ZwischenInnovation: Actor-Network Theory through Temporary Use in Bremen

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Keywords: Actor-Network Theory, Urban Studies, Temporary Use, Performative Planning

Abstract

The Actor-Network Theory (ANT) is born out of a discipline that is far beyond the spatial and theoretical borders typically associated with Planning. Since the theory's inception in the mid-1980s, ANT has been debated and ultimately shared across technical and social disciplines because of its concepts transferability. Despite its origins, it is hailed as a re-definitive, richer, active, transcendental idea and perhaps useful tool for urban studies including planning theory and practice. As a means of exploring how ANT can add value to planning by bridging theory and practice, this paper introduces and deploys ANT in the temporary use case study of Plantage 9 in the German city of Bremen, Hansestadt Br to highlight potential contributions to planning. Practitioners use various forms of temporary strategic and tactical instruments for urban regeneration. Opportunities for affordable and acceptable experimentalism presented by temporary use activate urban regeneration and development. Temporary Use sets a background of shifting stability ideal for Problematisation and sets ANT in action. Research in this area is key to furthering the epistemological development of ANT in urban studies, and rooting the concept in planning theory and practice. As a theory that outlines methodology, ANT is a hybrid concept new to planning that lends itself as a heuristic benefit. The contributions of this research would help question and understand the processes, roles and competencies of an emerging and performative planning addressing urban decline.

1 Introduction: The Planning Exigency

Both scholarly and professional planning experts suggest a need for new approaches to fusing scientific insights with professional practice. As of late, critics question the legitimacy of planning practice due to its weakness as an evidence based discipline, and argue that it should sh stigma (Laplante, 2010; Fecht, 2012). Both academic and popular sources discuss aspects of planning practice that can benefit from more substantiated practise. Writers with both professional and academic backgrounds highlight the convoluted and disjointed processes that facilitate planning, the lack of engagement between practitioners and research, and converse challenges that motivated urban scholars to publish and not participate with their research in practise, or limit practitioners from information sharing. (Laplante, 2010; Taylor and Hurley, 2015). Consequently, meaningful knowledge exchange between scholars and professionals is compromised. In response to the professional and academic concerns introduced above, this article endeavours to explore and illustrate a potential approach that could help support practice-based cases studies with scientific methodology. This potential is the *Actor-Network Theory* (ANT) approach which advocates for a scientific study of how networks emerge by following the actors that construct them (Latour, 1987, 1996, 2005), and also providing a synergistic solution to both academic and professional needs and a better alternative to remedying the weak science in planning.

2 Actor-Network Theory in Planning: Theoretical Background

As a technology and science based approach, ANT is gaining ground in planning theory and practice (Selman, 2000, p. 110; Doak and Karadimitriou, 2004, p. 7; Crawford, 2005, p. 3; Wessells, 2007,

p. 351). In a 2010 urban studies collection featuring ANT, Bender details ANT capacity to bring a different level of empirical transparency [to] planning sci diligence, richness and innovation that reveal transforming networks complex Bender, 2010). Other ANT research concludes that it releases planning theorists and practitioners from traditional and rigid means to making sense of complexity and urban change is perpetuated when human actors as opposed to non-human actors are privileged or recognized (Beauregard, R A., 2012). Consequently, ANT provides an alternative approach to exploring and articulating the agency and arrangements within new institutions, procedures, and concepts that con changing world that is hidden when understood through traditional ways of knowledge production (Latour, 2005, p. 11; Rocheleau and Roth, 2007, p. 436; Wessells, 2007, p. 352, 2007, p. 352). On account of ANT s compelling potential as a tool for planning practice, the work pr to answer the research question: *How is knowledge derived from ANT significant to planning practice?*

2.1 Actor-Network Theory

ANT is growing a following for its unique approach to articulating current socio-urban development (Selman, 2000, p. 110; Bender, 2010; Beauregard, R. A., 2012). ANT attempts to take advantage of commonalities between science, technology and social studies, by recognizing that it is no longer the natural influencing the technological but a mutual cycle in which both realms influence each other. For instance, Beauregard contextualises ANT in practice by discussing how place, setting and tools legitimize planners arguments, technical positions, formality and general impo development review process (Beauregard, R. A., 2012, pp. 184 185). ANT work encroaches further on planning theory and practices with its presence in studies on architectural practice, brownfield regeneration, wetlands conservation and management, rural political conflicts, real estate and housing development, gelleable space to political ecology, regional economics, and planning reform. (Healey, 1994; Burgess *et al.,* 2000, p. 131; Selman, 2000; Doak and Karadimitriou, 2004, 2007, pp. 72 74; Guggenheim, 2010; Tironi, 2010; Rydin, 2013, p. 26). The vast amounts of research and publications that explore science and urban development through the ANT lens undoubtedly demonstrate that ANT has already made its mark in planning theory. The information provided only partially demonstrates how information derived from ANT is significant to planning.

2.2 ANT: Relevant Concepts

ANT is an attractive social theory because of its descriptive and articulate characteristics. These advantages are channeled through the paradigm s key elements and principles that e that both human and non-human actors are equally recognized. The first key concept that is central to this article is that of the *actant*, which Latour introduced and other ANT scholars use to denote all network actors both human and non-human (Latour, 1987, p. 84). Actants can emerge in specific roles as an ***intermediary*** or ***mediator***. *Intermediaries* transport meaning or force without transforma simply by transporting or supporting an original meaning without alteration (Lat Rydin, 2013, p. 26). In comparison, *mediators* create associations and enrol other *actants* but modify the meaning and message that is transported (Avrahampour, 2007, p. 358; Latour, 2005, p. 39). An excellent illustration of *actants*, *intermediaries*, and *mediators* is provided by Beauregard through the description of various planning vignettes within which objects such as site plans, models, and photographs are introduced into discussion (Beauregard, R. A., 2012, p. 184). These tools play communicative roles (as *actants*) in the discussion. These *actants* sometimes provide neutral visuals such as photos and mock-ups (as *intermediaries*) that ensure all participants share the same visualization of the site on which they are working Equally important is the concept of a *translation* which refers to an act or interaction that induces two mediators into coexisting (Latour, 2005, p. 108). A transla

contribution to ANT emerges in two different forms. The first definition of a *translation* is fixed as a material outcome and the second meaning expresses the act of how a *translation* occurs within the ***Translation Process*** (Latour, 1987; Crawford, 2005; Latour, 2005). It is easiest to begin by considering an initial ***claim*** or ***statement*** that sets a series events into place. The new interpretations of the initial interests reiteratively render themselves into adaptations of the first *claim* that is now either simplified, referred, and eventually legitimized. How the interpretations finally appear as a ***fact*** depends on the modalities through which actants receive and further perpetuate the *translations*. To illustrate the progression of a claim towards a *fact*, Latour s *Controversy Ladder* schematic (Figure 1) breaks down conditions and elements that advance and hinder claims from becoming facts. As outcomes of *translations,* ***inscriptions*** are concrete examples of how later statements confirm the status of earlier statements. *Inscriptions* help in the ordering of things and provide durability to actor-networ (Doak and Karadimitriou, 2004). Another important ANT concept with technological origins is a ***black box*** (Latour, 1987; Crawford, 2005; Latour, 2005). A *black box* is a simplification of a concept or arranged network or assemblage where relevant information is reduced to inputs and outputs, or transfer characteristics (Latour, 1987, p. 3). Concepts or entities are *black boxed* o become a *black box* when they achieve of stability or legitimacy, are taken for grante counted as a resource (Latour, 1987; Crawford, 2005, p. 2). *Black boxes* as reductions of complicated information, however, may be reopened (Crawford, 2005, p. 2)

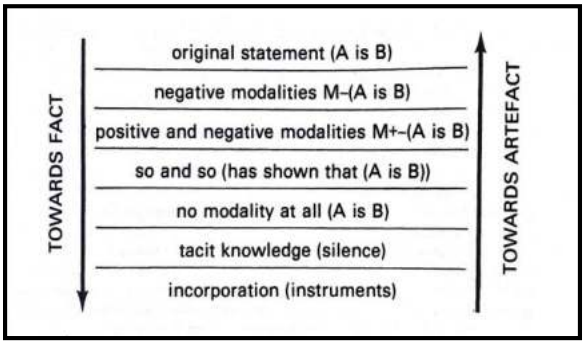

Figure 1 Latour's Controversy Ladder

2.3 ANT: Relevant Principles & the Translation Process

The ANT approach is interested in human and non-human participants, both of which are equally recognized for the as network participants. Beauregaurd explains this best when describing things as participants of sorts . . . [that] carry with them information, arguments, and commitments that shape talk and action (2012, p. 186). They empower and they disempower . . . [and] in the absence of things, there is silence. And, as things are modified . . . deliberations are transformed (Callon, 1986a, 1986b; Callon, M., Law, J., Rip, A., 1986; Latour, 1987, 1987, 1987, 1996, 2005; Law, 1992; Beauregard, R. A., 2012, p. 186; Rydin, 2013). This constitutes ANTs first principle of ***agnosticism*** *or* ***radical relationality***. Under the aegis of this principle, actants are empowered to define their respective identities, their individual range of actions . . . [and the] choices which are researchers and analysts (Callon, 1986b; Burgess *et al.,* 2000; Rydin, 2013). Following the first principle is the second principle of ***generalized symmetry***. This tenet pleads for the use of a common con repertoire to describe and explain the relations between humans and non-humans in order to understand how change happens (Latour, 2005, Farias and Bender, 2010, p. 3, Rydin, 2013). Simply put, a single set of terms and vocabulary is set to describe the objects and their processes of knowledge construction across social and technical fields. The third and final principle is that of ***free association*** (Callon, 1986a, pp. 3 4; Latour, 1987; Law, 1992; Burgess *et al.,* 2000, p. 123; Crawford, 2005, p. 2). This methodic principle corresponds to the belief that all ***a priori*** distinctions should be discarded before following actants paths.

Guided by the three principles explained above, ANT advances that actor-networks are traced through the *Translation Process*. This process is broken down into the four phases of 1) ***Problematisation,*** 2)

Interessement, 3) ***Enrolment***, and 4) ***Mobilisation***. ***Problematisation*** is the initial phase in which researchers frame how to investigate an issue. Callon also notes that in reality, the *Problematisation* phase is not often clear as entities are formulating their [identities] and goals in a totally inde manner (1986a). The next stage of the process is that of ***Interessement*** within which various actions negotiate and develop stability between currently and potentially involved actors (Callon, 1986a; Doak and Karadimitriou, 2004). During this process, the identity of new actors are established and join the identity of the initial alliance formed during the *Problematisation* stage (Callon, 1986a). What is important in this stage are the range of strategies and mechanisms through which new links that interest new actors are formed. Just as relations can be forged, they can also be disrupted. Following is the ***Enrolment*** phase which only happens if all means of stabilizing associations in the *Interessement* phase are successful (Callon, 1986a). At this point various transformations take place. Not only is there a transformation in the modality of the claim from a question into a statement or fact, but the actors have been transformed through the attribution of new or different roles (Callon, 1986a; Doak and Karadimitriou, 2004). The latter usually happens with the help of a mechanism or non-human actant, and results in a consensual resolution (Callon, 1986a; Doak and Karadimitriou, 2004). Lastly, the final stage of ***Mobilisation*** completes the *Translation Process* (Callon, 1986a; Doak and Karadimitriou, 2004). In this stage, a combination of human and non-human actions and materials fulfil the negotiated aim and the network stabilises (Callon, 1986a; Latour, 1987; Doak and Karadimitriou, 2004).

3 Temporary Use as a Translation Process

The *Temporary Use* context in planning practice is a suitable ANT backdrop as there is still a gap in knowledge about the ways in which temporary projects should be incorporated into planning, and the relationship that planners should have with various other t 2013, p. 2). The progressively familiar term *Temporary Use* (TU) is a general means of describing the popular method of incremental, and short-term approaches to producing urban interventions (Hollander *et al.,* 2009; LocusLab, 2009; Lydon, 2012; Glick, 2013, p. 5; Pfeifer, 2013). Despite its new-found allure in the urban settings, TU has been a major part of historical urban development, and also continues as it has been in developing cities and countries for a long time (Lydon, 2012, p. 2). TU is a low-risk way for both community members and municipalities to improve neighbourhoods (Pfeifer, 2013, p. 2). Over a decade ago, studies documented how economic changes in the 1990s hastened German cities to find solutions for increasing inner city vacancy and growing number of brownfield sites (Zehner and Hoffmann, 2007). The result of economic and political changes was that the clas instruments developed mainly in the 20th century [were] not only no longer applicable but restrictive to planning innovations necessary for the transition (Altrock, 2012, p. 16). TU emerged as a strategy recognized in mostly German cities to revitalize vacant and dead zones that had become liabilities (Hollander *et al.,* 2009). Short-term, temporary methods, unlike long-term strategies do not require tedious bureaucratic processes, large up-front investment, and . . . little public input, but instead aim for sustainable improvement through non-threatening, affordable, short-term opportunities (Glick, 2013, p. 10; Lydon *et al.,* 2012). More recently, scholars describe TU as a new style of performative planning [that] offers a novel planning perspective that ir planning theory facilitate that both productive and responsive roles for the pra (Altrock, 2012, pp. 21 22). The *temporary use* projects discussed in Altrock s performa interpretation feature the development of a new culture that is distinctly more inclusive with emerging arrangements of non-traditional actors. The participation of a wide range of characters including everyday citizens, artists, and other professionals shifts the planning culture away from its prescriptive roots to a voluntary culture that impels a community (as opposed to a select few) to take onus for the complex change in their urban settings (Altrock, 2012).

TU rallies citizens with emerging planning actants and *problematizes* land use, economic and community challenges that urban settlements face. It is important to examine the participants of

temporary use projects not just because of how and why actors and networks emerge, but because urban scholars agree that a majority of *temporary use* projects are successful because of the non-planning participants involved (Altrock, 2012; Lydon *et al.,* 2012). Because of the latter, *temporary use* events not only share similar conceptual emphasis as ANT on modalities and strengths of relations based on action that arises from the forming of (temporarily) stable links [between h actors] within networks (Rydin, 2013, p. 25), but also an awareness of what agency empowered within non-human actants. Since the ANT approach is most suitable for exploring how and why questions, it becomes an appropriate means of considering the actants, characteristics and linkages in TU networks and relationships as a Translation Process that not only identifies an issue but emerges and develops through *interessement*, *enrolment*, and *mobilization*.

As a previously industrial, port city, Bremen experienced post-industrial challenges in the 1980s and 1990s as shipyards, ports, and other industrial areas along the Weser River closed (URBACT Pilot Transfer Network, 2015). Like other German cities facing urban shrinkage and post-industrial challenges, the city of Bremen took advantage of the Stadtumbau or federally funded Urban Renew program supporting urban regeneration and renewal projects (Froessler, 2010; ZZZ Bremen, 2010, Zwischennutzungsagentur Wuppertal [Wuppertal Temporary Use Agency], 2014; Elisei, 2014; Hollander *et al.,* 2009). Since Bremen is featured as a model with the URBACT *Temporary use as a tool for urban regeneration* (TUTUR) program that promotes TU in European cities (URBACT Pilot Transfer Network, 2015), this article will feature the case study narrative of a project facilitated by the city s temporary use agency *ZwischenZeitZentrale Bremen* (ZZZ) as a means to articulate new arrangements embodied in TU through ANT concepts and principles. This particular case study was a part of a research the evaluated TU through ANT in four different case study cities in Germany, Canada and the USA.

4 Methodology

The preceding elaboration on theoretical work demonstrates contributions to planning theory. Further work is necessary to evaluate potential contributions to planning practise. Thus a mixed methods approach that allows for flexibility and exploratoration is needed to set up the practical research evaluating ANT in temporary use case studies. To facilitate this, the Case Study approach in combination with Narrative Research guided the research design. ANT objectives encourage the analysis of how networks are constructed. Appropriately, case studies help describe and understand research questions focussing on how and why phenomena take place at individual and detailed le (Yin, 2014; Flyvbjerg, 2011, p. 301). The unit-based design of case studies structured the work to focus on developmental factors, events over time, and also the unit relates to its environment (Flyvbjerg, 2011, p. 301). In addition, Narrative Research is an ethno-methodological technique in social research strengthens the mixed methods approach by making use of stories and accounts as instrument scientific investigation (Cihodariu, 2012, pp. 29 30; Yin 2014). Adding to the descriptive advantages of case studies, narratives provide a general means of framing [the] interpretation and renderi events and things (such as discourse, frame, mental model) used (Lejano *et al.,* 2013, p narratives in the form of accounts, Latour s appeal to trace social connection action is achievable (Latour, 2005, p. 122). Stories that inform narratives not only express the identities of their owners, but help model complex realities around us (Lejano *et al.,* 2013, p particularly relevant to the ANT approach as narratives reflect the concerns, hesitations, and amb of people as they react to, shape and are shaped by their environment (Lejano *et al.*

4.1 Research Process: Mixed Methods

In order to capture the localized detail of Bremen s best-practise TU examples qualitative i facilitated the chance for studying subtle nuance in attitudes and behaviors and for examining social

processes over time (Babbie, 2004) through the narratives that respondents provided. One semi-structure interview that lasted for over two hours was conducted for this research with Oliver Hasemann and Daniel Schnier of ZZZ in Bremen on the 5th of January 2015 after extensive literature and background research. The interview format allowed for the discussion of TU as a general topic and also the freedom to follow up on specific topics raised by the respondent (Babbie, 2004, p. 300) with regards to their best-practise project. The interview intended to capture details such as black boxes, actants, interaction modes and strengths contributing to a final ANT coding and analysis of TU. Narratives provide another means for understanding networks. Agreeing with Mark Granovetter, scholars supporting the use of narratives in environmental network research describe how trust embodied through shared information can be transferred through shared narratives (Lejano *et al.,* 2013). In light of this, narratives are not only instrumental to qualitative interviews but also to the modalities of interactions they describe and consequently key elements that construct a network (Lejano *et* Transcriptions and interview notes contributed to the data-collected and were offered to interviewees both during the meetings and after the meetings so that accuracy and transparency of the information collected was assured. With the information provided through the interview, key human and non-human actors were identified and considered. This process informed the coding of the collected data. Following this, a narrative context was induced to describe the case studies pre- and post-TU projects. Recognizing that narrative can illuminate insights for event-centered and experience-centered accounts (Andrews *et al.,* 2013, p. 5), the combination of Narrative Research and the ANT approach was justified. According to the ANT approach, the act of recording accounts is a form of tracing social connections and agency (Latour,2005, p. 122). By taking the narrative data and identifying the ANT elements (i.e. black boxes, actants, translations, intermediaries, mediators etc.), the network tracing advocated by Latour is codified. Subsequently, the data collected is analytically digestible and easier to organize into tables and other visualizations.

4.2 Bremen: Awakening Second Hand Space

In the wake of Bremen s post-industrial development, interest turned to reactivating vacant buildings and sites and supporting entrepreneurial projects as a means of reviving the city. Compared to other post-industrial cities, Bremen s vacancy opportunities lay not in urban neighbourhoods, outskirts (URBACT Pilot Transfer Network, 2015). The city saw the vacant buildings, and brownfields as chances for economic development and revitalization. As the city lacked a specific agency to manage the redevelopment objectives, they created the temporary use agency *ZwischenZeitZentrale* Bremen (ZZZ) in 2009 with funding from the National City Development Policy (*Nat* *Stadtentwicklungspolitik*) (URBACT Pilot Transfer Network, 2015). This event constituted the problematisation of economic degeneration and supported a claim that TU could help with economic regeneration through partnerships and projects specifically supporting local businesses. With further support from local level partners such as the Senate for Building, Environment, and Traffic, the Senate for Financial Affairs, the Senate for Economic Affairs, Labour and Ports, *Immobilien Bremen* (IB), as well as the local economic development agency *Wirtschaftsförderung Bremen* (WfB), Oliver Hasemann and Daniel Schnier from *Autonome Architektur Atelier* (AAA) initiated the agency (Plantage 9, ZZZ Bremen, 2010; URBACT Pilot Transfer Network, 2015).

From the onset, policies such as the new land use plan and municipal programs such as (Soziale Stadt) were enrolled to the networking of people and places (ZZZ Bremen, 2010; Elisei, 2014, pp. 31 32). Furthermore, the soft urban policy represented by the ZZZ crossed all otl policies to build project-based synergies, encourage meaningful urban transformation through bottom-up collaborations through alternatives means of socio-economic and cultural behaviours (Elisei 2014, pp. 31 32). So began the enrolment of administrative actants and the interessement with local actants. Further actants such as a website and a steering committee were organized from the start TU movement to inventory and guide projects and further enroll interest (Elisei, 2014, pp. 31 32).

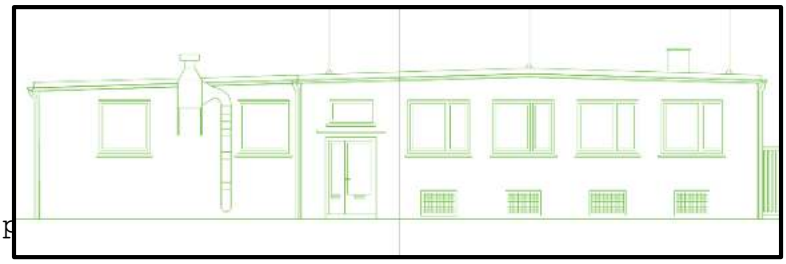

Figure 2 Building Façade Sketch (Plantage 9)

Additionally, conference events were organized to help establish and construct a temporary use network and also enrol additional support for TU in Bremen. Oliver Hasemann describes the significance of the first event, 2nd Hand Sp Sustainable Design for Urban Change through Temporary organized in 2010 was vital for the network enrolment and mobilization with other TU projects, and foundational to the success of their initial projects (ZZZ Bremen, 2010). While the website served as an early intermediary for TU in Bremen by providing summaries of potential temporary use spaces for potential owners and users (URBACT Pilot Transfer Network, 2015). The Steering Committee and informational events and relevant materials became mediators in the course of TU in Bremen. By bringing a diverse representation of experiences together and also publishing their own knowledge to share with other municipalities, ZZZ actively participated in the creation and shaping of policy claims that TU is an effective method and solution for economic development through the aforementioned mediators. At the same time, the ZZZ initiated further enrolment and mobilisation of other networks. The majority of initial projects began on publicly owned sites and facilitated TU while incubating many entrepreneurial projects. One of the most successful and earliest example is the *Bricolage Plantage* that would later be renamed *Plantage 9* also the address of the building site (Plantage 9; URBACT Pilot Transfer Network, 2015). *Plantage 9* began as an abandoned store house with a rough area of 1,600 m² originally built in the 1950s for a textile factory that was later home to a fire protection company (ZZZ Bremen, 2012b, pp. 68 69). Once the municipality acquired the building in 2009, zoning and development plans illustrated plans for the building to be demolished despite its good structural quality and a road in its stead to be built (ZZZ Bremen, 2012b, pp. 68 69). According to Hasemann, however, it would not be until meetings on creative centers in Bremen in 2009 that an actant in the form of a photo emerged and mediated the eventual change of the building s use and space for the successful tempor use project. Hasemann details, that a few city officials at a creative centers meeting shared photos of a building space that was intended for demolition due to its vacant status and plans for a new road, members of the ZZZ caught a glimpse of the space and realized the contingency embodied in the space. This realization impelled the temporary use agents to visit the site and confirm that a specific characteristic of the building and its space could facilitate temporary and creative and entrepreneurial development. As a part to the Bremen s temporary use narrative, Hasemann undersco of the spirit and character of this space that was conveyed through the photo without it, there would have been no contingency for their best-practise project.

4.3 Plantage 9: Extending Bremen s *Temporary Use Network*

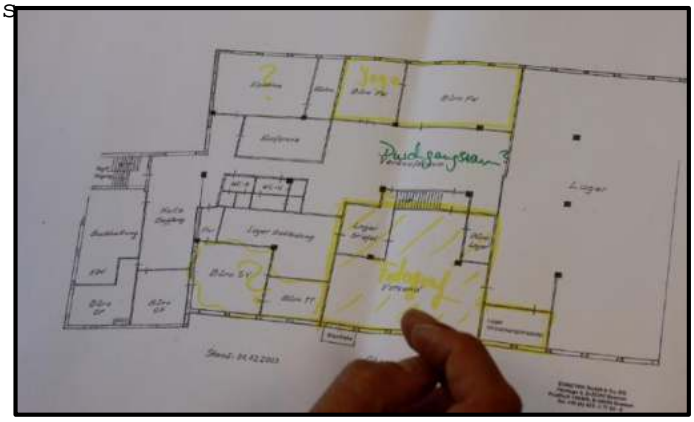

Figure 3 Workshop Visuals (ZZZ Bremen, 2010)

As of July 2010, *Plantage 9* became the working home for 30 artists, photographers, university graduates and also teachers enrolled and mobilized by artists interested earlier. Its heterogeneous combination of spaces turned into offices, warehouses, workshops, social space and canteen facilities that responded to the needs of the diverse group of users (ZZZ Bremen, 2012b, p. 68). With the help from the first conference from

2010, feedback as well as a workshop organized before users moved into the building aided in the design and transition of the project from temporary to sustainable community workplace (ZZZ Bremen, 2010, p. 19). The representatives of ZZZ explained that their initial role as a middle manager ended after explaining the rental conditions and passing responsibility of building on to the tenants. Hasemann further explains that once the year was complete, the users formed their own tenants association and initiated the process of transferring the responsibility for building management. In addition to this transfer, the tenants formed their own collective and officially renamed the temporary use project as *Plantage 9*.

By this point, the group of human actants enrolled and mobilized as renters evolved into mediators that further translated TU claims into fact. The act of establishing their own association and taking over the rental agreement with the WfB concluded this process in April of 2012 (ZZZ Bremen, 2012b, p. 68). In addition to the many mediators and intermediaries involved in this successful case study from Bremen, the creation and construction of trust as a part of the temporary use network was pivotal (ZZZ Bremen, 2010, p. 20). Not only did the trust strengthen the relations in the network, but it for exchange and learning that strengthened the group dynamics (URBACT Pilot Tran 2015).

Policies such as building codes and zoning maps presented hurdles to the implementation process of TU. During the interview, Hasemann and Schnier describe the opportunities for TU difficult as has only recently been permitted on various sites due to a tacit acceptance or tolerance despite building code restrictions. Hasemann further explains that the local government managed the project as if the plans for a new road did not exist as officials could not technically make any building improvemer with the zoning plan still in place. As for building improvements to bring the site up to standard, ZZZ contributed 10,000 to improvements while the remaining estimate of 100,000 was new three year-long contract between the new renters association and Bremen City. Not only did the policies and contracts in this best-practice example emerge as actants, but they defined themselves as actants with negative modalities around which other actants had to manoeuvre.

Beyond the key influence of non-human actants, the Bremen case study illustrates a successful process for actants in the form of heterogeneous spaces, documents, visuals and people who collaboratively construct networks. The temporary use agency in Bremen developed a legacy recognizing TU (URBACT Pilot Transfer Network, 2015). Early reactions to TU were also uncertain, but the commitment with which Bremen City and the ZZZ pursued TU as a generator for grassroots economic development resulted in the black boxing of TU as a means for testing potentially sustainable uses for difficult spaces (ZZZ Bremen 2010, 2012b; URBACT Pilot Transfer Network 2015). Moreover, the role of space and place is significant in the Bremen example and appears boldly as an actant that facilitates the cohesion of network extensions. According to the ZZZ and other temporary use academics, the key is to find and select the [spaces and] places to put in the game of the re-use and allow the second hand places to be found again with new opportunities as drivers for business, qualitative features that improve the civic fabric of the city (ZZZ Bremen, 20 Hasemann and Schnier, 2014; Elisei, 2014, pp. 31 32). Through this emerges a clear process of problematisation, interessement, enrolment, and mobilisation through which diverse actants with distinct capacities and competencies, strategically and sustainably address urban decline through tactical interventions.

5 Discussion

The process of illustrating ANT through TU concluded that ANT is in fact a useful tool to planning. The theoretical approach s unique interpretations and means of articulating

environment offers an approach that dismantles and investigates networks and the process through which they emerge and extend. Furthermore, the recognition and agency that ANT allows for human and non-human network participants, surfaces truths regarding existing weak planning actants that are impede or hinder planning processes as was the case with building codes and zoning maps with *Plantage 9* in Bremen. Traditional planning and development policies and regulations that are supposed to support urban change suddenly emerges as an outdated inscription that challenges and ultimately hinders planning processes and the actants pursuing TU. Conversely, new potential planning actants also surface such as temporary use agencies, tactical and improvised experimentation (as opposed to strategic policy making), second hand places and new entrepreneurial collectives that regenerate declining spaces. What is innovative is that they do not appear as traditionally planning practices or instruments, but have the potential to be adapted and integrated for planning practise once the identified weaknesses and barriers such as grandfathered policies and instruments are addressed or updated. This innovation illuminates the shifting arrangements and evolving actors that collectively constitute TU from and policy and practice level for urban redevelopment. Thus a moment and space to bring scholars and practitioners together as weaknesses in existing practices and instruments are revealed and the potential and contingency to experiment and adopt new practices and instruments emerge.

5.1 Challenges

While ANT is highly useful for understanding the processes in which actants emerge, and enroll others in the extension of a network, it does not provide a certain explanation of the cause and effects of events. This potential area for confusion must be heeded and noted as the ANT approach seeks to describe and explain the relations of the events in the form of actants. In detail, the illustration of ANT through temporary use narratives strives to show this by narrating the situational assemblage of actants that come together, enact each other and create contingency for new situations. This point of note is also highly relevant to critiques of ANT regarding power. ANTs approach is not meant to explain power and domination as structural framework to which most are accustomed society (Murdoch 1994, Farias and Bender 2010). Indeed its inability to explain power in such a way, is in fact as Murdoch states, its strength as it means to interpret power as outcomes (in potential), as acts of exertion (in a (Murdoch, 1994), and also what this study proposes as measures of contingency. In this sense, the research presented here confirms the work of others that use ANT to perceive power as performative flows and effects in networks, and not on a compositional arrangements (Latour, 1987, 2005; Murdoch, 1994; Rocheleau and Roth, 2007; Rydin, 2013, p. 26). Nevertheless, this thesis presents an introduction of how such research can be forwarded in other facets of planning practice and deservers further investigation.

This study initially outlines increasingly popularized and academic interests to substantiate the science in planning. While corresponding possibilities to respond to this call to better ground planning practice in science are endless, the ANT approach presents valid and appropriate philosophy and methodology as a solution to this concern. Its historic roots in technological science present direct methods and procedures that scientifically substantiate findings. Additionally, its applicability to all contexts of network and knowledge creation make it accessible to scholars and practitioners alike. The fact that ANT is adopted in fields of research outside of planning demonstrates an effectiveness for research. The next step is that we learn from the ANT tenets to translate its claims to tr facilitate the access for planning practitioners. The principles and concepts of ANT are veritably radical and innovative, but difficult to adopt without commitment and time. To articulate *agnosticism*, *generalized symmetry*, and *free association* requires that first complete understanding and secondly, discipline to trail both human and non-human actants and record their performative legacies without *a priori* assumptions. Resources such as time, patience and energy to follow through with the process are in most planning practices limited. However, the willingness of planning scholars to collaborate with

practitioners facilitates opportunities for fruitful results if not an altered ontological perspective. The concepts such as *actant*, *black box*, *translation*, *inscription*, and with which ANT communicates its *Translation Process* are also a new vocabulary the non-technological scientist must learn.

Beyond this initial hurdle, ANTs language presents a distinct way of regarding urban environments and portraying the observations in a way that is extremely relevant with the increasingly technological world. Latour s argument to dispel the exclusivity of agency embodied in humans is fair. As desc Avrahampour, Latour s campaign to correct social theory and its anthropocentri indeed an attempt at fixing faulty attitude (Avrahampour, 2007, p. 358). While it may have seemed that the radical extension of agency to all things is silly, the growing interest in ANT demonstrates that is no longer so. It is only a matter of time before such a philosophy is fully embraced by planning practitioners and legitimized. The current status of urban studies scrutinizing ANT in planning theory and furthermore in planning practice is still preliminary. Nevertheless, the opportunities to study ways to improve or adapt ANT for planning theory and practices are many. Specifically, more precise means of distinguishing and characterizing the phases of the translation processes as well as the typology of actants and modalities could improve the robustness of ANT s contributions. generousity of the concept lends itself well to a range of varied interpretations. This, however, undermines the general operationalization of the concept as it exposes vulnerabilities to bias and extreme interpretation. Nevertheless, like many other theoretical concepts, ANT is characterized by theoretical abstraction. The new contingency that is brings is its unique methodic approach that behooves scholars and practitioners to collaboratively refine and polish ANT s potential, planning policy and practice.

6 Conclusions

Through the fusion of ANT and planning practise, both scholars and practitioners are provided the opportunity to be humble and acknowledge that humans are not the drivers of change in the world. It is in fact many and all things that affect change (with)in varying degrees of magnitude or separation. The illustrative context of TU is one example presented in this thesis. This, however, does not mean it cannot be transferred to other practice based scenarios. This research has examined and presented ANT through one temporary use case study. The information provided here adds to the range of existing ANT research in urban contexts, and thus highlights the range and adaptability of ANT. The research also presents the strategic and tactical evolution of TU as a response to urban decline.

This article has demonstrated ANT facilitates the examination how TU is developed and implemented. Additionally, ANT facilitates and analysis of the network participants and how they come together as conditions for change. The contingency illustrated here is clearly evident in the presented case study and could also be so for all planning in general. As such, there is still much for ANT to contribute to planning, and conversely much for planning to contribute through ANT. Despite the early stage of progress with research integrating ANT and planning, this article presents a step forward and demonstrates ANT can positively contribute to both planning theory and practice. The work present here is a chance for further problematisation, interessement, enrolment and mobilisation in a greater scheme of ontological and epistemological understanding in the planning. Further testing and improvements on the operationalization of the *Translation Process* and the ANT principles must be further experimented and adapted. And so this work concludes with the expectations that ANT contributions further be debated, falsified, [and] repla himself also finally encouraged (Latour, 1987).

7 References

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