they needed permission from managers higher up the ranks for bigger decisions. Thus, although horizontal coordination between actors played an important role, it took place within a wider hierarchical context of a classic Public Administration model (see Hughes 2003; Osborne 2006).

Between 2013 and 2015, working horizontally and on an informal basis evolved into a normative institution; it became the norm among the three main actors. This phase was characterized by the institutionalization of a flexible use of rules and policies. This approach was encoded in an important policy document for the area that was accepted in 2013. The actors drew on that document to defend their way of working against the formalized approach within the municipality. The formal policy and informal norm to use rules flexibly was enacted regularly. As a respondent explains:

> At that time, we made area agreements with Havensteder, the municipality, and the borough. Just 10 pages, as a manner of speaking, in which one sentence is the most important one: that Havensteder and the municipality will make maximum efforts to exploit room for manoeuvre in rules. That is the sentence with which we do it. That has been put down, and in the first instance it was at the political level, the borough's governor, who emphasized it. At that level, it was said: this has been laid down and the aim is that you [respondent] are going to use this. That I will exploit it. That I go and tell my colleagues: at a political level, it has been agreed that in this area we must search for what is possible. So that is a fun moment, to go and apply that … and Havensteder: same. John [the area manager from Havensteder, not his real name] immediately started calling about flexible tenancy contracts.

Through this formal area agreement, adaptive governance became a regulative institution. However, the regulatory institutionalization was limited because the adaptive way of working was not reflected in other formal rules and regulations. Moreover, ZoHo was informally framed as a pilot or special area for experimentation with alternative governance methods. This was important for the municipality as an opt-out clause. Framing it as a pilot allowed the municipality to keep adaptive ways of working limited to the Zomerhof area with no further obligation to use them elsewhere.

That the flexible application of rules was not only a norm but also formally institutionalized confirmed to the actors that this was not just the 'way we do things here', but also that it was in accordance with what the municipality would allow.

Subsequently, an adaptive form of *planning* institutionalized between 2013 and 2015. Actors utilized emerging opportunities instead of relying on predefined and detailed plans. This was achieved through close monitoring of current developments within the area and its wider environment, thus looking for opportunities to further develop the area. If such initiatives were recognized, the three main actors tried to facilitate and strengthen these immediately; for example, when a creative entrepreneur was looking for working space or when somebody was looking for a place to open a restaurant.

The ZoHo Vision plan drawn up by STIPO in interaction with other tenants, Havensteder, and the municipality was important. This plan, completed Q3 2015, allowed for adaptive planning, because it did not specify detailed procedures or goals but merely sketched a broad vision and several more or less concrete ideas for the future that could stimulate further development flexibly.

Another adaptive arrangement worth mentioning here is the 'enticing experiment'. These were small interventions, usually material ones within buildings or in public spaces, in which something new was tried out on a small scale. The idea was that actors who were enthusiastic about a particular idea started by 'just doing it' on a small scale, with the aim of showing that it could be done and to entice others to do so.

In addition to enticing experiments, innovations were realized adaptively by creating temporary changes and then trying to make them permanent. For example, actors changed part of an office building into a temporary cinema, parking areas into a small temporary park, an empty office into the 3D printing club, and another empty office into a temporary café and exhibition space. Many of these temporary changes were not allowed formally. However, framing a change as temporary meant that the municipality did not block that change. The extent to which changes were actually temporary was left undiscussed. They often became more permanent than the framing suggested. A similar and bold move was the conversion of an abandoned school into a hostel without meeting all the rules and regulations. Instead of first trying to settle everything completely and make sure that every rule was met, actors informally aligned their ideas and plans with the municipality and then started when they felt that the crucial rules had been met and that the rules that were not met yet could soon be met and were of limited importance.

Overall, during this phase, the adaptive way of coordinating and planning and the flexible use of rules evolved into a normative institution: it became a commonly accepted norm for almost all actors working in the Zomerhof area and developed into a routine for the three core actors. Adaptive governance became a cognitive institution as a broadly accepted way of thinking and framing governance within the Zomerhof area. The frames and norms regarding slow urbanism were also adopted and institutionalized in the ZoHo Vision. Seizing emerging opportunities, small-scale experimentation, and starting with temporary (material) changes became a cognitive institution, and a normative institution for the three core actors, for whom it became a shared attitude, a pattern of thinking, and a social norm. These ways of thinking also evolved into behavioural patterns. However, the behavioural patterns relied heavily on the room and ability to improvise and were not standardized in official procedures, and this later proved to limit the endurance of this way of working.

Phase II. The decline of adaptive governance and the return of classic public administration (2015–2018)

In 2015, several actors at higher echelons within the municipality and Havensteder pleaded for more traditional planning and governance in ZoHo. They had little interest in the adaptive practices of slow urbanism. This declining interest was driven by the recovering economy that freed more resources for larger plans and investments and by signs of market interest. The housing market boomed, and the financial position of Havensteder and other parties in real estate improved. The municipality's financial position also improved as a result of higher revenues from income tax and lower social welfare costs. In addition, the positive developments in the ZoHo area had drawn the attention of developers and investors; the area was increasingly seen as an attractive area for large investments.

Regardless of what was achieved, Havensteder simply needed to sell its commercial property because ZoHo had not solved the problem of Havensteder owning commercial real estate – which was against the new law. Within Havensteder, senior managers expected that, in the improving market, a large-scale sale of its commercial property would result in higher revenues than selling the buildings one by one flexibly when the opportunity arose. Others, especially the actors working in the area on a day-to-day basis (including the area managers mentioned above), argued for the continuation of the adaptive approach. During this phase, there was a clash of visions on how to govern ongoing restructuring. Gradually, it became less adaptive and more hierarchical. One respondent comments:

> This was also the moment that the formal parties [municipality and Havensteder] grabbed the initiative. Our position as tenants became less important.

Below, we describe the aspects of (a) (de)materialization and (b) (de)institutionalization of adaptive governance during this phase.

(a) (de)materialization of adaptive governance

As of 2015, the use of offices became less flexible because many tenants wanted stable tenancies and wanted to invest and shape the offices according to their needs. Consequently, the flexible cinema and exhibition space were closed between 2015 and 2018. The offices in several buildings were upgraded and their use stabilized in the long term. The 3D printing club achieved a permanent presence. The space near the vegan restaurant became a permanent garden instead of a multi-purpose space. The climate adaptation park that had started as a small and flexible experiment became a permanent material structure. Thus, the usage of the buildings and public spaces stabilized over time. The flexible use of the built environment became limited to special events, i.e. confined to specific and short episodes in time after which the normal use was restored immediately.

(b) (de)institutionalization of adaptive governance

During this period, plans were prepared for the future of ZoHo within the pillars of the municipality and Havensteder. Important decisions were now taken mostly within the hierarchies of the two largest organizations. As one actor outside Havensteder and the municipality explains:

> The higher management ... they meddled more strongly. Three directors, the general director, the area director, and the real estate director ... Two years ago, there was a monthly meeting for external alignment about ZoHo at the level of middle management, of which I was also part. But that ended one and a half years ago. They continued the meeting internally.

Havensteder ended the contract with STIPO for coordinating and initiating activities in the informal, flexible way, and this was a blow to this way of working. STIPO became less active, and coordination by the group of three informal leaders gradually became less influential. Havensteder in the meanwhile reconsidered its position and the slow urbanism approach. This reconsideration signalled that the adaptive way of working was no longer considered 'the natural order of things', i.e. adaptive governance was de-naturalized.

Meanwhile, in 2016, a collective of entrepreneurs in the area started a group 'ZoHo citizens' with the aim of continuing to develop ZoHo from the bottom up. Although slow urbanism was not an explicit goal of ZoHo citizens, they adopted an open attitude to bottom-up initiatives and adaptive ways of working. For Havensteder and the municipality, ZoHo citizens was a stakeholder in the governance process that they led, and the citizen group wanted the process to become more planned and formal, and hence less adaptive, than before.

During this phase, the use of rules generally became less flexible; this can be seen as the destabilization of adaptive rules. Firstly, the national government no longer allowed Havensteder to own and rent out commercial property. The ministry started to enact the law on housing associations and social housing strictly. This pushed Havensteder towards selling its property soon and as a complete package. The municipality started to follow existing formal procedures when working on ZoHo, instead of working on ZoHo flexibly and informally. As a respondent explains:

> Ongoing practice was to work outside the books. Urban developers were asked to 'just make a small sketch' or to 'just assess a small proposal'. But normally, we have to account for every hour worked. What happened is that many work hours were not attributed to ZoHo because ZoHo did not exist as a project … So, without cover, without a project number. Simply put, my arrival caused it to gain a more formal status within the municipality.

The norm of planning adaptively came under pressure and de-institutionalized during this phase, at least in the municipality. The municipality wanted a formal zoning plan and a formal urban development plan. As of 2017, Havensteder prepared a formal tender for the redevelopment of the entire property. In accordance with national and EU tendering laws, they needed to follow strict, pre-defined procedures.

Overall, the adaptive way of coordinating and planning and the flexible use of rules were largely replaced as normative institutions during this phase. Hierarchical procedures and classic planning regained importance as regulative institutions.

The rise and fall of adaptive governance

In earlier sections, the initiation of ZoHo is described as an experiment in adaptive governance, showing how actors tried to institutionalize and materialize their new ways of working, the extent to which this was successful, and, ultimately, how both institutionalization and materialization came to a standstill. We now discuss how the potential transformational power of adaptive governance played out.

Transformational change: did institutions change widely?

During the first phase, the adaptive way of working spread among both public and private actors within the area. However, the municipality and Havensteder did not apply it further in other projects or areas. Middle management and top management of neither actor embraced adaptive governance as a fitting approach for dealing with other areas, partly because it was not part of their routines, and partly because it sat uneasily with existing procedures and rules. Therefore, the approach did not travel or transform local governance at large. One counterforce came in the shape of a decision by the national Ministry of Housing with regard to what housing associations are allowed to do. In particular, the ministry made it clear that ZoHo would not be exempted from its strict rules.

The ZoHo area was visited by numerous officials from other municipalities, ministries, and housing associations. They joined guided tours, workshops, and information meetings to see how things were done. The area also welcomed international visitors, such as Danish and Italian civil servants, as well as several academics from Germany, for example. The municipality proudly presented ZoHo as an experimental area for adaptive governance. Likewise, Havensteder and STIPO used it as a showcase for their strategies. However, the interviews do not give reason to believe that these visits, inspirational though they may have been, resulted in transformed frames or regulatory changes.

One element of the approach in ZoHo that seems to have travelled more easily concerns the usage of enticing experiments. A few similar experiments have been initiated elsewhere in Rotterdam. Experiments can travel more easily because they can be implemented fairly quickly, can be adapted to the local situation, and appear harmless as they do not really challenge the status quo because of the limitations imposed on them.

Although neither the municipality nor Havensteder managed to adopt the governance approach more widely, STIPO started to apply the approach regularly (for example in two other Dutch cities, Dordrecht and Nieuwegein). As a consultant for urban development projects, it uses elsewhere its experience obtained through ZoHo. Therefore, it transfers the frames and informal norms and rules (although not the formal policy) to other places and enrols other actors there in this way of working.

Transformational change: did institutions change fundamentally?

The cognitive and normative institutions changed thoroughly among the actors closely involved in the area. They saw adaptive governance and their new way of working as a response to a deep-seated problem in traditional, hierarchical, and government-driven urban restructuring. Thus, their frames and routines changed not only superficially, but also in terms of underlying frames and norms.

Many other actors, especially the middle management and top management of Havensteder and the municipality, cognitively framed adaptive governance more pragmatically as a suitable approach in times of economic crisis. They saw slow urbanism as a viable solution in weak market conditions. They therefore accepted the frame (cognitive institution) of adaptive governance, but they did not embrace it as a general norm (normative institution), nor did they change underlying frames, norms, or regulations for governance or urban restructuring. The core actors enacted the

adaptive way of working in a routine manner, but they could not make their organizations perform adaptively, despite targeted efforts.

Transformational change: did adaptive institutions endure?

Adaptive governance was the main form of governance in the Zomerhof area between 2013 and 2016 (first phase). During the second phase, the municipality and Havensteder returned to a more classical way of steering, as dominated by the rule of law, formal procedures, hierarchy, and top-down control. Informal interactions continued to play a role, and flexibility is still seen as a norm among some of the actors, but these are more strongly embedded within (and restricted by) formal planning procedures and hierarchical accountability mechanisms.

Transformational change: did material adaptiveness travel widely?

The more flexible use of buildings in the Zomerhof area did not materialize widely in other parts of Rotterdam. Nor did it materialize elsewhere in the Netherlands – at least not as a consequence of what happened in ZoHo. Neither were, for example, parking zones used flexibly as parks elsewhere. Pop-up shops did materialize elsewhere, but this phenomenon should be attributed to a wider trend and not to what happened in ZoHo. An important reason why the materialization of adaptive governance did not travel much to other areas was that ZoHo was deliberately designated as a special zone, a pilot where things could be tried out that were not possible in other areas. Therefore, the adaptiveness of the material dimension was effectively contained.

Transformational change: was material adaptiveness fundamental?

Only in a few spots and during specific episodes did the function of material objects become radically flexible. During festivals and other events, some spots, roads, or roofs continued to be used flexibly in unconventional ways. As mentioned above, the function of buildings was rather flexible in the early years but soon people started to make things more permanent. Few material objects maintained a radically flexible ontology in the sense that they could be flexibly built up or dismantled. Exceptions were the cinema and some exhibitions that were regularly dismantled and built up again. However, the aim of temporary materializations was mostly to make their existence more permanent, and, as a consequence, the material objects and their usage also became less flexible.

Transformational change: did material adaptiveness endure?

The answer to this question is manifold, even ambiguous. Adaptive governance allowed for flexible practices and the materialization of multiple objects that would not have been possible under classic governance approaches. The flexible use of rules and the capacity to react flexibly to emerging opportunities were necessary conditions for the materialization of the hostel, the printing club, and the vegan restaurant. Several of the objects that materialized in this way have endured, for example the vegan restaurant. However, those material objects have now become immobile and semi-permanent, thus losing their flexible nature. Thus, one could argue that the genuinely

flexible nature of material objects did not endure beyond the first three years when actual experimentation took place. Later, it was merely during temporary events that material objects were used in flexible ways, for example roofs that were turned into open-air cinemas or festival grounds.

Conclusion and discussion

This study set out to analyse the transformational effects of adaptive governance on the governance system and the built environment. The study shows how the introduction of adaptive governance in the ZoHo case induced institutional and material changes. However, these changes did not endure, as they were neither fundamental nor wide. There was a momentum for institutions and materials to change, but the main actors returned to their routines of traditional public administration dominated by hierarchy and the rule of law once the financial pressure decreased and their dependence on bottom-up adaptive governance diminished. Thus, adaptive governance had a limited transformational effect. It institutionalized primarily as cognitive frames (cognitive institutions), but also as social norms and routines (normative institutions) and a policy (regulatory institution). However, the cognitive institutionalization was fundamental only among a few closely involved actors who radically embraced the idea of adaptive governance. Other actors, notably those higher in the hierarchies of the governance system, changed their frames only pragmatically and temporarily. Wider institutionalization of adaptive governance was prevented by framing it as a pilot, thereby removing its urgency and necessity. Thus, although the adaptive governance frame itself was often accepted, the acceptance did not alter the fundamental understanding of how the city should be governed. Because adaptive governance did not become a general normative institution within the municipality's bureaucracy, it did not institutionalize into general regulation either.

Two main conclusions are drawn regarding institutionalization: (1) adaptive governance may institutionalize quickly at a cognitive level (i.e. framing adaptive governance as a valid way of working). However, when the frame change is superficial and underlying ideas regarding governance remain unchanged, the altered frames will de-institutionalize. Consequently, the institutionalization will be neither enduring nor transformational. (2) When adaptive governance institutionalizes solely as a pilot, it does not spread and institutionalize into general norms and regulations in government.

In terms of materialization, the study shows that adaptive governance can have significant material effects in an area because it enables flexible and temporary solutions that are difficult to realize in a traditional approach dominated by planning rules and formal decision making. Consequently, two main conclusions are drawn regarding materialization: (3) the use of temporary materializations and limited experiments, which may then later materialize further, is an important but not sufficient factor in the overall materialization of adaptive governance; (4) materializations that are flexible in space (mobile) and time (temporary) become more solid and inflexible over time, when actors invest in an area and start striving for continuity.

Materialization and institutionalization are mutually intertwined and sometimes difficult to separate. Materialization can be enhanced or hindered by regulatory arrangements. Institutionalization of a policy can be furthered when the policy

becomes manifest in material infrastructure such as roads or bridges, because the actual objects can create a lock-in, especially when they have been capital intensive.

This study addressed the question of whether adaptive governance can institutionalize and materialize while keeping its core features. On the basis of the findings, the answer is twofold: on the one hand, adaptive governance can institutionalize and materialize in flexible institutions (cognitive, normative, and regulatory) and materials (offices, shops, restaurants, parks). On the other hand, the resilience of incumbent institutions against adaptive governance means that the emergent adaptive institutions and materials lose their core features over time. The common argument can be made that existing institutions run on power and a particular power distribution that is maintained by those who benefit from these. Adaptive governance has some difficulties in countering the hierarchical power of the government, as do other governance approaches that emphasize horizontal interactions and tend to downplay or ignore (governmental) power structures (see Pierre and Peters 2000; Milward et al. 2016).

Regardless of experiments with governance, power remains real and closely tied to the prevailing institutional setting (March and Olsen 1996). In this case study, power and hierarchy reveal themselves in, for example, the arena rule whereby flexibility was allowed but restricted to the Zomerhof area, a rule set by the bureaucracy and to be revoked at all times by the same bureaucracy, and only by them. Although this allowed for experimentation, it is a simultaneous expression of the existing power structure. Consequently, the research shows that it takes fundamental changes in ideas about governance, and the spreading of flexible governing arrangements and materials, before adaptive governance becomes transformational. Some authors have suggested that institutionalized learning could be helpful (e.g. Hatfield-Dodds, Nelson, and Cook 2007; Ison, Collins, and Wallis 2015), but the current research provides no observations with regard to that aspect.

The case highlights tensions between adaptive governance and large public organizations that work through the Weberian principles of bureaucracy. The policy implication seems to be that adaptive governance is possible when acknowledged as a policy exception. It is then relevant to continuously designate spaces where the organization allows adaptive governance in order to facilitate specific developments, rather than try to transform the entire bureaucracy into an adaptive institution.

As a final note, this study emphasizes the importance of studying governance processes over a longer timespan that extends beyond the end of a project or policy. This (ongoing) case study has so far extended over almost six years. It is common practice in studies on governance and public administration to collect data about a project during its running time without considering the consequences (or lack thereof) in the medium to long term. The subsequent conclusions can therefore be considered myopic because they are confined to the boundaries defined by the project. This study continued after adaptive governance was at its height in the case. Our preliminary conclusions regarding the impact of adaptive governance were optimistic (in Phase I), but our assessment changed as time went by and the initial impact petered out (in Phase II). This shows that governance processes and their effects are stretched out over long timespans. Logically, this should be reflected in research designs, especially in more longitudinal designs.

Note

1. The literature often focuses on the flexibility or adaptive capacity of governance systems, studying how governance systems can or cannot adapt to changing environments (e.g. Gupta et al. 2010). An exception is Brunner (2010), who addresses transformational effects of adaptive governance. He studies adaptive governance as a strategy for reform in three public policies.

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