Things Overlooked

Exploring housing renewal with actor-network theory

A case study of the Sint-Mariastraat in the Oude Westen, Rotterdam (NL)

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Abstract

While network perspectives in housing studies have gained currency over the last decade, research looking at the actor-networks of housing management is limited. This is remarkable given the recognition for actor-network theory (Latour, 2005) in the related fields of urban studies (Farías and Bender, 2010) and planning theory (De Roo et al., 2012). Accordingly, the thesis introduces and tests concepts from actor-network theory in the study of housing renewal. It describes the socio-technical controversy in the Sint-Mariastraat in the Oude-Westen Rotterdam (NL) to explore the making of the renewal project by heterogeneous means. In particular, it looks at the actors' strategies to manage uncertainty by means of translating other—human and non-human—actors to form and stabilize the renewal network. The case study illustrates how the issues of foundations and evictions are interrelated, and how their alliances are continuously negotiated. Building on network governance, actor-network theory adds new (non-human) actors to the housing renewal network. These non-human actors are found to be significant to explain how specific actors accomplish the closure of controversies. They are also relevant to analyze the mechanisms by which housing renewal issues are made technical or political. Accordingly, ANT offers new perspectives on the democratic anchorage of housing renewal networks and introduces new forms of being political. The implications of this are worked out in a participation model based on the suggestion that contesting the issues (parts) is more important than consenting on the plan (whole).

Keywords: social housing, renewal, participation, actor-network theory, network governance, translation, controversy

Summary

Urban renewal entered the Dutch policy agenda in the 1970s, its interpretation in public policy and practice has changed since (see for an overview Vermeijden, 2001). While the first renewal projects were publicly funded, large scale and physical urban renewal projects, in recent years they rely increasingly on various actors, address multiple dimensions and are area targeted. *The complexity of urban renewal has increased.*

In this context, master plans, area strategies and local accords set out the courses of actions in cooperation with governmental, institutional, market and community actors. The coordination of actors and their goals, views and resources in a complex setting of stakeholders is a challenge (Haffner and Elsinga, 2009). For the Dutch housing association—against the background of strict (financial) control, issues of societal trust, a depreciating stock and the depressed housing market—urban renewal is a necessary yet strenuous task (Gruis et al., 2009). *The housing association needs to rethink its urban renewal strategies.*

To this end the field of housing studies has turned to network perspectives to address the intricate relations and their development in housing renewal (Bortel et al., 2009). It proposes to consider urban renewal in terms of governance rather than government. Accordingly, instruments and strategies of network governance aim for an efficient cooperation to reach consensus on complex issues in multi-actor environments (Koppenjan and Klijn, 2010). *Housing renewal takes place and can be managed in networks.*

The housing association is an institution particular to the development of the Dutch welfare state (Elsinga and Wassenberg, 2014). Yet the rolling back of the state over the last decades has significantly changed the position and organization of this institution (Boelhouwer and Priemus, 2014). In the most recent round of reforms housing association are called to focus on their core mission: 'to offer affordable rental dwellings to the target audience, the low income households' (Blok, 2014). At the same time, the privatization of the housing association since 2005 has challenged its management and identity (Czischke, 2009; Gruis and Nieboer, 2006). *The housing association is a social enterprise positioned between the state, market and society.*

In the ongoing debate on the future of the housing association, new missions and typologies have been proposed (Gruis and Nieboer, 2014; Gruis, 2010; Gruis, 2008). They tend to highlight the networked character of the housing association to engage various parties in tackling societal issues (Gruis, 2010). Moreover, they demand a focus on the current stock in combination with new services or qualities (STIPO, 2010). The current stock is above all crucial in view of the market challenge of housing development, the financial burden of a new landlord tax and the diminishing cash flow of a reduction in the remaining life expectancy of the housing stock if renewal is not considered (WSW, 2014). *The management and renewal of the current stock is central to the future of the housing association.*

Urban renewal is a controversial task as the history of urban renewal policy and practice indicates. Specifically, the aims and knowledge for urban renewal have changed since it first

entered the agenda in the late 1960s. During the 1960s to 1980s renewal changed from a project of 'city formation' based on modernist principles, to the idea of city renewal based on democratic ideals (De Liagre Bohl, 2012). These renewal programs were revisited in the 1990s and critiqued for their limited focus on just the physical dimensions, their neglect of the effects of suburbanization, and consequently the incapacity to adequately address inner city deprivation.

In response, city renewal was devolved to cities and renamed urban renewal to express a change from the neighbourhood to the city scale. This lead to the 1995 Covenant Big City policy signed by the four biggest (Den Haag, Utrecht, Rotterdam and Amsterdam) and the 1997 Memorandum urban renewal. The new programs addressed three pillars of physical, social and economic restructuring and were backed by a special urban renewal fund (Investment budget city renewal; ISV). They were revisited with the 2007 Action plan power neighbourhoods that presented a targeted and integral approach to 40 neighbourhoods—the Oude Westen was among those.

In the 2010s policy-making aimed to make local parties and residents responsible for the liveability in neighbourhoods and marked the decentralization of urban renewal. Furthermore, it cut the ISV budget and announced its termination after 2014. In the context of state austerity measures and low demands on the housing market, renewal was expected to be taken up by housing associations in the last years. Although market conditions are improving, the decentralized task of urban renewal is a difficult one. Consequently, a new agenda for urban renewal is proposed that is cooperative, flexible, diverse and inviting (Kei/Nicis, 2012). *We define urban renewal as: 'The assignment of citizens, societal actors and the government [is] to maintain and improve the quality of the living environment' (Donner, 2011).*

Aim

This research looks at the involvement of the Dutch housing association in urban renewal from the perspective of actor-network theory (ANT) (Latour, 2005). While the network perspective has gained currency in the study of housing renewal (Mullins and Rhodes, 2007), the accounts remain largely tied to theories of network governance (De Bruijn and Ten Heuvelhof, 2008: Koppenjan and Klijn, 2004). The limited attention to actor-networks is remarkable given the recognition of ANT in the related fields of planning theory (De Roo et al., 2012) and urban studies (Farías and Bender, 2010). This literature illustrates the power of material and non-human actors in ordering (social) networks (Latour, 1996). *The ANT perspective might benefit a study of how the renewal of the built —that is, material—environment is organized.*

So while housing studies have provided useful accounts of the relations and their management in housing renewal processes (Mullins and Bortel, 2010, Haffner and Elsinga, 2009; Bortel and Elsinga, 2007), they have only considered the role of human actors. But the complex networks are, as we argue, composed of both humans and non-humans. Accordingly we introduce concepts of ANT in the study of housing renewal and test them empirically in a case study of the renewal of the Sint-Mariastraat in Rotterdam (The Netherlands). *We aim to explore the*

analytical potential of ANT to understand the making of the housing renewal process by heterogeneous means.

To examine if ANT is a useful approach to housing renewal networks, we are guided by the following two questions:

- what material actors are in the housing renewal network of the Sint-Mariastraat?
- and, how do these material actors negotiate the housing renewal project?

The questions guide us through the borderlands of housing studies and ANT. On our way we elaborate on them conceptually, methodologically and empirically.

Theory

In recent years scholars of housing have employed network approaches to study the changing landscape of (social) housing provision. Particularly the approach of network governance has gained currency in housing studies, and housing renewal specifically 'as a new form of governance' (Mullins and Rhodes, 2007). *The network governance framework is used to study, explain and inform urban renewal processes.*

Network governance refers to wicked problems as complex societal issues featuring substantive, strategic and institutional uncertainty (Koppenjan and Klijn, 2004: 6). Consequently, '[t]he theoretical and normative assumption … is that handling these types of uncertainty … is essentially a matter of mutual adjustment and cooperation' (Ibid. 114). The management of uncertainty takes place in networks that are characterized by pluriformity (actors have various value systems), closedness (not every actor or issue can enter the network), interdependence (goals require cooperation between actors) and dynamics (network actors and forces change) (De Bruijn et al., 2002). *The theory has a strong practical view to steer networks towards specific goals through cooperation and consensus.*

Actor-network theory (ANT) has its origins in the studies of scientific knowledge production and technological innovation by Bruno Latour, Michel Callon and John Law in the 1980s (see Latour and Woolgar, 1986; Law and Lodge, 1984; Callon, 1980). The studies emphasized that facts are not the product of logic but of the logistics by which they are registered, ordered and distributed (Blok and Jensen, 2012: 27). Consequently, they critique the modernist divide of nature and society and propose a sociology of circulation. *ANT is interested in the work of assembling the world through the associations between human and non-human actors.*

For us ANT is not a theory of universal claims but primarily a methodology that provides an analytical framework based on the idea to not separate the natural from the social. This idea follows from the *principles of relationality*, *symmetry* and *association* (Farìas and Bender, 2010: 3).

The *principle of relationality* extends to the material and semiotic to find out which entities are related, how they are arranged and what effects they produce. *Action is interaction and transformation.*

The *principle of symmetry* holds we should pay equal attention to human and non-human entities when we describe social situations. *A single repertoire for all entities.*

The *principle of association* stands for the free association of humans and non-humans in actor-networks. *The social is made up of entities that are not social themselves.*

By following these principles we detect new entities: non-human actors. We consider non-humans natural and material objects that humans engage with and mobilize for specific (human) ends. This is an analytical view to make visible how non-humans make a difference. We identify three ways in which non-humans matter, as *a stabilizer*, *a mediator* and *a gathering* (Sayes, 2014).

As *a stabilizer* non-humans act as placeholders to stabilize the interactions between human actors through time and space.

As *a mediator* non-humans are placed between human actors and shape their interaction.

As *a gathering* non-humans are members of associations of humans and other non-humans that act as networks.

The equality between humans and non-humans is an analytical stance (Law, 1992). Again, ANT is primarily a methodology that offers 'only some infra-language to help [sociologists of circulations] become attentive to the actors' own fully developed meta-language' (Latour, 2005: 49). Part of this infra-language is the concept of translation to study the process of making equivalents so that elements can be linked, defined and ordered (Callon, 1986). *Translation helps us to describe how networks are formed, negotiated and stabilized.*

We use translation to study the development of uncertainty in housing renewal. Invoking Science and Technology Studies, we conceptualize the process of housing renewal as a controversy in which

> every bit of [housing] is not yet stabilized, closed or "black boxed" … we use it as a general term to describe shared uncertainty. (Macospol, 2007: 6, emphasis original; in Venturini, 2010: 3)

Thus, controversies are those situations in which actors disagree on housing and are negotiating the alliances in the housing network. *To study housing renewal we focus on the renegotiation of*

existing housing networks till actors have redefined their identity and new (i.e., renewed) housing networks emerge.

The stabilization of networks is achieved through the closure of the controversy which 'occurs when the spokesmen are deemed to be beyond the question' (Callon, 1986: 212). This process is made visible by means of the four moments of translation of *problematization, interessement, enrolment* and *mobilization* (*Ibid.*).

> *Problematization* refers to the moment when the focal actor formulates a question that brings together the various actors and forms their relationships. *Problematization relates and defines the actors in the network.*
>
> *Interessement* is the strategy of the focal actor to build a stable set of alliances and to obstruct competing associations. *Interressement shows the actors that the network is in their interest.*
>
> *Enrolment* is the action to define the position of the actors and to engage them in the network. In this stage identities and roles are contested but devices of translation are used to draw things together. *Enrolment registers actors in the network.*
>
> *Mobilization* is the process of creating intermediaries that displace the actors and allow for only a few spokespersons to state what the actors are and what they want. *Mobilization makes actors mobile and controllable.*

Framework

Following the literature review of network perspectives in housing studies, the framework of network and actor-network theory. We put forward six consequences for the study of housing renewal with ANT.

> *Proposition 1:* To approach housing renewal widely and follow *all* actors in the reshaping of the housing renewal network.
>
> *Proposition 2:* To understand renewal as the reassembling of both humans and non-humans into new heterogeneous associations.
>
> *Proposition 3:* To consider housing renewal not as a project but a dynamic process of dealing with shared uncertainty; housing renewal is a controversy.

Proposition 4: To focus on the efforts and powers of actors to stabilize and destabilize the housing renewal network.

Proposition 5: To consider actors and their intermediaries even when they act on a distance, in a different time and place.

Proposition 6: To recognize that to order the housing renewal network is power and to take into account who do intermediaries act for, who makes the alliances and who mobilizes the network.

Based on the three principles and the six propositions we identify four key differences between network governance and ANT. First in ANT actors are not only interdependent to reach goals but can only act in relation with other actors. Second pluriformity states actors are composed of entities with varying values, ideas and goals; ANT argues the entities should be described in a single language. Third the degree of closedness in network governance is a result of competition for free association in ANT. Fourth the configuration and its changes is not just due to the dynamics of the actors but also to the combined effect of these actors.

Hierarchy	**Network**	**Actor-Network**
Dependence on superior	Interdependence	Relational
Uniformity	Pluriformity	Symmetry
Openness	Closedness	Association
Stability, predictability	Dynamic, unpredictability	Contingency, instability

Table 1: Overview of characteristics of hierarchy, network and actor-network (elaborated on the basis of De Bruijn et al.: 2002: 20)

Methodology

We employ ANT as a methodology and this means not to ‘start out assuming whatever we wish to explain’ (Law, 1992: 380). Instead, we adhere to the ANT alternative ‘to follow the actors’ (Latour, 2005) and ‘to learn from them how to observe their collective existence’ (Yaneva, 2011: 4). As a consequence we remain flexible towards the research objects, arenas and issues. In turn we are flexible in the research methods we use. *We want to diversify the accounts and multiply the points of observation to describe the complexity of the situation.*

Consequently, we use the case study method to describe the makings of housing renewal from the perspectives of various actors. On the one hand, we derive case study criteria from existing network studies of housing renewal. *So the case study concerns (1) physical renewal of (2) social housing (3) in a central city location (4) initiated by a housing association and (5) requires tenants to move out for at least the duration of the project.*

On the other hand, we obtain criteria from the field of STS to approach the housing renewal as a controversy. *To study the housing renewal controversy the housing renewal project is (1) debated and (2) takes place in the moment (3) in localized arenas that (4) are accessible.*

We studied the case while it unfolded so we could collect data on ten site visits over a period of one year (from August 2013 till August 2014). Furthermore, five semi-structured interviews with key (human) actors were held over the summer of 2014. Finally, in extended desktop research we analyzed media articles, legal documents (land use plans, ordinances and court records), official city plans, policy documents, minutes of meetings, flyers and pictures of the street. In the data analysis we relied on grounded theory (Corbin and Strauss, 1990), and the techniques of controversy mapping (Yaneva, 2011) and situational analysis (Clarke, 2005).

Conceptual model

The first question that guided the theoretical and methodological discussion is what material actors are in the housing renewal network of the Sint-Mariastraat? To account for material actors we approach the network of housing renewal as a controversy. *We look at the associations being made between human and non-human actors in heterogeneous networks.*

The second question is how do these material actors negotiate the housing renewal project? To capture the work of material actors we follow a focal actor in building the heterogeneous networks through the process of translation. *We examine the development of uncertainty as a stabilization of the housing renewal network.*

Following the theory and methodology developed so far, the empirical study is guided by a conceptual model that sees the reduction of uncertainty (the funnel) not as a chronological evolution (the horizontal line) but an iterative process of network stabilization (the circles) (see *Figure 1*). As such, associations can always be contested and renegotiated. Therefore, the housing renewal network remain precarious throughout the controversy so uncertainty is never eliminated. *The controversy is never fully resolved as the housing renewal network is continuously reassembled.*

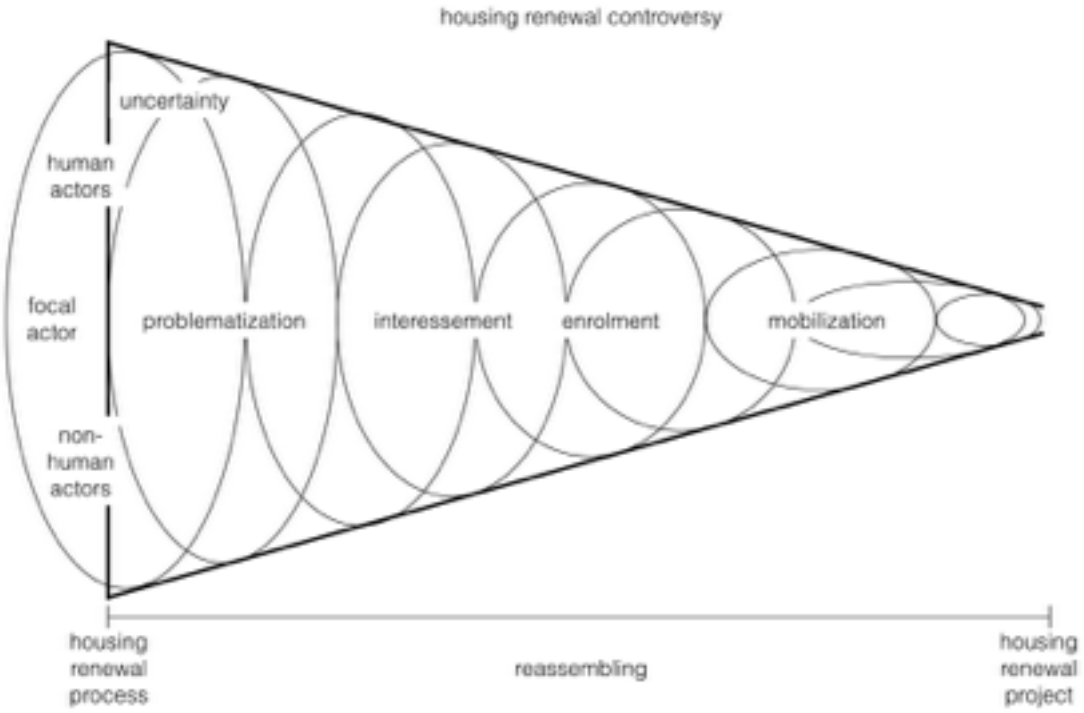

Figure 1: Conceptual model to study the housing renewal controversy

Case study

The case study is based on the project of housing association Woonstad Rotterdam to renew the houses Sint-Mariastraat 106-146 in the Oude Westen neighbourhood in Rotterdam (NL). The Oude Westen has largely been preserved during the Second World War. Following the war, ideas to demolish the neighbourhood and start building with a clean slate have been put forward but have never made it into plans (Van der Gaag, 1993). *Only in 1974 the Oude Westen was formally recognized in the city planning policy yet as a laboratory of city renewal.*

Since 1974 no major renovation works have been undertaken and the housing is relatively old. The housing association Woonstad Rotterdam is the largest social landlord and housing proprietor in the neighbourhood. The renewal project in the Sint-Mariastraat was initiated in 2011 and involves the restoration of the foundations and facades of the houses. Of the 20 houses in total, 17 are being sold as 23 so-called 'kluswoningen' (shell restoration only) and the remaining 3 are renovated as 19 social rented units (Woonstad, 2013). *We look at the process of the housing renewal in the period from 2008 to 2013 to study its evolution into a defined and stable project.*

We identify *four elements* that we find throughout the housing renewal controversy in the Sint-Mariastraat. *First* is the issue of the development of the neighbourhood. An important actor in the debate is the 2008 Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). *Second* is the uncertainty about the future of the houses of the current tenants after renewal. *Third* is the condition of the housing and knowledge about the risk of the foundations. *Fourth* is the financial position of Woonstad Rotterdam determining what it is required to do and

capable of doing. *We identify political, social, technical and economic uncertainty as the main elements framing the housing renewal controversy.*

Next we find *four entities* in the debate. *First* the focal actor Woonstad Rotterdam, a social housing association that is the owner of the houses, the landlord of the tenants and an important player in the neighbourhood. It has the mission to offer affordable and good quality housing and considers an upgrade necessary for this. It also has to comply with national regulation on the landlord tax and needs to find alternatives to the ending of the ISV to cover (part of) the investments for renewal. *For Woonstad the renewal is guided by social, technical and economic objectives.*

Second the residents of the Sint-Mariastraat, tenants of Woonstad Rotterdam and dwellers of buildings of which the durability is being questioned. Most of the tenants are satisfied with the neighbourhood and the (low) rents, and wish to stay in their homes as long as this is safe (i.e., no significant risk of collapse). In turn, the tenants are willing to improve the dwellings in order to return to and live in safer buildings. *The tenants like to stay in the houses but also agonize about the safety of their homes.*

Third the houses Sint-Mariastraat 106-146 negotiate their engagement with other (human) actors and participate in the technical discussions. Although they do not explicitly express themselves, we can say the houses were built for tenants and are expected to sustain for another 30 years. They depend on (future) residents and on the renewal works of the housing association. *The houses mediate the relation between the tenants and Woonstad which is formulated by the original architects.*

Fourth we have the future residents, they are only indirectly involved as plans infer their identity (e.g., 'young creatives') and wishes (e.g., 'red lifestyle'). They are also addressed in the marketing campaign WOW (Wilde Oude Westen). On reading their representation, the future residents want to live in an authentic and central neighbourhood that is also attractive and secure (Centrumraad Rotterdam, 2008). *Future residents are not physically or actually involved but only engaged through the intermediaries of plans, marketing campaigns and market studies.*

Now that we know the form and content of the housing renewal project, the question we investigate is how did the housing association pursue and realize its social and economic objectives. The 'primum moven' (Callon, 1986: 202) is the 2008 Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008) where the city and the housing association state the objective to strengthen the position of the current inhabitants and to encourage gentrification to attract new residents and entrepreneurs (*Ibid.*). *The neighbourhood is 'to bind and seduce' current and future inhabitants.*

In the same year (some of) the residents stated their claim on the buildings and the street as a home. The publication *The cultural capital of a depreciated street* (Van der Zwaard and Ter Laak: 2008) portrays the tenants of the Sint-Mariastraat 106-146, 'their activities and knowledge',

and ‘the relations between their way of living and housing situation’ (*Ibid.*: 8). *The residents put into question the presented future of the street by reconsidering the notion of cultural capital and identity of the tenants.*

The third event in 2008 is the report of the external advisor Fugro GeoServices on the conditions of the foundation pillars under the houses Sint-Mariastraat 106-146 . In a tenants’ meeting Woonstad concludes ‘it is worse than expected’ (Woonstad, 2008a: 1). The attending residents indicate ‘[they] do not have enough knowledge and experience to understand the technical situation of the foundations’ (*Ibid.*: 2). *For Woonstad the primary uncertainty is immediate and technical, that is the severity of the deteriorating foundations.*

We can identify the first moment of problematization, Woonstad draws attention to the technical uncertainty and formulates the question whether the foundations of the houses Sint-Mariastraat 104-146 are at risk to collapse (*Ibid.*). Simultaneously, this question defines the identities of the main actors and the relations between them. Above all Woonstad obtains a central position in the network as it declares itself indispensable to the actors’ goals. *Woonstad becomes the obligatory passage point (OPP) in the housing renewal network.*

First the current tenants have expressed their goal to keep their home but the safety of the structures is crucial. *This safety cannot be guaranteed by the residents themselves but only in cooperation with Woonstad.*

Second the houses degrade due to environmental factors and can be assumed to exist for at least a certain period of time. *The eventuality of collapse is formulated by Woonstad but so is the ‘solution’ of renewal.*

Third the future residents are so far only imagined as those interested in living in the street. The obstacle to moving in is supposedly unattractive and actually unavailable houses. Technical question of Woonstad might result in upgrading the houses and in vacating currents tenants. *Woonstad can make the houses attractive and available for future residents.*

In the second moment of interessement Woonstad sets up devices to attract actors and set up their relations. The devices are used to translate the diverse identities, needs and wishes of actors into tangible spokespersons. Among those devices are so-called dream sessions and house visits for tenants; scenario planning, maintenance data and technical reports for the houses; and housing market data and city visions for future residents. *Still, actors are in competition and spokesperson are unreliable as the request for a second-opinion on the representation of the houses (foundations) illustrates.*

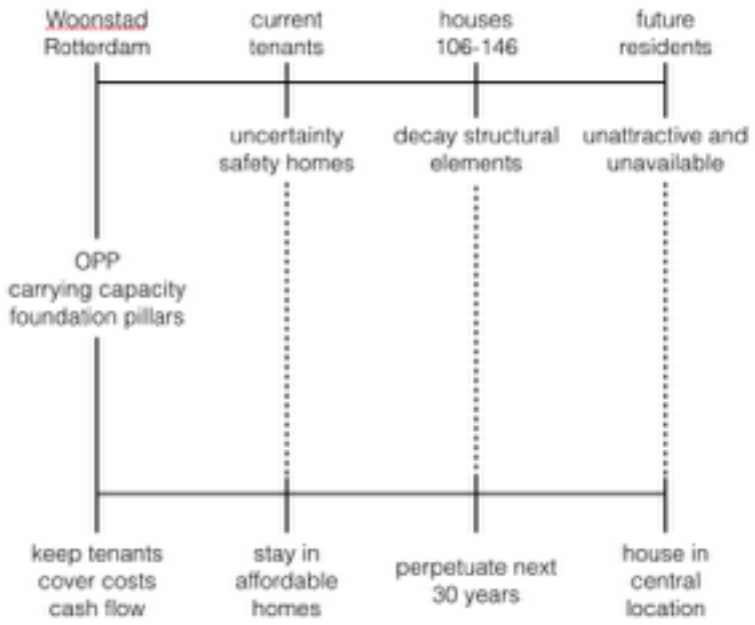

Figure 2: Schematic overview of process of problematization and interessement

The technical controversy over the foundations reaches, temporarily, closure in 2010 with the engineering research by Cardo Architects. Woonstad warns that the upgrades will require the ground floor of the houses to be vacated (Woonstad, 2010b). The definition of the project proceeds by means of new information obtained through a final round of house-visits, a cultural-historic exploration of dS+V and feasibility studies of Woonstad. *In all scenarios the tenants need to move out their homes, at least for the duration of the foundation works.*

Based on past projects Woonstad estimates that to make a feasible renewal plan the housing needs to be differentiated in a ratio of 70% sale to 30% (social) rent (Woonstad, 2010a). The scenario device overpowers the device of the dream session and the residents start to question 'how much space there is to realize their dreams' (*Ibid.*). Yet Woonstad emphasizes that new findings of Cardo Architects indicate 'the houses must be vacated' (Woonstad, 2010b). *Woonstad announces it will terminate the tenants' contracts.*

Meanwhile, tenants still negotiate the associations the scenario device sets out between them, safe homes and future residents. We are interested in how these entities were translated into entities which Woonstad could control or speak for. First, the tenants—represented by the Straatcomité—were presented the option of self-management 'to preserve the cultural capital' (*Ibid.*). *An association of self-management is an intermediary Woonstad can help shape and communicate with.*

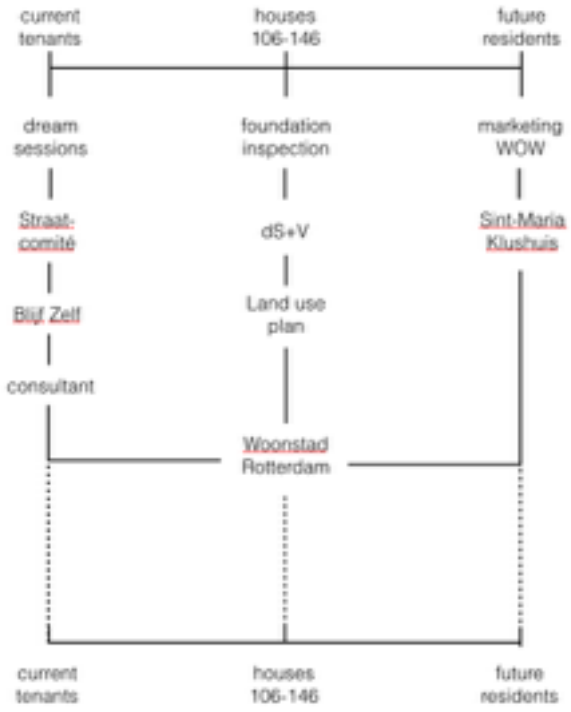

Figure 3: Schematic overview of process of enrolment and mobilization

We can see a transformation of scenarios into plan components as individual future scenarios are being enrolled in a common future plan. This enrolment relies on the two statements: (1) the foundations of all houses need to be renewed, and (2) 'Sale is necessary for the income of Woonstad, for realizing the investments in our rental homes' (Woonstad, 2010d). *Accordingly, self-management is only technically and financially feasible if the association accepts Woonstad as a spokesperson.*

While renewal plans are developed on the side of Woonstad, the tenants are still considering the option of self-management. In the end of 2011 they present a bid book under the name Blijf Zelf (Blijf Zelf, 2011). This book is well received by Woonstad and considered 'an example for the city' and an opportunity 'to preserve the cultural capital' (Woonstad, 2011g). *Woonstad proposes to set up two programs of requirements.*

Woonstad speeds up the project and announces the start of the sale campaign in April 2012, the procurement in May 2012 and the evacuation of the homes by September 2012. Blijf Zelf, on the other hand, starts to lose momentum and questions whether the external advisor determines too much the direction of the group. It is also confronted with the contractual requirements and obligations put forward by Woonstad. Legal advisors recommend to contest Woonstad's motivations, procedures and objectives of the renewal in Court. *The controversy that reached closure in the street is opened up again in Court.*

Discussion

The approach of controversies and translations emphasizes the political, social, economic and above all technical uncertainty in housing renewal. Once the technical uncertainty was partly

resolved, new issues emerged. These were not just technical but also social, economic and eventually political. Since many spokespersons had already been established to resolve the technical controversy, the housing renewal network was relatively resilient in dealing with the new issues. *In the production of technical knowledge social relationships were constructed which helped to stabilize the network as new (different) issues emerged.*

The analytical framework that we developed and employed is productive in approaching uncertainty in both the social and the natural. That is, the condition of the houses accounted for as much uncertainty as the reactions of the current tenants and the expectations of future residents. According to network governance, uncertainty is found in 'the inability of stakeholders to coordinate their individual interpretations in a particular situation' (Koppenjan and Klijn, 2004: 160). *Network governance is less critical about the production and use of knowledge as a form of power to order the network.*

Instead, network governance is optimistic about the strategic behaviour of the actors to come to a consensus through cooperation. From this perspective the city and the housing association are interdependent but their values and objectives are already aligned before 2008. For the tenants, who are invited only later into the network, it is difficult to define the resources they bring into the network and with which they can negotiate the direction of the network. *The final project is more the result of cooperation and consensus between the city and the housing association than of a network including the tenants.*

With the ANT perspective we can identify non-human actors in the housing renewal network such as plans, scenarios, foundations, facades, houses, minutes of meetings and definitions (e.g., 'cultural capital', 'dream sessions' and 'kluswoningen'). While these non-human actors do matter, we cannot simply refer to the individual agency of 'things' and objects in housing renewal. *The power and agency of non-humans is constituted in networks.*

One of the most important non-human actors we found are the foundations. They are non-human actors negotiating the renewal network and important in the closure of the housing renewal network. Closure was reached when the spokespersons for the foundations by means of engineering experts and technical reports were no longer questioned. *Once the technical uncertainty was settled, Woonstad soon started the project and enrolled the actors in the housing renewal network.*

Of particular interest is the way non-human actors can be used as network resources by all actors (*principle of association*). The tenants' request for a second-opinion on the foundation research and its ability to slow down the process created an occasion for democracy. Similarly, the self-management option offered a real opportunity for participation. The association of all actors thus creates spaces of possibilities but also implies competition for actors. *If network governance is geared to the effectiveness of finding consensus on a plan, ANT illustrates that competition on all type of issues (technical and political) can create possibilities for the search of a (new) plan.*

The gain of making non-humans visible comes with real implications for the way of doing research and the relevance of the conclusions. We described ANT as a methodology that slows research down and sends the researcher out into the field 'to follow the actors' (Latour, 2005). Compared to network governance, the ANT approach remains primarily an analytical and reflective approach. We recognize that the described re-thinking of housing renewal is a significant demand on the practitioners. *Network governance has the advantage of being concrete and accurate in identifying the actors and shape of the network.*

Yet we do maintain that the capacity of ANT to gain insight in how materials mediate power in housing renewal networks needs to be researched further. ANT can take up the specific issues that network governance has so far not been able to adequately address (see Bortel and Mullins, 2009: 100). This is *first* the ambiguous relationship between technocracy and democracy, *second* the methodological bracing to detect new entities, and *third* the attention to the power mechanisms of network ordering. *ANT can shed new light on what democracy can stand for in situations of shared uncertainty.*

Conclusion

On an analytical level ANT illustrates how knowledge produced about the technical condition of the housing is also a construction of (social) relationships that stabilize the housing renewal network beyond technical uncertainty. In the case study we observed how the technical framing of renewal attempts to foreclose the political. In other words, the decision-making in housing renewal is largely a task of experts and leaves little room for tenants participation. *ANT blurs the boundaries between the technical and the social, and so introduces new ways of being political.*

The ANT lens adds an understanding to how the participation on issues might be more democratic and effective than the participation on the plan itself. The very focus of ANT on the issues, regardless of whether they belong to the social or technical realm, is thus a relevant avenue for approaching the democratic anchorage in network governance. *We make the claim that participation on the parts, issues and things deserves more credit than cooperation on the consensus of the plan.*

Recommendation

This research has explored the potential of actor-network theory as an analytical perspective to housing renewal networks. Based on these first steps and insights, we look forward to seeing further research developing this borderland of housing renewal and Science and Technology Studies (STS). In particular future research could address the following issues:

- to revisit the democratic anchorage of network governance based on its strategies to reach consensus

- to study by which mechanisms uncertainty is defined and housing renewal is made technical or political
- to examine the various ways of being political in participatory housing renewal processes
- to visualize the development of housing renewal controversies with tools developed in STS

The main insight for practice is that participation on the parts, issues and things of renewal deserves more credit than cooperation on the consensus of the whole project. After all, the reduction of specific uncertainties builds networks that could durably integrate other and emerging issues. *Therefore, uncertainty is not just managed in networks but should also be defined in networks.*

In the process of housing renewal the housing association should not pre-define issues and stakeholders but rather establish one forum that is open to all actors, issues and ideas (see *Figure 4*). *This forum should aim at finding shared uncertainty and at collecting diverse propositions.*

Only after a first round of *perplexity* and a forum of *consultation,* should the housing association, who is after all the project leader and owner, define the boundaries and conditions of the project. *These boundaries and conditions should be derived from the propositions and legitimized by the appropriate means.*

Once a *hierarchy* has been established and stabilized in political and/or technical ways, it should be recognized as the collective work of defining and closing a controversy. *Therefore, after institution the project should no longer be questioned.*

- uncertainty should be managed to build durable social and material relationships
- uncertainty should not just be managed in networks but also be defined in networks
- issues and stakeholders should not be pre-defined by the project manager
- project teams should communicate the framework actively as a common project
- actors should dare to take new paths and should be given space to do this

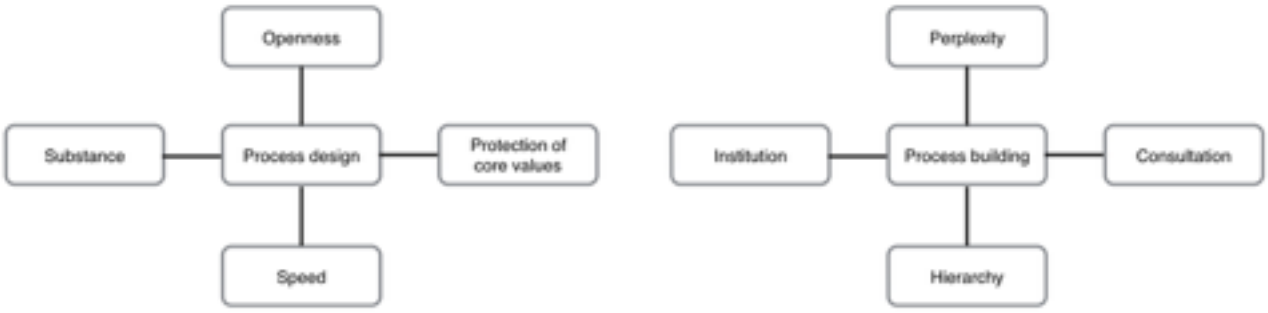

Figure 4: Model of process design left (adapted from: De Bruijn and Ten Heuvelhof, 2008) and process building right (adapted from: Latour, 2004b)

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For the past ten years or so, we have been giving in to the temptation to replace politics by management, and the exercise of democracy by the awful word “governance”. We now see why: good management, like good governance, are used to regulate the relationship of the parts to the whole as harmoniously and effectively as possible. They like the zoom. They see things first from the high, then from the middle, and finally around the bottom. All that is a sequence linked up and fitted together perfectly.

(Latour, 2012: 93)

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Preface

This thesis is part of my expedition into the non-modern world of actor-network theory (ANT) heralded by Bruno Latour. I first embarked on this expedition in my MSc in Urban Studies (2012) thesis on the topologies of the festival market place. The research outlook has intrigued me to see the world, and the study of it, in a different light. A light that in this MSc thesis in Real Estate and Housing I shed on the unfolding of a housing renewal project in the Sint-Mariastraat in Rotterdam, the Netherlands. Simultaneously, I have started a PhD in Urban Planning (2013) in which I view the modernist planning project through the non-modernist lens of ANT.

I started my MSc Real Estate and Housing (2012) in a time when both real estate and housing found themselves in difficulty in the Netherlands. Otherwise maybe unpromising, the prospect from an ANT perspective was heartening to me and the inspiration for this thesis. With great interest I followed how the practices of housing associations became a controversy. Specifically, I was intrigued by the way the cornerstone of the Dutch welfare society, the social housing association, started to crumble. Instead of the failure of the welfare state project, I perceived systems and structures that are not nearly as fixed or given as usually believed. Therefore my undertaking here is a project that aims to reconsider what we think and see, and above all that invites us to imagine alternatives.

This graduation research coincided with my PhD work in Zurich, Switzerland. I am thankful to my supervisors in both locations for allowing me to work on research on a distance, and in many places. In addition I would like to thank the interviewees in the case study, and in particular Jan van den Noort for his help and archive. The coordination of field work and other logistics have been a challenge but definitely worth the ride(s). This research project has confirmed and stimulated my interest in ANT. I was fortunate enough to engage in this project under the supervision of Peter Boelhouwer and Tom Daamen. I am grateful for their insights, and apologize for putting them up with my ANT outlook and drawing them into this non-modern world.

Marko Marskamp
Zurich, 5th of December 2014

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1. Introduction

> At every corner, science, religion, politics, law, economics, organizations, etc. offer phenomena that we have to find puzzling again if we want to understand the types of entities collectives may be composed of in the future. Since it now appears that the collectors are not comprehensive enough, let's go back to the drawing board. (Latour, 2005: 248; emphasis in the original)

Urban renewal has entered the Dutch policy agenda in the 1970s and has since been an important topic of public debate. The way the concept has been interpreted in public policy and in practice has changed over time (see for an overview Vermeijden, 2001). While the first renewal projects were publicly funded large scale (physical) urban renewal projects, recently they rely increasingly on various actors—state, market, society—and are area targeted. As a consequence, urban renewal policy has shifted in character from government to governance. This shift has increased the complexity of urban renewal projects.

In this context, renewal policy is translated into master plans, area strategies and local covenants. These set out the courses of actions to be undertaken by governmental, institutional, market and community actors. The coordination of actors, and their actions and resources in a complex setting of stakeholders is a challenge (Haffner and Elsinga, 2009). Therefore, it is important that urban renewal strategies are attuned to emerging forms of cooperation and financing (KEI/Nicis, 2012). This is true for both local municipalities and housing associations (Gruis et al., 2009).

The discourse on public policy argues that *the new way of working requires a new way of thinking* about urban renewal (Agentschap NL, 2013; emphasis added). According to this new thinking, the citizens and their initiatives have an important role in complementing public and professional processes of urban renewal (*Ibid.*: 6). In addition, the task of urban renewal is revisited as a continuous project so the way it is formulated should not only be inviting but also facilitating to get and keep various actors involved.

At the same time, the planning discourse has questioned the effectiveness and efficiency of public participation in regeneration projects. A common issue is the exclusion of weak actors in urban regeneration processes to avoid deadlocks and additional costs (Tallon, 2009). This is particularly the case for housing renewal projects by social landlords where the deprived and powerless tenants are unable to participate in or benefit from the renewal (Kleinhans, 2004).

Planning theorists have provided useful insights to understand the relationships between stakeholders in participatory processes and how to manage them collaboratively (see Healey, 2007). In particular the network perspective has been productive to rethink and deal with the complexity involved (De Roo et al. 2012). More recently, actor-network theory (ANT) is considered a relevant approach to planning issues (Boelens, 2009; Coutard and Guy, 2007; Farias and Bender, 2010; Murdoch, 1998).

The network perspective has also gained currency in the study of housing regeneration (Bortel et al., 2009). Yet this research community remains largely tied to theories of network governance (Rhodes, 2006). So while housing studies have provided useful accounts of the relations and their management in housing renewal processes (Bortel and Elsinga, 2007), they have only considered the role of human actors. Consequently, the materials and things in housing renewal are only acted upon. But the complex networks are, as we argue here, composed of both humans and non-humans.[1] Such a hybrid network perspective might especially benefit a study looking into how the renewal of the built—that is, material—environment is organized.

1.1 Reader's guide

This research looks at the involvement of the Dutch housing association in urban renewal from the perspective of ANT. The starting point is the changing profile of the Dutch housing association and the importance of housing renewal for a possible future. Consequently, in this introductory *Chapter 1* we proceed by first describing the position of the Dutch housing association in light of shifts in social housing policy. Secondly, we discuss the development of urban renewal policy in the Netherlands over the last half century. We then attempt to define the aims and means of renewal by considering the notions of participation and liveability. Thirdly we turn to our theoretical concern and outline the research agenda, questions and hypotheses. In conclusion, we briefly introduce the case study central in our research; the Oude Westen in Rotterdam, the Netherlands.

In *Chapter 2* we aim to develop the conceptualization of actor-networks in housing renewal. For this we start with a review of network approaches in housing studies and network research on renewal practices from the (particular) perspective of Dutch housing associations. In this review our focus is on studies that employ network governance. We consider this theory in some more detail afore introducing ANT and the material actors. The introduction of ANT is based on the work of Michel Callon, Bruno Latour and John Law. After discussing three central principles in ANT—relationality, symmetry, association—we will elaborate on the concepts of 'translation' (Callon, 1986) and 'controversy'. In the final part we summarize the implications of ANT for the study of housing renewal and put it in perspective with the theory of network governance.

The methodology and conceptual framework are presented in *Chapter 3*. First we consider the case study method and describe how we use it in our ANT study. The implications of ANT will be discussed according to the slogan 'follow the actors' (Latour, 2005: 12). We then define the case study criteria based on existing network studies of housing renewal and on ANT studies of controversies. Consequently we discuss our choice for diverse methods and case materials; policy documents, minutes from meetings, court records, in-depth interviews and site visits.

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[1] The notion of the non-human in the literature and in this research is elaborated on in *Chapter 2.3.3*. We define non-humans as natural and material objects that we engage with and that we mobilize for specific (human) ends. In turn, we identify its roles as a stabilizer, mediator and gathering.

The empirical analysis is presented in *Chapter 4* and starts with an introduction on the neighbourhood, the housing association and the renewal project. We choose to study the period from 2008 to 2013, that is from the publication of the Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008) till the execution of the renewal project. The description we provide in this chapter is a reconstruction of the housing renewal controversy according to the various moments of translation (Callon, 1986) and contestation.

In *Chapter 5* we will interpret some of these key moments and evaluate the role of material actors. Finally in *Chapter 6* we outline the key outcomes of the ANT conceptualization and empirical analysis. We return to the initial research questions and discuss their answers as well as the (new) questions we might have raised. To conclude we explore the impact of our findings for renewal practice and the ways they can be turned into lessons for housing associations. First, however, in the remaining of this chapter we give some background to the task at hand with an overview of the development of the Dutch housing association and urban renewal policy.

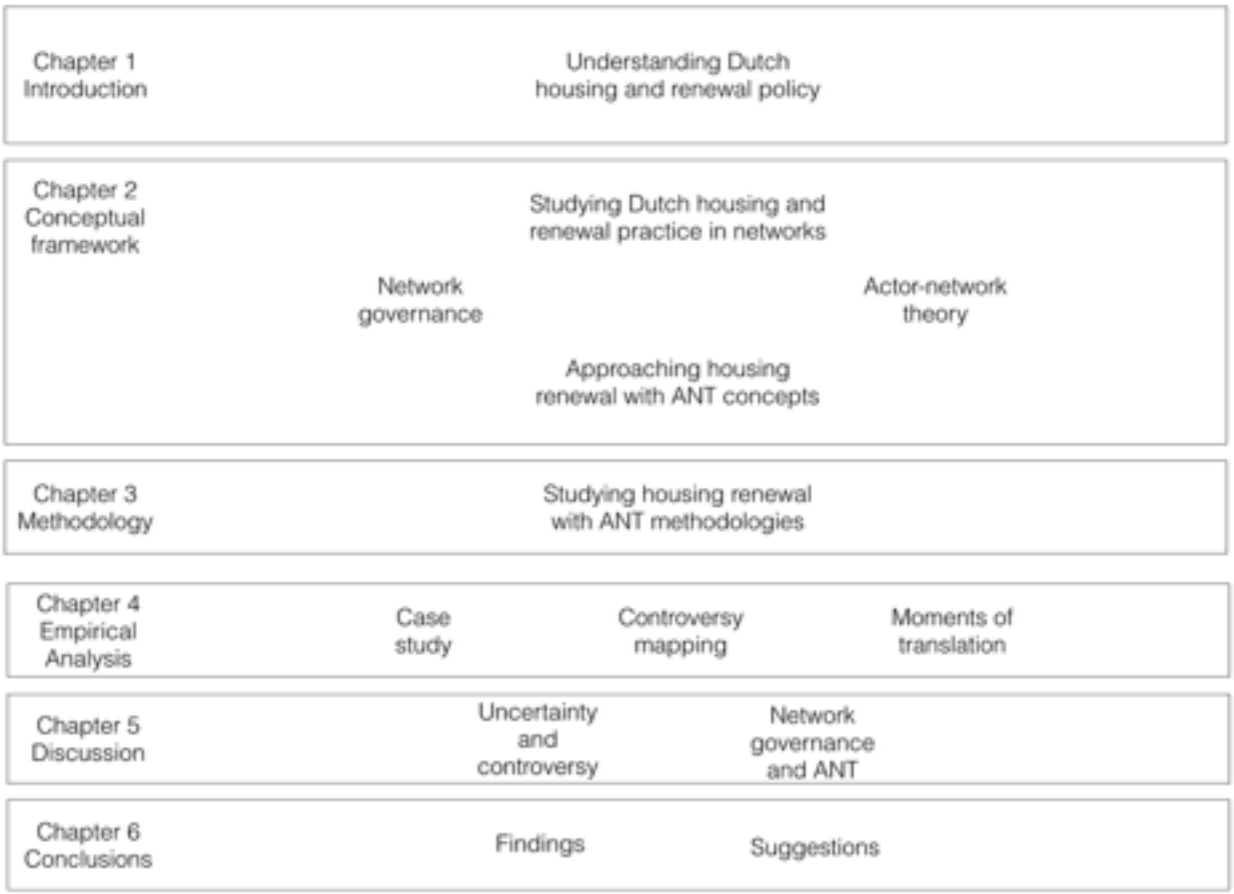

Figure 1: Overview of research design

1.2 The changing profile of the Dutch housing association

The housing association is an institution particular to the development of the Dutch welfare state (Elsinga and Wassenberg, 2014). Yet, recent changes in the provision of social housing in the Netherlands can be seen in the context of the retrenchment of the welfare state throughout Western Europe (Whitehead and Scanlon, 2007). Scholars have looked at the various ways these

institutional changes are played out and with what (socio-economic) consequences (Boelhouwer, 1997; Kennett et al. 2013; Mullins et al., 2001). Against this background, both the position and organization of the Dutch housing association has received attention (Boelhouwer, 2002; Boelhouwer and Priemus, 2014; Czischke, 2009; Gruis and Nieboer, 2006).

Most recently the Dutch housing association has been receiving much political and public attention. In the wake of the crisis, the diversified (market) activities of the housing association, undertaken to the benefit of the (social) mission, have been much criticized (see De Groene Amsterdammer, 2013: 30-39). Currently the housing associations are called to focus on their core mission: 'to offer affordable rental dwellings to the target audience, the low income households' (Blok, 2014). In addition to tighter control, the introduction of a landlord tax and the depressed housing market have forced housing associations rethink their (financial) organization. An important factor here is the capital and cash flow locked up in the existing housing stock (STIPO, 2010: 11). Since the housing associations have had a key role in the reconstruction after WW II, housing renewal is a pressing issue for the stock that dates to this period.

1.2.1 Policy shifts between state and market

A welfare state was already in place before the outbreak of the WW II and also the housing association predates the war—a significant event is the 1901 Housing Act granting housing associations a right to state funding. While the tradition of the Dutch housing association is closely related to the development of the Dutch welfare state, the institutions of the Dutch welfare state, including housing associations, gained a stronghold in the post-war reconstruction. Specifically, the welfare state reached a high point in the 1960s and 1970s. In the period from 1945 to 1975 the social rented stock increased from 12 to 41 percent of the total housing stock (Boelhouwer, 2002).

By the mid-1970s the welfare state was, like in many other Western European countries, cut back. Dutch housing policy, however, continued to be elaborated. In the 1974 Memorandum on rent and subsidy policy (1974 Nota huur- en subsidiebeleid), government intervention was justified to provide affordable housing and good living conditions. Despite these policy intentions, market development and trends in homeownership set a different course (Boelhouwer, 2006). Consequently, the 1989 Memorandum Housing in the Nineties (1989 Nota Volkshuisvesting in de jaren '90) altered the direction of housing policy in favour of the market (Gruis and Nieboer, 2006).

As a result, the approach to the social rented sector changed in the following years too. The 1993 Social Housing Management Decree (1993 Besluit Beheer Sociale Huursector) laid down the legal rights and obligations of the Dutch housing association; read freedoms and responsibilities. It allowed the state to retreat from the day-to-day activities and supervision of (social) housing provision. The 1993 Decree describes in Chapter 3 the Dutch housing association as a private, not-for-profit institution with a social mission. More specifically, its activities should be in the interest of housing, in particular for the weak actors on the housing market. Other products, such as high-rent or owner occupied housing, were allowed but the profits should be of benefit to the core mission of housing lower income households. The course to greater freedom

(and responsibility) has been reasserted with the 1995 Balance shortening financial support social housing (1995 Wet Balansverkorting geldelijke steun volkshuisvesting). This form of privatization required the associations' activities to be financed by capital market loans or own resources. This has challenged the financial management and the very identity of the housing association.

1.2.2 Positioning the Dutch housing association

Over the last three decades research has been done on the changing position of the Dutch housing association. This research is done against the background of European integration and regulation (Gruis and Priemus, 2008) and in the Dutch context to understand the type of organization to formulate policy accordingly (Gruis, 2005). One typology proposed is the 'social enterprise' to describe the 'hybrid formal institutional characteristics, motivations and activities' (Czischke et al., 2012: 434). In other words, the housing association as social enterprise shares features of and is, consequently, positioned between state, market and society (see *Figure 2*).

Figure 2: The positions of the social enterprise between state, market and society (Czischke et al, 2012)

The model of the social enterprise has been used to provide insight in the changing characteristics of the housing association (Mullins et al., 2012). A review of the literature illustrates that the actual positioning or organizational model of European social landlords might vary (see *2012 Special Issue Housing Studies: Social Enterprise, Hybridity and Housing Organizations*). A way to understand this variety (and the future changes) has been investigated by means of organizational strategies (Gruis, 2008; Gruis and Nieboer, 2014). In his research, Gruis (2008) identifies four organizational archetypes (see *Figure 3*). This typology is a function of the social versus commercial orientation, and the defender versus prospector positioning in (social) housing activities (Gruis, 2008). A recent study has illustrated how the Dutch housing association tends to return to the traditional social housing tasks (Gruis and Nieboer, 2014).

Figure 3: The four organizational archetypes for Dutch housing associations (Gruis, 2008)

In view of recent housing policy reforms and housing market controversies, the future of the Dutch housing association is a topic of debate. The typologies we have considered above provide insight in the various futures of the Dutch housing association. Based on this, a possible future is the housing association as a catalyzer (Gruis, 2010). According to this model the housing association connects various parties to tackle pressing societal issues: housing, care, education, employment, safety and welfare (*Ibid.*). Also STIPO (2010) has done research into the various missions and forms the housing association of the future—2020—might take. The typologies described here are the housing association of (1) the core mission, (2) networks, (3) co-creation and participation, (4) energy provider, (5) value creation for society, (6) social responsibility, and (7) balancing policy levels (10-17).

In all of these typologies the current stock has an important place. Since the 1995 regulation new housing development, both rental and sale, has been an important source of income for housing associations. Yet market conditions in 2008 and later have challenged this activity (STIPO, 2010). An additional financial burden is the landlord charge introduced by the Rutte II Cabinet. This tax will increase yearly up to 1.7 billion in 2017, and arguably 85% of this will be accounted for by housing associations (AEDES, 2013). Housing associations have argued that rent increases are insufficient and/or incompatible with the affordability and tenant profiles of the housing stock (AEDES, 2014). In this context, housing associations focus on the existing stock (WSW, 2014). Of strategic importance is the reduction in the remaining life expectancy of the rental stock if renewal is not considered. After all this shortens the time available for paying back debts from existing rent income. Therefore, the viability and choice of supply strategies including renewal is important in determining the future of housing associations.

1.3 The controversy over urban renewal policy and projects

Above we have stated how the degradation of the existing stock is the challenge and renewal an opportunity to the future of the Dutch housing association. Consequently, we will now take a closer look at the strategies and roles of the housing association in urban renewal. First, we should point out that renewal is not a new task nor specific to housing associations. In fact, it is a key issue on the national policy agenda since the 1970s. Since then it has been subject to considerable public debate. Thus, to understand housing renewal we first consider the historical

development of urban renewal policy. We focus on the period from 1960s to today. Keeping our ANT project in mind, we address the related controversies around participation, gentrification and liveability.

1.3.1 From city making to building in the 1960s-1980s

The aims and knowledge for urban renewal have changed since it entered the agenda in the late 1960s. It was preceded by the physical project of urban reconstruction and slum clearance, in the decade following WW II. Technical in nature, this project was undertaken by experts such as architects and planners under the heading of 'city formation' (De Liagre Bohl, 2012). It relied upon the modernist ideals of city building. The deteriorated residential neighbourhoods were demolished in favour of office and infrastructure development in the 'central business district'. In turn, housing was included in city extension plans and developed on a large scale in peripheral locations. Although primarily a physical undertaking, the housing program formed a strong component in the welfare state project at large. Physical interventions were defended as a way to engineer the social. The shaping of physical space and social structure—make-ability ('maakbaarheid')—has been described as a notion particularly strong in the Netherlands (see Salewski, 2012).

Throughout the 1950s and 1960s science, technology, and expertise formed a strong assemblage by which technocrats could promote their vision of the ideal city and society. For urban renewal this meant the reconstruction, and demolition where necessary (e.g., for Hoog Cathrijne in Utrecht or the Wibautstreet in Amsterdam), of the city in the planner's vision. The associations started to weaken in the 1970s as competing visions of the ideal city started to emerge. Among those visions is Jacob's (1961/1992) view of the city not as a rational physical system but as the backdrop for social interaction. In this vision existing physical and social structures are promoted as the starting point for urban renewal. Accordingly, blueprint reconstruction by technocrats began to be replaced by community planned regeneration by local actors. Guided by a democratic ideal, housing was considered a key area to engage residents in the physical upgrading of the neighbourhood. This type of intervention became formalized and was promoted in the 1985 Act on City Renewal (1985 Wet op de Stads- en Dorpsvernieuwing).

1.3.2 Revisiting aims and results in the 1990s-2000s

In the beginning of the 1990s the outcomes of the city renewal program were being evaluated. A major criticism was that although the quality of housing had improved, the effect on the neighbourhood as a whole was limited (Platform31, 2013). Primarily concerned with housing, the program had not addressed quality in terms of public space, cultural capital and neighbourhood facilities. Also, it was argued that the focus on deprived and residual housing in the inner city did not counter the trend of suburbanization. As a result of suburbanization and the dominant physical dimension, it was argued, the programs did not succeed in tackling socio-economic problems with neighbourhood renewal. (*Ibid.*). Consequently, a discussion started on the goals, methods, reasons and scale of renewal programs. This resulted in the 1992 Policy for city renewal

in the future (Nota Beleid voor Stadsvernieuwing in de Toekomst). It presented a roll back of funding and delegated responsibilities to local parties. Specifically the issues of physical renewal were characterized in terms of deferred maintenance. For housing associations this meant renewal had to be funded from reserves, rent increases, and selling.

In response to this policy change, the four biggest cities (Den Haag, Utrecht, Rotterdam and Amsterdam; G4) signed the 1995 Covenant Big City policy (1995 Grotestedenbeleid). The covenant aimed at addressing the cities' competitive positioning, dualization and quality of life. Other cities, in turn, voiced their critiques. This resulted in the 1997 Memorandum urban renewal (1997 Nota Stedelijke Vernieuwing). The change in name, from city to urban renewal (from stads- to stedelijke vernieuwing), expressed a change in scale from the neighbourhood to the city. From now on, the city level was seen as the critical scale to tackle the issue of segregation through the three pillars of physical, social and economic restructuring. Important in both policies is the Investment budget urban renewal (Investeringsbudget Stedelijke Vernieuwing; ISV). This framework allocates a 5 year plan budget to municipalities to provide a trigger for renewal projects. Yet this money will no longer be available from 2015 onwards and as a consequence, urban renewal will be completely decentralized by this year.

Already in the beginning of the 2000s the schemes and aims of urban renewal were being reconsidered. A first realization was the deprivation linked to renewal was found both in the city and in the region. Also, the scope of the three pillars was found to be too limited. Finally the application for the ISV fund was considered too complex. (*Ibid.*). Subsequent discussions on a targeted and integral approach eventually lead to a selective neighbourhood approach. The conviction was at the neighbourhood level issues were most tangible and best taken in local cooperations. (*Ibid.*). An important project within this context is then Minister Vogelaar proposal of the 2007 Action plan power neighbourhoods. The plan counted 40 neighbourhoods in 18 cities (*Ibid.*) and had liveability as focal point. It aimed to create 'glorious' neighbourhoods in a period of 8 to 10 years (*Ibid.*). The case study in our research, the Oude Westen, was also on this list.

1.3.3 Setting a new direction of curation in the 2010s

The successive minister Donner made changes to Vogelaar's neighbourhood program in 2011. A major change involved the redistribution of responsibilities to local parties and residents to take up the task of liveability. In addition, Donner announced the Vogelaar funding would stop in 2012 and emphasized the decentralization of the task of urban renewal. (Donner, 2011). Consequently, changes in funding schemes re-arranged the parties involved in urban renewal. At the same time, the economic crisis put pressure on the viability of urban renewal. While the state cut budgets and faced decreasing tax incomes, market parties were challenged by low demand on the housing market. As for social housing, the expectation was that housing associations would invest anti-cyclically, and take over the projects of real estate developers (Platform31, 2013). However, most of the housing associations' capital was locked up in housing; selling off housing to free capital was difficult under the market conditions.

Although housing market conditions are improving, the reforms introduced in the beginning of 2014 have not eased the task of urban renewal. Also the ISV funding will disappear after 2014. Still renewal remains an important assignment—albeit decentralized. In this context the report *The future of urban renewal after 2014* (Kei/Nicis, 2012) explores the new landscape of urban renewal. The report sets out three courses of urban renewal, namely (1) to work with differences, (2) to invite and incite, and (3) to move from programming to visioning (*Ibid.*, 18-28). The report argues for a change from government to governance, and addresses the positioning of the various parties involved in urban renewal. Overall it sees renewal as a continuous activity that characterizes cities under continuous change.

In particular the housing association is assigned a key role with most of the property in the priority neighbourhoods. Although questions surround the future housing market and the financial impact of selling rental properties, the report puts a different perspective on their answers. Instead of property ownership it emphasizes neighbourhood engagement, shifting the focus from the management of housing units to the curation of neighbourhood liveability. Thus, housing differentiation and neighbourhood restructuring are considered to foster neighbourhood ownership among diverse residents (*Ibid.*). The urban renewal outlined here is described as cooperative, flexible, diverse and inviting (see *Table 1*).

From	To
Making city	Being city
Large scale	Small scale
Corrective	Preventive
Few large players	Diversity players
Program	Potential
Rigidity	Flexibility
Ordering	Facilitating
Regulation	Cooperation
Inferring	Inviting
Uniformity	Diversity
Comprehensive	Selective

Table 1: A change in the aims and methods of urban renewal policy (Adapted from KEI/Nicis (2012: 28), translation by author)

1.3.4 Towards a definition of urban renewal

Our brief history of Dutch urban renewal policy has illustrated that the aims and knowledge of urban renewal have changed over time. Although still important, we have seen that renewal is increasingly a decentralized task taken up in flexible and selective ways by various stakeholders. Despite the various and changing interpretations, we will make an attempt here to arrive at a

definition of urban renewal. We should note that in attempting to find a working definition in the Dutch context, we do not find significant differences between 'urban regeneration,' 'urban revitalization' and 'urban renewal' as they are referred to in the literature (see for a discussion Lees: 2003). Therefore, while the concept of 'stadsvernieuwing' or 'stedelijke vernieuwing' in Dutch policy and practice is most directly translated by 'urban renewal', the meaning is also captured by the other concepts. In the literature urban regeneration is, for example, defined as:

> a comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental conditions of an area that has been subject to change (Roberts, 2000: 17; in Tallon, 2010: 5).

This definition is most in line with the notion of Dutch urban renewal (i.e., 'stedelijke vernieuwing' versus 'stadsvernieuwing'). It is concerned with changing the direction of change not just in physical terms but in the wider context of quality of living. This definition from the literature is thus comparable to the policy definition in the 2010 Act urban renewal which reads:

> at the urban area targeted efforts that aim to improve the liveability and safety, to foster a sustainable development and an improvement of the living and environmental quality, to strengthen the economic base, to foster the social cohesion, to improve the connectivity, to elevate the quality of the public space or on the other side to enable a structural quality improvement of the urban area.

This comprehensive definition includes the various aims of urban renewal policy. Key in this definition is the component of quality, whether defined physically, socially or environmentally. At the same time, it is limited to only the aims of urban renewal policy. It is less explicit about the content and methods. On the content of urban renewal, Turok (2005) has put forward three key features of urban renewal in the UK context. The features are

> 1. it is intended to change the nature of a place and in the process to involve the community and other actors with a stake in its future
> 2. it embraces multiple objectives and activities that cut across the main functional responsibilities of central government, depending on the area's particular problems and potential
> 3. it usually involves some form of partnership working amongst different stakeholders although the form of the partnership can vary (Turok, 2005: in Tallon, 2010: 5)

Based on our discussion above on the evolution of urban renewal policy, we find these features in the Dutch context since the 2000s. In the Netherlands, renewal policy has emphasized citizen

participation, public-private partnerships and integral approaches. This type of policy we can find in Donner's 2011 Letter on the living environment, stating urban renewal is:

> The assignment of citizens, societal actors and the government is to maintain and improve the quality of the living environment. (Donner, 2011)

In this thesis we will use the definition of Donner (2011). It states in brief, the aims and methods of urban renewal that we also find in other policy documents and in the literature. As our case study is concerned with urban renewal in Rotterdam, we will need to test the city's definition against the one chosen here. For the city of Rotterdam urban renewal stands for:

> the careful renewal and improvement of the housing and living environment in obsolescent neighbourhoods (Gemeente Rotterdam, 2014)

Rotterdam's definition addresses the aim of renewal and is descriptive about the objective of renewal. Of interest is that this definition shares with our definition a focus on the living environment. To this it adds, however, the immediate concern with housing and their location in obsolescent neighbourhoods. We can therefore say while in its goals integral, urban renewal is motivated by physical considerations (obsolescence). The only reference to the methods we can read is the attribute 'careful'. In the context of urban renewal we might interpret to refer to the attentiveness to the existing physical and social fabric. This reading of the city's definition is then somewhat reminiscent of the 1990s. In conclusions we could say that definitions do not conflict. Rather the city's definition of the object of renewal complements with the working definition's focus on the methods of urban renewal.

As for the housing association in the case study, Woonstad does not explicitly present a definition of urban renewal in their communication materials. Yet as the renewal projects of Woonstad are prescribed in municipal plans and/or financially backed by the city, we might derive that Woonstad relies on the city's approach and understanding of urban renewal. However, in making this assumption we should not forget that the motivations for urban renewal also need to be considered in light of the 'social enterprise' described earlier. In this context the motive is first to maintain a viable business that serves lower income households with good quality housing. Furthermore, renewal encouraged to ensure that the properties are rentable or salable. In our case study, this second motive is promoted by Woonstad the association through acting upon the vitality and safety of the neighbourhood (Woonstad, 2012). To communicate its performance and achievements in urban renewal, Woonstad consequently refers to the Safety Index (City of Rotterdam, 2014) and the Liveability Barometer (leefbaarometer.nl, 2014). These output measures we will consider next.

1.3.5 Measuring renewal's output in liveability

In the current discourse, not the physical condition of the neighbourhood but the quality of the living environment, or liveability, appears to be at the core of urban renewal. The concern with this abstract and seemingly qualitative concept has lead to efforts to operationalize and quantify it. The Liveability Barometer is one of these efforts. It is a key measure of performance recognized in both public policy and institutional practice. The Liveability Barometer defines liveability in the following way:

> the extent to which the living environment matches the conditions and needs assigned to it by people (leefbaarometer.nl: 2014)

Consequently it measures liveability in terms of '49 (predominantly) objective indicators (characteristics of the living environment) to give an indication of the liveability situation and development' (*Ibid.*). It should be noted that the definition and components of liveability in the Barometer are still subject to public and academic debate—they are not yet black-boxed. To this end, Liedelmeijer and Van Kamp (2003) have reviewed the literature on environmental quality and liveability in order to arrive at a conceptual framework. This then could advance the discussion on the future quality of the urban environment and the consequences for urban renewal policy (5). The literature review points to a subjective and objective identification of liveability. The authors base their analysis of quality of life on the five dimensional structure developed by Pacione (2003; in Liedelmeijer and Van Kamp, 2003: 60). More than a conceptual framework of liveability, this is a a heuristic to navigate the discussion and various interpretations of quality of life.

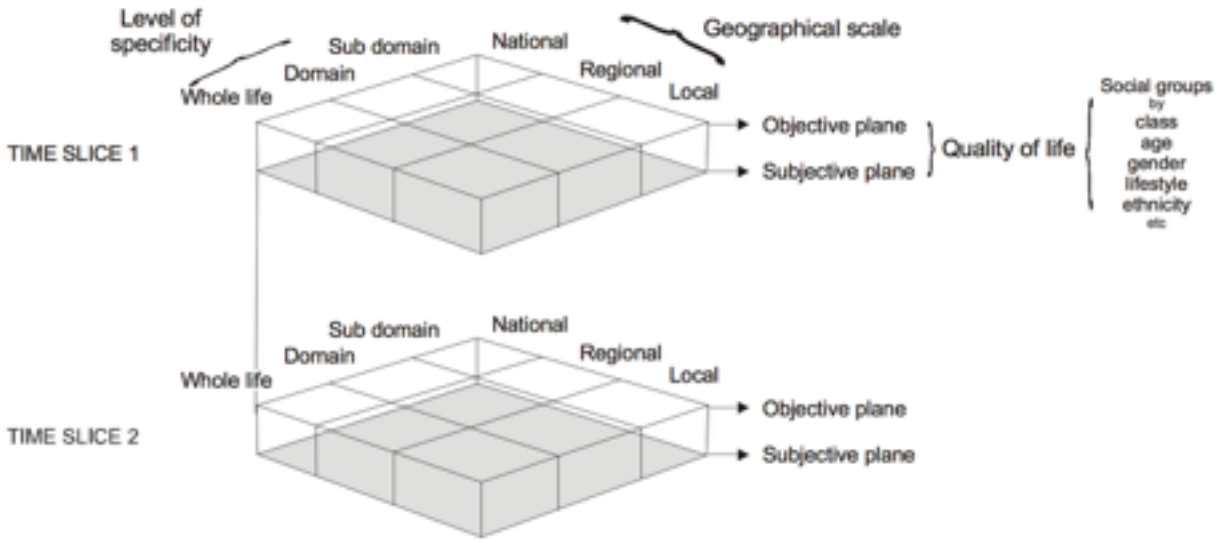

Figure 4: Five dimensional structure of quality of life by Pacione (2003; in Liedelmeijer and Van Kempen, 2003)

The analysis concludes that an objective measure of liveability is difficult and not even desirable. Consequently, the authors recommend a combination of both subjective and objective indicators

(Liedelmeijer and Van Kamp, 2003: 69-74). Thus, in pursuing liveability 'we must consider both the city on the ground and the city in the mind' (Pacione, 2003: in Liedelmeijer and Van Kamp, 2003: 71). Nevertheless, the objective 'city on the ground' is—even with the technical, expert and positive methods that make it visible—subjective. An objective representation of liveability is only seemingly objective since:

- the choice of indicators is arbitrary
- systemic differences might exist between areas in the registration and definition of indicators
- the indicators might be based on unreliable statistics
- the indicators might mask relationships of causality and correlation

(Andrews, 1980; in Liedelmeijer and Van Kamp, 2003: 69-70)

In conclusion, we have seen how liveability is a central theme in contemporary urban renewal policy but at the same time we have also pointed out that its definition and measurement require careful examination. While the literature defines an objective and subjective dimension of the concept, it simultaneously argues that even its objectivity is not neutral. Moreover, we should emphasize that liveability is not just a knowledge concept used to measure neighbourhoods and identify those 'in need' of urban renewal. Increasingly, it is a performative concept that informs policy makers and shapes policy on the goals and methods of urban renewal. In other words, liveability is a stable concept in policy- and decision-making that reasserts its objectivity and increasingly also its utility in urban renewal. In our review of the literature we have, however, noted some weak alliances in the concept. We return to these weaknesses in *Chapter 5.4.2*.

1.3.6 Renewal's process through participation

The discussion of the objectivity in the output and outcome of urban renewal has been a discussion of power relations too. These power relations also have a place in the process of renewal, and have been typically addressed with the issue of participation. As we showed in our overview of Dutch urban renewal policy, participation entered the agenda in the 1970s. It was and still is invoked to promote a democratic approach to neighbourhood change. While participation can be considered a strong ally in gentrification strategies, it is more often justified to empower the original residents to voice their opinion on the change and future of their neighbourhood.

In the case study we touch upon participation, particularly since we are concerned with the process of urban renewal. Our focus is however, not on the strategy of participation for democratic anchorage. Instead we look at how participation manifests itself in the organization of urban renewal. This means that we aim to make participation visible in the ways actors order the urban renewal network. Consequently, we limit our discussion of participation here to two points.

First on a theoretical note, an often cited model for participation is the Ladder of community participation by Arnstein (1969; Tallon, 2010: 148-9). The model represents the various degrees of effective involvement, ranging from community control to manipulation (see *Table 2*).

Again, we can see this model too as a heuristic to study the internal organization of participation beyond the strategies and practices that are at the surface or communicated.

Degrees of citizen power	Community control
	Delegated power
	Partnership
Degrees of tokenism	Placation
	Consultation
	Informing
Non-participation	Therapy
	Manipulation

Table 2: Levels of participation on the Ladder of community participation (Arnstein, 1969)

This leads to the second point, in our case study the city of Rotterdam has a formal participation strategy which is based on and called after Arnstein's (1969) participation ladder. As a practical tool, this ladder ranges from co-deciding, co-producing, advising, counselling and informing (City of Rotterdam, 2009). This model is formally recognized in the Rotterdam approach to participation (Platform31, 2011). In this approach participation is understood within a Golden Triangle of actors (state, business, residents) that take part 'on equal terms and in a uniform language in processes of physical intervention' (*Ibid.*). The approach specifies four steps in participation processes, namely a first project exploration, a social card of the actors involved, a desires card of their stakes and wishes, and a participation plan that frames the process and the 'good enough' outcomes (*Ibid.*; see *Figure 5*). This procedural approach to participation and the goal of consensus is part of a critique we develop in *Chapter 5.4*.

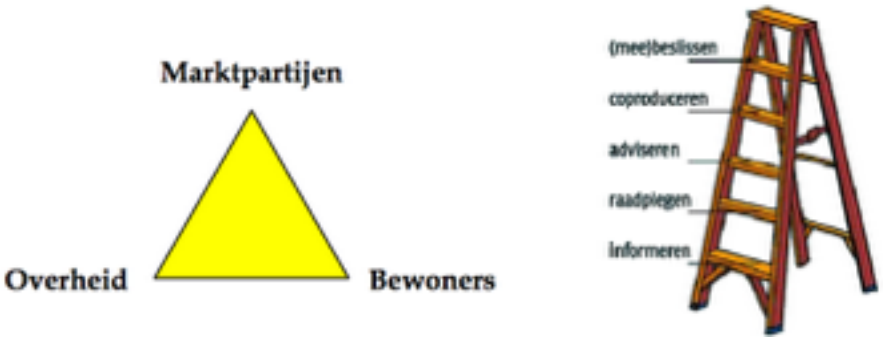

Figure 5: The Golden Triangle and Participation ladder in the Rotterdam approach to participation (City of Rotterdam, 2009)

1.3.8 Conclusion

In the discussion of urban renewal policy then and now, we illustrated knowledge and aims have shifted over time. As a result, the landscape of urban renewal practice has changed. Central in

this change is the shift from government to governance, urban renewal is now a decentralized task for which the responsibility is distributed among various (maybe heterogeneous) actors. Moreover, we have noted how renewal increasingly has a physical and social dimension. Once seen as a technocratic and rational project, renewal is now regarded democratic and dynamic.

After outlining the evolution of urban renewal we have touched upon the related discourses on (quantified) liveability and participation. In doing so, we have illustrated that both policy-making and practice are still trying to come to terms with the changes in urban renewal. In other words, urban renewal policy and practice are not fully stabilized, or black-boxed, as they are being negotiated in varying political and societal context. This negotiation also takes place on the topic of urban renewal undertaken by housing associations, if not more so.

The Dutch housing association is at the centre of a public debate and surrounded by much uncertainty over its future position and activities. Yet the housing association is increasingly charged with and involved in urban renewal projects. Some have even suggested that renewal is one of the answers to the future of the housing association (Kei/Nicis, 2012). That the existing stock is important and its renewal is being negotiated is our starting point in this research. Consequently, our aim is to better understand how these renewal projects are being negotiated, organized and eventually, stabilized and accomplished.

In the literature, the organization of housing renewal has been pursued with a network approach (see special issue *Housing Theory and Society* (2007, Vol. 24, No. 1)). This approach is primarily based on the theory of network governance. An actor-network approach has, to our knowledge, not yet been developed in the study of housing renewal.[2] Against the background of negotiated policy and practice, our objective in this thesis is to test actor-network theory as an analytical approach to housing renewal networks. Based on conceptual and empirical findings, we will explore the consequences for the involvement of housing associations in housing renewal processes.

1.4 Research objective

In this thesis we explore the potential of ANT to understand the process of housing renewal. We do so by means of a specific case study of a housing renewal project, the Sint-Mariastraat 106-146 in the city centre of Rotterdam. In the case study we look at the role of the housing association in managing the renewal project. The research builds upon existing network approaches in housing studies both theoretically and empirically.

Consequently, the research objective is to put ANT to the double test of (1) *examining if* ANT is a useful network perspective to understand housing renewal, and of (2) *exploring how* housing associations might be able to steer urban renewal in heterogeneous networks. Thus, we investigate the contribution of ANT to (a) the theoretical issue of *understanding* the networks of housing renewal, and to (b) the call from practice for a *new way of thinking* about urban renewal.

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[2] Policy implementation in the supply management of housing associations has been approached with ANT by Dankert (2011). We discuss his study in *Chapter 2.3*.

To test the analytical and practical potential of an ANT perspective in housing renewal we are guided by the following questions

- what material actors are in the housing renewal network of the Sint-Mariastraat?
- and, how do these material actors negotiate the housing renewal project?

These questions guide us through the borderlands of housing studies and ANT. On our way we elaborate the questions conceptually and methodologically, the results of which are presented in a conceptual model in *Chapter 3.3*.

2. Conceptual framework

> 'Things' … do not have the unity the modernists believed they had, nor do they have the multiplicity postmodernists would like them to retain. They are lying there, in the new assemblies where they are waiting for the due process that will give them their unity, at the end, not at the beginning. (Latour, 2000: 120)

In the introduction we have described the changing landscape of social housing provision and urban renewal in the Netherlands. Consequently, we have characterized how the trends of privatization and decentralization have implied a shift from government to governance. These trends we considered in the context of the retrenchment of the welfare state. The consequent institutional rearrangements have been an important area of research, also in housing studies. To account for the formation of new relations between diverse actors, housing scholars have turned to network theories. As a result, this scholarship has emphasized the complexity due to the many actors involved in social housing (Czischke, 2009). With a focus on the agency of the various actors, network theories have been developed for new models of management against the background of decentralization and privatization (Bortel, 2009). Common themes approached with network theories are, then, policy implementation across various levels of governance (Dankert, 2010) and the management of public-private co-operation (Mullins et al., 2001). Also in studies of projects of urban renewal network theories have been used (Klijn, 1996).

For the development of the conceptual framework the focus in this thesis is on network approaches to social housing and its renewal. First, we give an overview of the various network approaches in housing studies. Subsequently, we review in more detail network studies of urban renewal, and discuss the network theories, in particular network governance, they are based on. Then, actor-network theory is introduced and framed for the study of housing renewal. This is followed by some reflections on the relation with the established network governance approach in housing renewal studies. Overall, the objective in this chapter is to evaluate and engage ANT as a productive network approach in housing studies. This theoretical endeavour we test empirically in *Chapter 4*.

2.1 Network approaches in housing studies

The currency of network theories in housing studies is illustrated in the special issue of *Housing, Theory and Society* on the theme *Network Theory and Housing Systems* (2007). The issue is the result of the working group of the *European Network for Housing Research* (ENHR) on the topic of *Institutional Change in Social Housing Organizations* (2006). In the editorial of this special issue Mullins and Rhodes (2007) provide an overview of the various network studies that aim to understand the nature and consequences of change at the organizational and sectoral level (1).

We should note that ANT is not considered in this issue nor in the editorial. Rather, the editorial identifies five strands of network theory: policy networks, network governance, supply networks, organizational fields and complex systems (Mullins and Rhodes, 2007: 3). The latter two

are also applied to housing systems, the other approaches deal primarily with the meso- and micro-scale (*Ibid.*). In other words, they are concerned either with the organization of housing provision or the management of housing associations. Among policy networks and network governance we find studies that look at the institutional dimension of decision making processes and policy implementation. Their interest is in the effect of network structures and resources on policy outcomes. Also research on organizational fields can be counted to this category.

As for social housing management, the theories are applied in a somewhat normative manner. This is particularly true for studies employing network governance and supply networks (*Ibid.*: 3-4). The editorial describes that while the latter to look at the internal management of resources and product delivery of a housing association, the former considers this within a network (*Ibid.*: 7). It also states that the field of complex systems is most diverse.

Based on the focus on the relation between structure and agency, we would suggest ANT sits in this tradition. However, as the editorial also points out 'as much diversity seems to exist between as within the network approaches' (*Ibid.*: 10). The categorization suggested here and in the editorial is thus only useful for a general overview. Similarly, the characteristics of the approaches are best understood when looked at in specific studies. For this purpose we concentrate on the network governance approach in housing renewal studies but first some general remarks on network approaches in housing studies.

In the discussion of the articles, the editorial points out that the case study method is most common in housing network studies (*Ibid.*: 7-10). Furthermore, it notes that the studies are primarily concerned with developing hypotheses rather than testing them. This is explained by the early stage of development and application of network theories in housing studies. Similarly, in exploring the potential of an ANT perspective on housing renewal, this research aims to build hypotheses. In *Chapter 5.2.2* we discuss what hypotheses this research gives rise to and how this can provide impetus to further research (see also *Chapter 7*).

The editorial summarizes the main research themes in network studies of housing:

1. an emphasis on the ways in which relationships between organizations affect the behaviour of individual organizations
2. a recognition that the shape and structure of the networks can have significant implications for decision-making
3. an interest in the ways in which policy interventions are and should be structured in the context of network governance
4. an interest in the way in which organizations adapt to changes in their field and seek to influence these changes
5. a concern with issues of network boundaries and the scale level of operation or analysis of networks (Mullins and Rhodes, 2007: 8)

This study of renewal networks from an ANT approach shares the focus on (1) relationships, and an interest in network (2) shapes, (3) organizations, (4) dynamics and (5) mapping. At the same

time, our approach in the study of networks prioritizes description. This means that our account is less explicit about the normative questions on the research agenda.[3]

In addition, the editorial suggests that the themes are worked out on two levels: the level of participants and of the network itself (Mullins and Rhodes, 2007: 9). We would argue that with ANT this distinction collapses. As we explain in *Chapter 2.3.2*, in ANT action only takes place in interaction so any actor (an entity that acts) is also part of a network (a gathering of interacting actors). Moreover, ANT emphasizes that this network has an effect on actors both inside and outside of the network—the network acts too—and for this reason sometimes prefers the wording work-net over network (Latour, 2005: 143). Thus in ANT the actor and the network in which it is embedded are to be considered together (*Ibid.*: 169).

After setting out the common research themes and levels of analyses, the editorial sums up three central questions on the research agenda. First is the question how policies are mediated in networks, related to this is the second question how the behaviour of upper levels of organization influences the outcome of lower levels. Thirdly, the question put forward is how these top-down interactions have an effect in the opposite direction on policy formation (Mullins and Rhodes, 2007: 10-11).

The contribution we intend to make to this research agenda is primarily the (policy) mediation of networks. As we mentioned above, in ANT scale is important but not critical. We discuss later how the interactions in the latter two questions can be considered circulations in a flat ontology. For now we can say that because of these circulations, scale is not studied directly but as the consequence of where the circulations lead the researcher. Thus, while this thesis does relate and aim to contribute to the research agenda of network theories in housing studies, it will do so with some reservations. In a later stage we will elaborate on the implications of the ANT approach for this study in more detail. Yet in order to describe these implications we will take a closer look at existing network studies and theories of housing renewal first.

2.1.1 The networks of housing renewal

An overview of the various network studies of housing renewal—and related issues—is presented in the special issue of *Housing, Theory and Society,* entitled *Exploring network governance in urban regeneration, community involvement and integration* (2009). This collection, also the result of a working group of the ENHR, includes studies that share the approach of network governance. In order to evaluate the relevance of ANT in understanding housing renewal, we therefore compare ANT to network governance. The latter has its foundations in theories of network management (De Bruijn and Ten Heuvelhof, 2008; Kickert et al., 1997; Koppenjan and Klijn, 2004). We briefly review this theoretical framework once we have introduced the network studies.

Network governance has been employed in case studies of housing renewal (policy) in Amsterdam (Haffner and Elsinga, 2009), Groningen (Bortel, 2009; Mullins and Bortel, 2010) and The Hague (Bortel and Elsinga, 2007). In these studies the network is invoked as

3 This issue is addressed in Chapter 5.4 on thinking and working after ANT research.

> a new form of governance arising in situations where there are high levels of interdependence between organizations and the state and where hierarchical forms of "command and control" are no longer the most effective methods for policy implementation. (Mullins and Rhodes, 2007: 3)

Following this explanation, we can derive a first postulation that decisions are made and acted upon in a network environment. Second, the studies suppose the decision-making process can be improved by projecting the strategic movements of the actors in the environment (Van Bortel, 2006: 7-11). In studies of urban renewal the focal actor is the housing association. Consequently, the objective is to make decision-making more effective from this perspective (Van Bortel, 2006: 8). In the following we review the three above mentioned urban renewal studies to see how the network approach are employed and with what results.

In the study of urban renewal in Amsterdam the governance network is used to analyze the network characteristics in deadlock and breakthrough situations (Haffner and Elsinga, 2009). The study uses interviews in two case studies to reconstruct the process and describe the renewal network. As for the reconstruction, the article uses Teisman's (1998) model of decision-making to identify the steps of intertwining goals, sharing added-value and maximizing utility. Yet, it does note that the normative question whether utility is maximized in an effective decision-making is not explored. For the network description the article refers to the four characteristics of complex governance networks—interdependency between actors, closedness of actors, multifaceted nature of networks, and network dynamics— of De Bruijn and Ten Heuvelhof (1999). Following these theories, the authors hypothesize that breakthrough and deadlock moments have different network characteristics (Haffner and Elsinga, 2009: 150).

The empirical study is based on interviewees describing their position and 'explain how they perceived the collaboration, the interdependencies and the influencing/steering activities in the network' (*Ibid.*: 151). Subsequently, the researchers do find varying network characteristics in moments of deadlock and breakthrough. Furthermore, they highlight some of the network strategies used to achieve breakthroughs. One of the key strategies is to redefine the problem and so invite new actors into the network (*Ibid.*: 155). The case studies illustrate how this fosters the exchange of new ideas and opens up opportunities for goal intertwinement. Consequently, the study concludes 'the art of urban renewal in the Netherlands nowadays' (*Ibid.*:164) is to take into account the dynamics in local networks. According to the authors network governance offers insights how these dynamics 'can be managed by process or by content' (*Ibid.:* 163).

Also the case study of urban regeneration policy in Groningen takes the theory of network governance as starting point (Bortel, 2009). This analysis is also based on the network characteristics of De Bruijn and Ten Heuvelhof (1999). In addition it refers to network uncertainties defined by Koppenjan and Klijn (2004) to 'describe the process of decision-making on urban regeneration policy in Groningen' (Bortel, 2009: 177). For this three periods are identified by the author to describe the network dynamics and uncertainties, and to identify the actors' instruments and strategies in their navigations. The article concludes the 'actors in Groningen developed these

tools [network instruments and strategies] without explicit knowledge of network concepts' (*Ibid.*: 182). As a consequence, it raises the question 'if a more deliberate use of a network governance toolbox by practitioners would result in better quality and more efficient decision-making processes' (*Ibid.*).

Finally, the study of urban renewal in The Hague (Bortel and Elsinga, 2007) refers to the framework of De Bruijn and Ten Heuvelhoff (1999) as well. Next to network characteristics, it considers the various strategies and instruments actors can use in network environments. Consequently, the research questions are aimed to describe the case study in terms of the network characteristics, and the steering strategies used by the actors. In particular the study aims at assessing the effectiveness of the network. In doing so, it is interested how the performance of the housing association is measured and evaluated by the players in the network.

2.1.2 Synthesis networks and renewal

In the review of the three network governance studies we have illustrated how the network perspective is used to describe and structure the analysis of urban renewal processes. All three studies base their analysis on network theories to discern the key network concepts. Accordingly, we could argue the theories are used to categorize the complex processes observed. This is possible since the network perspective is imposed retrospectively. The case study of Groningen pointed out the actors themselves are not aware of the network strategies they are employing. Moreover, the studies have a normative focus on what effective decision-making processes are and how they can be achieved. We could argue based on these studies and from the dominant perspective of the housing associations, effectiveness is defined in terms of breakthroughs and deadlocks (Haffner and Elsinga, 2009).

We should however remind ourselves that including more actors in most cases increases the complexity and uncertainty in the network. For example, the engagement of residents in urban renewal projects might slow-down the process. Therefore, we should be aware of the bias network governance has towards exclusive decision-making. In other words, network governance's concern with performance and output tends to undermine a critical understanding of power relations in the process of urban renewal. Consequently, the issue of inclusive and democratic decision-making receives little attention in network governance. We argue this issue is particularly important if the networks, management and effectiveness are described from the perspective of the housing association.

This concern has also been expressed in the literature on network governance. Consequently, the attempt has been made to invoke network governance as an analytical tool to investigate the democratic deficit in urban renewal processes (see Bortel and Mullins, 2009). This critical dimension, 'beyond the managerial approach' is identified as the next generation network studies (*Ibid.*: 99). For future research the editorial of the special issue *Exploring network governance in urban regeneration, community involvement and integration* (2009) derives five issues taken from the included articles. These issues are (1) the understanding of democratic anchoring in decision-making, (2) the development of network governance methodologies, (3) the

exploration of network resources, (4) the consideration of modes of co-ordination, and (5) the examination of the relation between network configurations and outcomes (*Ibid.*: 100).

We argue, if ANT is to be relevant in studies of housing renewal, it should be able to address part of this agenda. Consequently, we believe to take up the issues 3, 4 and 5 with the help of ANT. First regarding network resources (3), network governance maintains networks develop around actors who mobilize resources to attain their goal (Koppenjan and Klijn, 2004: 225-227). With the ANT perspective we try to go one step further by identifying how resources are mobilized and with what consequences. In ANT words, we look at how resources are assembled and what work this assemblage does in the urban renewal process.

Second, the non-Cartesian approach of ANT to follow the actors and describe (Latour, 2005) might support an investigation into (4) various modes of co-ordination. This differs from the emphasis on network mechanisms in network governance. Not only does the governance perspective favour formal relations between recognized actors, it simultaneously plays down hierarchical actor relations found in the background. Respectively then, institutions and organizations are favoured over individuals, and social, environmental, economic or political conditions tend to be overlooked as actors. The principle of symmetry, which we introduce in *Chapter 2.3*, in the formation and description of actor-networks might address this blind spot.

This multiplication of actors can also provide useful insights in (5) the relation between network configurations and outcomes. The mentioned blind spot is addressed by a description of the mechanisms of network order through specific practices in particular situations. A situational approach to practices and outcomes seeks to explain how effects come about in specific situations. Consequently, rather than characterizing what effects are found in which network configurations, the ANT project is to describe how these effects are being produced in the configurations.

Finally, some notes on the issue of (1) democratic anchorage and (2) methodologies. In planning studies ANT has been employed to analyze the democratic deficit in planning procedures by considering moments of opening and closure (Metzger et al., 2014: 191-214). In particular this literature looks at who is allowed to participate, when, on what conditions and on what topics (*Ibid.*:1-28). We consider the issue of democracy in housing renewal in *Chapter 5*. On the call for methodologies we are more explicit in this research, primarily since we consider ANT primarily methodology rather than a theory.[4] Consequently, we elaborate on the guidelines ANT offers to not separate nature from society. In this way we aim to find out if and how non-human actors give shape to the housing renewal network.

Overall, it should be noted that ANT is not the final answer to the research agenda nor is it claimed that the final answer of ANT is given here. Instead, a research direction has been set out that might shed light on the existing questions on how policies are mediated in networks and interacted with at various levels, and might give rise to new ones. Before hailing ANT as the next generation network theory in housing renewal, we first considers the so-called 'first generation of network management' (Bortel and Mullins, 2009: 99).

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[4] This approach to ANT is elaborated on in *Chapter 2.3*.

2.2 The framework of network governance

The network studies of housing renewal draw upon the theoretical framework of network governance (see Bortel et al., 2009). Above we have already mentioned some features, in the following we shed more light on this theoretical framework. The aim in this discussion is to allow for a comparison of the theoretical underpinnings of network governance and actor-network theory later on in this chapter. First of all, we should emphasize that we have made a selection from the substantial literature of network governance (De Bruijn and Ten Heuvelhof, 2008; Kickert et al., 1997; Koppenjan and Klijn, 2004). We believe, however, that this selection is representative, primarily since the work is described as a coherent body of literature developed by the "Governance Club" at the Erasmus University in Rotterdam and the Technical University in Delft, the Netherlands (Mullins and Rhodes, 2007: 4). Therefore, the overview is a selection of the literature found most relevant to, and instructive for, the study and management of housing renewal networks.

Network governance aims to provide a framework to analyze and manage complex decision-making in network settings (Koppenjan and Klijn, 2004: 2). In these settings uncertainty is typical, not just as the consequence of limited information but also due to the features of the network. We have illustrated previously how these features have been central to network studies of housing renewal. The four characteristics of complex networks have been defined by De Bruijn and Ten Heuvelhof (2008) and are pluriformity, closedness, interdependence and dynamic.

The first feature of multiformity stands for the network as a multiple object. Consequently, within the network of one or multiple organizations there is a diversity in activities, priorities and responsibilities. For example, one organization can have departments for different issues and tackled with divergent rationalities. Consequently, the players have a value systems that influences their frame of reference and sets their field of vision. This is the third feature of closedness. While we could understand this feature as selective ignorance, it does allow an organization to be deliberate in the relevant complexity and also to resist diffusing external influences. Finally, the relations in the network are understood as interdependencies between players. This means that the resources, goals and concerns of the players need to be considered in the wider playing field. Above all, interdependence refers to a situation in which the actors are mutually dependent in reaching their goals. Accordingly, interdependencies increase complexity and can be a burden on the effectiveness of the network but can also lead to opportunities to align actions towards shared goals. Finally, networks are dynamic in the sense that they develop in unpredictable ways as actors change or withdraw from the network.

Following these features, network governance refers to wicked problems as complex societal issues featuring substantive, strategic and institutional uncertainty (Koppenjan and Klijn, 2004: 6). This uncertainty stems from the view that in their interaction actors establish rules which in turn, generate structures—that is, a set of rules (*Ibid.*: 72). The theory posits that it is in the actors interest to operate within these structures, and to interact in accordance with the rules. In fact, it is considered a rational choice since actors avoid the interaction (transaction) costs of

negotiation (*Ibid.*: 77). While actors operate within the structures, their actions cannot be reduced to the rules of the structures (*Ibid.*: 80). In other words, structures are not static but the result of a dynamic process of co-creating shared rules. Thus in network governance

> [t]he theoretical and normative assumption that underlies the network approach we use, is that handling these types of uncertainty in dealing with difficult societal problems is essentially a matter of mutual adjustment and cooperation (Ibid. 114).

As a consequence, uncertainty is defined as 'the inability of stakeholders to coordinate their individual interpretations in a particular situation' (*Ibid.*: 160). To tackle this issue, network governance sees a role for institutions to facilitate and regulate the interactions between actors who are dealing with wicked problems (*Ibid.*: 214). More precisely, institutions should enable actors to learn each other's perceptions and see how objectives can be linked in strategies (*Ibid.*: 186). According to this view a policy document, for example, is a tool to influence perceptions of actors so they can be aligned to promote strategic decision-making (*Ibid.*: 226-7). The governance in networks then refers to the effort to keep actors together so that they can learn about their perceptions, and see opportunities to align their objectives in shared strategies (*Ibid.*: 243). Precisely how 'common grounds' are found in moments of uncertainty depends on the situation (Ibid.: 245). This means it needs to be done strategically, where

> management strategies are dependent upon the social constructions which actors involved in the network have created (perceptions and institutions) and upon the process characteristics of the interactions. (*Ibid.*: 250)

In short, a network management strategy to uncertainty is first to identify the distance between the perceptions of the actors on the issue at hand. Second is to attempt to reduce the distances and to present strategies for intertwining objectives. (*Ibid.*: 245). This uncertainty management, it is argued, is not simply consensus building. Rather it is considered a learning process of mapping perceptions' positions and distances 'to discover appropriate action perspectives' (*Ibid.*: 258). Thus, network management encourages to explore the dependencies and support the interactions by which 'dysfunctional or closed networks' can simultaneously be entangled and resolved (*Ibid.*: 259). By fostering new relations, rules can be developed that regulate the interactions in structures and enable the participants to act strategically.

In this brief overview of the theoretical framework of network governance we have addressed network characteristics and dynamics. We can say however that rather than a theory that explains the behaviour of actors, it is a perspective to comprehend how shared uncertainty is dealt with. Consequently, in the perspective of networks the uncertainty is not only on what is to be decided but also on how the players will decide. Following the characterization of the network,

the framework proposes strategies to influence the latter. Therefore we can conclude that the theory has a strong practical view to shape and steer networks towards specific goals.

2.3 Actor-network theory and some key concepts

So far we have discussed the main network approaches in housing studies and probed the relative potential of an ANT perspective on housing renewal networks. We are, however, not the first to explore the new insights ANT might offer on the uncertainty in complex housing (renewal) networks. Nonetheless, to our knowledge housing research inspired by ANT concepts and methodologies is limited. As Smith (2004) notes

> the traditional literature draws, almost by accident, on the realist and materialist thinking that is increasingly in vogue. Yet it has not embraced the Deleuzian creativity of matter. It has not explored the Latourian networks whose spidery tensions bind actions, emotions, technologies, people and things in novel and intriguing ways. (90)

This observation is in line with a commentary on the special issue of *Housing, Theory and Society* (2007) stating 'the absence of a detailed discussion of actor-network theory is remiss given its growing recognition in the post-structural social sciences more broadly' (Ruming 2008, 1). While the absence of ANT in housing studies has been discussed, few studies have actually tested the outlook.

A study that does explore housing studies with ANT is Dankert (2011) his doctoral thesis on the implementation of supply policy in housing management. In a case study of four housing associations he approaches the stages of implementation with the ANT concept of translations. According to Dankert (2011) this 'is about the process of that paper-based policy progressing through the implementation network and changing as it does so that the policy ultimately becomes part of the final result achieved' (346). He defines translation as 'all the negotiations, intrigues, calculations, acts of persuasion and violence, thanks to which an actor of force takes, or causes to be conferred on itself, authority to speak or act on behalf of another actor or force' (Callon and Latour, 1981: 279; in Dankert, 2011: 246). Consequently, the study traces not only the translations between the registers of strategies, plans and actions but also of the interactions between various actors throughout this process.

While the study refers to ANT concepts and methodologies, their elaboration remains tied to the realism of housing studies. The translations are analyzed in terms of the type of entity, for example from strategy to target, and the registers they use, from words to numbers. These translations are explained as transformations not only in form but also in content. However, the transformations in policy implementation do not 'render society as uncertain and indisputable as nature' (Callon, 1986: 214). Instead, the study stays within the society domain by speaking of the interactions between human made plans and human actions, and focuses on the changes in content rather than the forces of change. In other words, the study pays little attention to the

principle of symmetry in the sociology of translation (see Callon, 1986), and gives little insight into the various displacements and alliances that are being made in the translations.

Therefore, in this study we respond to a call in the literature to explore ANT in housing research. Except for research on policy implementation, we have not found any research that employs ANT concepts and methodologies in the study of housing management. Moreover, we would argue that the research on policy implementation has not explored the concepts of ANT to the fullest and is still tied to the traditional (housing) management literature. Therefore, we propose to test the potential of ANT by first taking some distance from housing studies. In other words, our point of departure is in the ANT literature, and the related science and technology studies, and eventually we position the approach in the study of housing (renewal). Therefore, we start with a general introduction of ANT and discussion of two key concepts afore framing it with housing renewal and comparing it to network governance.

2.3.1 Logistics in ANT

We have discussed the process of network formation, steering and stabilization in the framework of network governance. Now we consider this process from the perspective of ANT. We proceed by first outlining the origins of ANT and continue by underlining its three key principles. Before we begin, however, we should note that, unlike the apparent coherence of network governance, ANT is not presented as a consistent 'theory' (Law, 1999: 1-3). 'It' would argue—at least one of its authors does so in the introduction to a collected edition on the productivity of ANT—that defining ANT jeopardizes 'the chance to make a difference, intellectually and politically' (*Ibid.*: 2). The idea is that potential of ANT is best demonstrated empirically and in specific situation. Thus we have to accept that a discussion of ANT, like ours here, is necessarily incomplete. In our review we rely primarily on the work of (the founding fathers) Michel Callon, Bruno Latour and John Law. Consequently, we consider those concepts found most relevant to the study of housing renewal. In the next chapter we will outline the implications of the move to frame housing renewal with ANT.

The origins of ANT are in the studies of scientific knowledge production and technological innovation by Bruno Latour and Michel Callon in the 1980s (see Latour and Woolgar, 1986; and Callon, 1980). During these years of 'science wars' the authors offered a critique on the camp of scientific realism. At the same time, they did not align with the opposing side of post-modernism. Instead, they avoided the debates' dichotomies and focused on the empirical (i.e., anthropological) dimension of the philosophy of science and technology. In the work of Latour, this anthropology of the natural scientists—and most recently of 'the moderns' (Latour, 2013)—is an inquiry into the actual practices by which facts are produced in the laboratory (Latour, 1987). The thick descriptions of 'laboratory life' describe how nature and society are being separated to produce knowledge. In this sense Latour (2005) illustrated how scientific practice is the assemblage of nature rather than the discovery of a reality 'out there'. Therefore, facts are not the product of logic but of the logistics by which they are registered, ordered and distributed (Blok and Jensen, 2012: 27).

Exactly these logistics explain ANTs interest in associations and concern with networks. They also extend beyond the laboratory and into all domains of social life (Latour, 1993). As a result, the critique on the science wars is also a critique on the discipline of modern sociology. This 'sociology of the social' is opposed with a 'sociology of circulations', in which heterogeneous actors interact in a non-modern way (Latour, 2005). That is, the circulations stand for the work of assembling the world through the associations between human and non-human actors. The 'social' in ANT is thus 'only a very peculiar movement of re-association and reassembling' (*Ibid.*: 7). Similarly, making 'society' is only one element of the larger assemblage of a 'collective' (*Ibid.*: 14).

2.3.2 ANT as methodology and ontology

The network in ANT is, however, not applied to discover or to designate the collective as an object. We might thus find the capital 'T' for theory in ANT somewhat misleading. A more accurate description of ANT is a method to make visible and understand how associations between heterogeneous actors are formed, negotiated and stabilized. Thus, ANT 'is not theory … to explain why something happens' (Law, 1999: 2) but an outlook of 'how to see and to describe the actors' world building activities' (Latour, 1999: 21). To see and to describe, ANT relies on the three central *principles of relationality*, *symmetry* and *association* (Farìas and Bender, 2010: 3).

Like the 'T' in ANT, the three principles require us to have a close look at the 'A' for 'actor' and 'N' for 'network' too. First the network is to be understood extensively. The *principle of relationality* extends to the material and semiotic to find out both which entities are related and how they are arranged. Consequently, the notion of actor is to be considered as actor-network. This captures the individual entities but also the constituting effects of their interaction. In this view, actors define and enact themselves whenever they enter in relations. That is, when they form (actor-) networks. Or, in the words of Callon (1986)

> reducible neither to an actor alone nor to a network … An actor-network is simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform what it is made of. (93)

Again we can find here that the 'social' is not only a particular relation between humans but can also be an association of things that are not social by themselves (Latour, 2005). In short, the social is 'nothing other than patterned networks of heterogeneous materials' (Law, 1992: 381). But if this is true, then we should pay as much attention to the individual entities that are social as to those that are not when we are describing the social. This is what the second *principle of symmetry* holds. It applies to the observation and description of all kinds of actors; both human and non-human. This symmetry between human and non-human actors allows ANT to view human interactions being mediated through objects. In other words, from this stance ANT is able to analyze how objects participate in the making of the social—the various ways in which this happens will be discussed below. The making or assembling of the social by heterogeneous

means is the third *principle of free association*. ANT has received several critiques on the free association of humans and materials, and the implied agency of 'things' (see Sayes, 2014). As Law (1992) reminds us

> To say that there is no fundamental difference between people and objects is an analytical stance, not an ethical position. (381)

From this analytical stance ANT attempts to answer how 'order is an effect generated by heterogeneous means' (Law, 1992: 382). So rather than speaking of the 'thing' as an independent actor, we should consider how it is an enacted actor in an actor-network. Similarly, in research the search is not for the 'thing' but for the many associations and complex networks the 'thing' is implicated in. The suggestion is then 'to follow the actors themselves' (Latour, 2005: 12), instead of defining up front the social groups or categories to explain a situation. After all, relations (first principle) can come from free associations (second principle) between symmetrical actors (third principle). Only in this way can heterogeneous networks be observed, unfolding patterns be described and enactments be understood.

Another implication of the principles is that we have to rely on a single repertoire when we wish to describe heterogeneous actors symmetrically (Callon, 1986: 200). A repertoire proposed is that of 'translation' (Law, 1992). This too, is primarily an analytical rather than a theoretical concept, and 'is no more, but no less valid, than any other' (Callon, 1986: 200). It refers to the process of making equivalents so that elements can be linked, defined and ordered. As an analytical toolset it is particularly useful to describe how associations are made between and within actor-networks. More generally, it suits the aim of ANT to understand

> how actors and organizations mobilize, juxtapose, and hold together the bits and pieces out of which they are composed; how they are sometimes able to prevent those bits and pieces from following their own inclinations and making off; and how they manage as a result, to conceal for a time the process of translation itself and so turn a network from a heterogeneous sets of bits and pieces each with its own inclinations, into something that passes as a punctualized actor. (Law, 1992: 386)

This 'punctualized actor' is the actor-network that acts as a single actor. Yet, this requires hard work on behalf of the network, or better work-net (Latour, 2005: 143). In ANT this work is referred to as black-boxing, the many associations are deemed beyond the question. When it fails, however, the actor-network breaks down and becomes visible as a complex (chaotic) network of heterogeneous actors. Actor-networks are thus precarious; their actors need to be secured in order for their associations to be maintained. This network instability or situation of uncertainty is called controversy. Even the stable networks require maintenance, so in theory any network can be studied as a controversy—that is, any network carries with it some degree of uncertainty.

Consequently, with ANT we can open up black-boxes to study how controversies are overcome or made invisible. A controversy can be a scientific issue, an institution or a spatial organization; basically, any actor-network. In this research we approach housing renewal as a controversy.

The ANT concepts and techniques introduced in this chapter will be employed in the case study in *Chapter 4*. First, however, let us standstill to give this strange (conceptual) creature of the non-human a face.

2.3.3 (Not) Overlooking the non-human

The central feature of ANT is the attention it pays to the non-human, this is also the main attraction to test ANT here in the study of housing renewal. By definition housing renewal is a physical and thus material project. However, we do acknowledge that to say that humans and materials get by in housing renewal projects is one thing, to speak of material actors is yet another. So far we have alluded to the non-human in the context of the three principles of ANT– relationality, symmetry and association. Put differently, we have only discussed the non-human relationally and never singled 'it' out. This is for a reason as we will see in the following where ask what are these non-humans and what do they do? Only after this we turn to the task of opening and studying blackboxes.

To answer the first question—what is the non-human—we are already in difficult theory, the non-human is as diverse as it is controversial. In the literature non-humans range from microbes (Latour, 1993) to scallops (Callon, 1986), spectrometers (Latour and Woolgar, 1986), infrastructure projects (Latour, 1996) and door-closers (Latour, 1988). Yet they are also limited to these natural objects and material artifacts; that is, they exclude human, supernatural and hybrid entities (Sayes, 2014: 136). A first definition of the non-human is thus natural and material objects.

But we can be more specific about this definition when we consider the initial dissatisfaction with the nature/society dichotomy of ANT scholars (see *Chapter 2.3.1*). The idea is that not only do we live in a material world, we actively shape it in ways to make it work for us. This is not just in the sense of make it suit for us but more importantly, to have materials perform work for us when we are not or no longer there. For example, a house is a building to provide shelter and protect us from the (natural) elements; that is to make dwelling work. Moreover, the house is designed by an architect with certain ideas about the forms and functions of the house. As soon as we occupy and use our home, the architect acts on a distance (in time and space) through the material features of the house. Thus, non-humans are natural and material objects that we engage with and that we mobilize for specific (human) ends.

Then to turn to the second questions—what do non-humans do—the above example reminds us of Churchill who famously said 'We shape our buildings, and afterwards our buildings shape us' (1943). Taken literally, we could read that buildings become endowed with an action (to shape) and an agency (to shape us). To assert that buildings have agency is possibly a too literal reading of the statement. Similarly, it is too strict to state that in ANT humans and non-humans

have the same agency. As we noted earlier, to say there's no difference between humans and non-humans is an analytical stance (Law, 1992: 381). Therefore, in order to explore what non-humans do we need to approach the issue analytically—that is, in relation to the three principles of ANT. However, we recognize that *to explain* what non-humans do remains largely, in the ANT vein, an empirical question. As for the analytical question, we rely on the principles of relationality, symmetry and association to identify the role of the non-human of a *stabilizer*, a *mediator* and a *gathering*.

In the first role of stabilizer, non-humans are like placeholders to stabilize the interactions between human actors through time and space. This follows the principle of relationality according to which all kinds of entities can enter into relationships and bring a certain order in networks. In the situation of social housing we can think of the rental contract to establish the relationship between the housing association and the tenant for a certain time starting from their first interaction. Once the contract is signed, the tenant obtains a copy to be 'reminded' of the relationship that has been established without repeating the interaction; there is no longer a need for the tenant and the housing association to be in the same place once a non-human intermediary is 'in place'. Therefore, non-humans are found to be durable materials and entities that play an important role in stabilizing networks since they can 'last longer than the interactions that formed them' (Callon and Latour, 1981: 284; in Sayes, 2014: 137).

Second, non-humans are placed between actors and have a capacity to shape the interaction. We can relate this to the principle of symmetry that requires us to consistently attend to the relationships between all actors; that is, both in terms of approach (follow the actors) and language (translation, see Chapter 2.3.4). A PowerPoint presentation of the housing association at a tenant's meeting, for example, is an important form of communication that is placed between the housing association and the tenants. According to the principle of symmetry, the presentation is not just a medium to communicate but more importantly a mediator that takes an active role in ordering the interaction between the presenter and the audience. Specifically, the housing association (the presenter) interacts with the tenants (the audience) through a non-human (the presentation slides).

Finally, according to the principle of association non-humans act as members of gatherings. From the perspective of ANT an action is always an interaction thus non-humans act only in association with other actors; i.e., in gatherings. Similarly, we referred earlier to the way non-humans have the capacity to participate in the making of the social. Now we can be more precise to state that when humans act with or through objects these objects become part of the interaction. In this position, first of all, they are active in constituting the interactions in the gathering and secondly, they contribute to the action of the gathering itself. We find this in the example of plans and diagrams that while they are to represent the housing block for example, they also start to participate in enacting this image of the housing block. To take this example further, the technical drawings can be used by experts and the housing association to convince tenants why the floor plan cannot be reorganized to meet new needs.

To conclude, we have attempted to clarify the identity and the action of the non-human in ANT and did so not with definitions but through empirical and analytical illustrations. This approach to the non-human is related to the earlier emphasis that ANT is primarily a methodology. This 'theory' does not make strict and universal claims but rather provides an analytical framework to do research based on the idea that we should not separate nature from society or the material from the social. Unlike a theory, ANT is not concerned with the definition of the non-human but more like a methodology it

> asks that we remain open to the possibility that nonhumans add something that is of sociological relevance to a chain of events: that something happens, that this something is added by a nonhuman, and that this addition falls under the general rubric of action and agency. It is the action itself that is the important to trace. (Sayes, 2014: 145)

Therefore, what ANT offers is 'only some infra-language to help them [us sociologists of circulations] become attentive to the actors' own fully developed meta-language' (49). The next steps in developing this 'infra-language' are taken in the next paragraphs. With the ANT concepts of translation and controversy mapping we can finally turn to the task of opening the blackbox.

2.3.4 Four moments of translation

In his work on the scallops in St Brieuc Bay, Callon (1986) illustrates the principles of ANT we just introduced. Above all, Callon outlines an approach to study the dynamics of heterogeneous networks. The case study describes how knowledge about scallops is produced in a process that relates and registers—or translates and transforms—actors in a network. It does not only make visible the work done by a few actors, it also highlights the contingency in assembling knowledge about the scallops. Following the principles of ANT, Callon (*Ibid.*) develops the elements of a sociology of translation to study the formation of networks. We review his demonstration so we can refer to it in our case study.

Callon (*Ibid.*) defines four moments of translation—problematization, interessement, enrolment and mobilization—to analyze the evolution of a controversy. The case study focuses on three researchers who analyze the decline of a scallops population and seek to develop a conservation strategy. The study describes how the researchers attempt to assign roles to the various actors and so define the overall situation. All of this starts with a first question formulated by the researchers. Through this question they attempt to identify the actors and define their identity. Simultaneously, the researchers designate themselves as focal actor. After all, they formulate the question and attempt to answer it in the interest and on behalf of the other actors.

Therefore, the researchers' question assembles actors and forms relationships. If the question is in the interest of the actors, it also demonstrates that it is in the interest of the actors to enter into the relationships defined by the researchers. As a result, the researchers become indispensable in the network since the actors on their own cannot attain what they want. The

scallops for example, would like to stay in the bay but this is obstructed by predators, including the fishermen, in the bay. Because of these kind of *obstacle problems* the researchers are not only indispensable in bringing what actors want but also in keeping the actors' network together. In the vocabulary of the sociology of translation this focal position of the researchers is an *obligatory passage point*. The formulation of a question that relates and defines the various actors in the network and that establishes an obligatory passage point is the first moment of translation called problematization.

Still, the formulated question is only a first attempt and the researchers have not yet tested whether the actors agree upon the relationships and identities that have been defined. The possibility is either the actors subscribe to the plan of the researchers, or they determine their identities, concerns and interests differently. If the latter is the case, the identity and goal is not assumed independently but in relation to other—different—actors. We should thus pay attention to competing actor-networks. This 'competition' appears in the second moment of interessement. Specifically, this is the attempt of the focal actor to stabilize the network that was defined in the phase of problematization. In other words, it is the effort of the focal actor to impose the identities and relations defined in the problematization. In this effort the actor can rely on devices 'which can be placed between them and all other entities who want to define their identities otherwise' (Callon, 1986, 205). Thus interessement is a strategy to obstruct competing associations and build a stable set of alliances.

While the devices might be set up to attract and place the actors in the network, whether this is achieved only becomes clear in the third moment of translation. In this stage of enrolment the actors negotiate their position and roles. It is completed when the actors accept the interrelated roles that are defined and attributed to them. This means they are finally part of the actor-network. Important here is that although the actors identities are determined, they are only negotiated with a selection of entities or actors. The question is thus who are the spokesperson and who do they speak for. In Callon's case study, the researchers have established relationships with a few representatives that stand for the larger entities that are addressed.

This work of designating a spokesperson is described in the fourth stage of mobilization. Consequently, it examines which intermediaries and equivalences are put in place so that actors are made mobile. Through intermediaries it describes the displacements involved in enabling one actor to state what the other actors are and what they want. This means the intermediaries 'render each new displacement easier and it establishes equivalences which result in the designation of the focal actor as spokesperson' (Callon, 1986: 210). Therefore, it is by means of making actors mobile that actor-networks can formulate statements as a 'punctualized actor' (Law, 1992).

2.3.5 From translation to ordering

In the above discussion we presented the moments of translation as successive and logical stages. We should, however, emphasize translation is an iterative process that is never complete or accomplished (Callon, 1986: 215). In this way we can look into the degrees of uncertainty (i.e. controversy) and the consequent maintenance required by the actor-network. After all, at any time

and in any stage an actor might question, negotiate or contest the validity of another actor in the position of spokesperson. Such a situation would mean the actors do not agree with the representatives they have been put up with. As a result, the 'punctualized actor' disintegrates and the complexity in the actor-network will be exposed. Yet, if spokespersons do succeed in obtaining and maintaining their representative role, the network is stabilized and their actors are under control. In other words, the closure of controversy 'occurs when the spokesmen are deemed to be beyond the question' (*Ibid.*: 212).

To arrive at this closure, actors can engage strategies in their translation and ordering of the actor-network. As we have seen, in the stage of interessement the focal actor can build devices to associate actors in their network and prevent others from doing the same. In the stage of enrolment the actor can use intermediaries to translate a large number of entities into only a selection representative actors. Four additional strategies for network ordering are defined by Law (1992: 387-8). A first strategy is to embody a set of relations in durable materials, that is in those that maintain their relational pattern longer. A second ordering strategy is mobility, it allows actors to act at a distance while maintaining their identity. This is where Latour (1987) refers to 'immutable mobiles' as stabilized technologies that perform the same action in different locations (226-7). Thirdly, Law (1992) states translation is 'more effective when it anticipates the reactions and responses of the materials to be translated' (388). Consequently, actors need to focus on the relational effects and to see what entities and conditions generate these effects. Finally, at various scales of translation a series of strategies can interact and coexist, and be used to facilitate translation.

From the discussion of strategies it is clear that the study of translation is also an analysis of power. We can use the analytical framework of translation to identify how some important actors order the network and speak in the name of it. Furthermore, we can investigate the specific strategies by which these spokespersons configure the network that guarantees their identity and goals. This study of power does not set out to name and focus on the powerful actors but rather discover them through the study of network negotiations and orderings. As a consequence power is not simply coercive or hierarchical but approached relationally, with a focus on 'the methods and materials [actors] deploy to generate themselves' (Law, 1992: 390). In this way, we might 'understand how they realize themselves, and to note that it could and often should be otherwise' (*Ibid.*).

2.3.6 Mapping controversies

In the discussion of ANT we illustrated how 'the social is visible *only* when new associations are being made' (Latour, 2005: 79; emphasis original). Furthermore, we introduced translation as an analytical concept to study the work of actors in making these associations. In addition, we referred to controversies as those situations in which the formation, negotiation and stabilization of associations is particularly visible. Moreover, this framework brings to the fore the material actors and the role they play. So at this point we know how to open up black-boxes through the

moments of translation—or the formations of associations—in the housing renewal network. To make their contents visible we now turn to the technique of controversy mapping.

The research technique mapping controversy has been introduced by Bruno Latour in his ANT teachings, and is further developed in the European research project Mapping Controversies on Science for Politics (MACOSPOL: 2010). As a technique, controversy mapping is based on the ANT project of revisiting the modernist divide between nature and society. At the same time, it is less conceptual than ANT and can actually be applied to understand the tensions in socio-technical debates (Venturini, 2010). We employ this technique in the study of housing renewal. Instead of simply borrowing a tool from a different discipline, we want to 'translate' controversy mapping to housing studies. This requires us to carefully consider the original notion of controversy and the practice of mapping. To start, a controversy refers to

> every bit of science and technology which is not yet stabilized, closed or "black boxed" … we use it as a general term to describe shared uncertainty. (Macospol, 2007: 6, emphasis original; in Venturini, 2010: 3)

Controversies are not limited to science and technology, and they have also been approached in the built environment (see Yaneva, 2011). We propose to replace 'science and technology' in the study of housing renewal by 'housing'. Consequently, controversies are those situations where actors disagree on housing and are negotiating the alliances in the housing network. Specifically for renewal, we suggest this is the renegotiation of existing housing networks till actors have redefined their identity and new (or better, renewed) housing networks emerge (Venturini, 2010: 4-7).

But what does it mean to say a housing controversy is 'every bit of housing that is not yet stabilized' and can be used to 'describe shared uncertainty' in housing. To investigate this kind of controversy, in the absence of a precise definition, we consider some of the common features. According to Venturini (2010) controversies most importantly, involve all kind of actors from humans to natural elements to technical artefacts (4-5). When we approach housing renewal with ANT we account for the many heterogeneous actors; including the housing association, residents, foundations, doorways, and picks and shovels. In this way, the controversy can be seen as a forum for the diverse actors to enter in negotiations and relationships (Venturini, 2010: 4).

Accordingly, the controversy can be described as the forum in which the assembling of heterogeneous actors and networks is displayed. As the controversy unfolds, more and more actors—and objects—enter the stage and negotiate in the forum. Since nothing can be taken for granted or assumed to be stable, and networks and actors are continuously composed and decomposed, the controversy cannot be reduced (*Ibid.*: 5). Consequently, even if the negotiations of a controversy are aimed at a shared viewed, no view is hegemonic or can be adopted unilaterally. Thus, controversies always imply conflict by diverse means and while '[t]hey might be negotiated through democratic procedures, … often they involve force and violence' (*Ibid.*: 5).

Following these features, we define the controversy as a contingent assembly of heterogeneous actors in conflict.

As for the mapping in mapping controversies, this means to trace and depict the negotiations and uncertainties in the network. Consequently, the first step is to follow the actors and analyze their movements in networks, and next to present the dynamics over time. On this exercise Yaneva (2011) states

> to map denotes being able to visualize and analyze an argumentative space—a space shaped by disagreements and tensions, triggered by the controversial architectural object. (73)

In this research we map the argumentative space of a housing renewal project. As we undertake this task we are aware of the consequences of observation on the one hand, and description on the other. Where in the observation we follow the movements of actors in the network, the description means we put down these movements. Therefore we recognize that while our observations focus on the negotiations in networks, the given description contributes to the stabilization of networks.

2.3.7 Approaching housing controversies

We believe that the characterization of a controversy given above —a contingent assembly of heterogeneous actors in conflict—is not specific to science and technology nor irrelevant to housing renewal. Also Yaneva (2011) has found this in her studies of controversies in architecture. She argues that instead of looking for the science and technology in architecture, '[w]hat we borrow is the method of inquiry that has allowed STS studies to successfully get out of the artificial dichotomies of nature/culture, subject/object and technologies/humanities.' (3) The approach argued for here is similar in the way that we do not look at issues of science and technology in housing but test a different network perspective in housing studies. We then also recognize and test at the same time, if in housing studies the same conclusion reached in mapping controversies in architecture applies that

> [t]he use of Mapping Controversies methodology does not lead to the generation of a new architectural theory but inevitably generates many new theories that are better suited to explain the actors' worlds. As those interesting stories unfold, we find the implicit theories that come right from the actors' worlds and are told with their native words. (Yaneva, 2011: 108)

It should be noted that in this study housing is not narrowly understood as architectural objects but in extension to the practice of dwelling and provision of shelter (see also Heidegger, 1971/2013). This extended definition is accounted for in the practice of mapping as it 'can be extrapolated to a wide range of other complex phenomena of hybrid nature' (Yaneva, 2011: 108).

This hybrid nature, of physical, cultural economical, political connections, is found in the working definition of housing. More specifically this means that while the focus is on projects of housing renewal this is not taken as either an object or subject but rather as a situation in which new relations within housing are being made. So housing renewal is not simply physical, rather 'we forget the divides and we follow, document and map the controversy as it unfolds' (Yaneva, 2011: 3). The understanding of housing aimed for, is then, to follow, trace and map the associations and the work required to (re)make them in a housing renewal project.

The above quote refers to the 'Mapping Controversies methodology', we have so far considered primarily the conceptual dimension of controversies. Consequently, in *Chapter 3* we return to mapping controversies as a methodology. In this chapter we put forward the understanding of housing renewal as 'housing not yet stabilized' and involving 'shared uncertainty'. Put differently, renewal is the reassembling of housing networks. Furthermore, we referred to mapping controversies in architecture to illustrate the objectives of framing housing renewal as a controversy. In this study we aim to explore what 'implicit theories' (Yaneva, 2011: 108) we might find when we 'get out of the artificial dichotomies' (Yaneva, 2011: 3).[5] We continue this exploration on a conceptual level by discussing the main conclusions of our ANT move for housing renewal networks.

2.4 ANT implications for housing renewal networks

Throughout this chapter, in which we introduced two network perspectives, we made references to the study of housing renewal. Now we summarize the implications of approaching housing renewal with 'the other' theory, that is ANT. A note however, we believe that the implications are difficult to anticipate and easier to demonstrate—as we do in the empirical study. Following this recap we revisit network governance and put the two perspectives in perspective (pun intended).

We introduced ANT according to its three principles of relationality, symmetry and association. These three principles have consequences for our understanding of the renewal process, or network for that matter. We emphasize here six consequences for our study of housing renewal.

First of all, we approach housing renewal as the reassembling of housing broadly understood. This reassembling is not only concerned with the replacement of window frames, the rearrangement of walls and the renovation of foundations. It also includes the differentiation of tenure type, the change of residents and the restructuring of housing portfolios. In other words, we follow *all* actors in their reshaping of the housing renewal network.

Second, this renewal entails the reassembling of both humans and non-humans into new heterogeneous association. Consequently, we understand renewal not just as the change in single actors but in complete actor-networks. As we will see in our case study, the replacement of pillars

[5] [5] We do not except to find or build Theories (capital T) that can make universal claims to explain how housing renewal networks works. Instead we might discover theories (lower case t) that bring to light the mechanisms of network ordering and their respective tensions. This is in line with the way we use ANT as a 'theory'.

in housing renewal altogether redefines the housing network, including the identity of the residents, the housing association, the houses and the street.

Thirdly, we consider housing renewal not as a project but a dynamic process of dealing with shared uncertainty. Specifically, housing renewal is a controversy. We thus focus on the precarious alliances that are being made and negotiated in the housing renewal network. The development of these alliances we approach through translations.

Fourthly, we are interested in the efforts of actors to stabilize and destabilize the housing renewal network. This means that we continuously look for the work actors or their intermediaries do to turn the renewal process into a project. In other words, in what ways are the many actors in the housing renewal being ignored, controlled or represented throughout the process and towards the project.

Fifthly, when we consider actors and their intermediaries we take into account they can be acting in the distance, in a different time and place. This means that previously made plans, produced knowledge or held discourses might have an effect in the time and place we study. In our case study, we need to be aware that the neighbourhood's label in the 1970s ‘laboratory of city renewal’ (Van der Gaag, 1993) might still play a role in the actor-networks of today’s housing renewal.

Finally, we are aware that to make alliances and to have intermediaries acting for you is power. That means we are interested not just how the housing renewal networks are ordered but also who this network ordering does. In other words, who mobilizes the housing renewal network. More importantly, we look at where in the renewal network there is resistance and how these dissenters and adversaries might succeed or fail in shaping the controversy.

2.5 Putting networks in perspective

This chapter on the conceptual framework started with a discussion of network approaches in housing studies, and consequently those specifically applied to housing renewal. From here we turned to the principal theoretical framework of network governance. Then we segued into the central theory of ANT and discussed the implications for the study of housing renewal. In these points we tried to make explicit the distinct focus of ANT. Now we further emphasize the distinctiveness of ANT by comparing it to network governance on some basic (network) concepts.

In the discussion of ANT we emphasized that the entry to the study of housing renewal is controversies. The studies we presented on housing renewal and their network governance approach focused on the network characteristics and dynamics. Yet also here we highlighted that the underlying property of complex networks is *uncertainty*. More specifically, uncertainty related to the network setting of various players rather than limited information (facts). In ANT uncertainty is a feature of both the natural and the social, it therefore refers to *controversy*.

Both ANT and network governance look at housing renewal as a controversial and uncertain process with multiple actors. In addition, both perspectives focus on the networks of these processes and how uncertainty is played out within them. Yet, in ANT the latter question is

taken up in a *description of contestation* while in network governance it is an *exhortation of cooperation*.

Furthermore, while we have named both perspectives network perspectives there is still a difference in how these networks are understood; that is, they present different network ontologies. Network governance, we argue, is concerned with functional *networks* of decision-making. It focuses on the *rules* and structures of networks that facilitate the interactions between strategic *players*. As actors mutually constitute themselves in networks, actors are simultaneously acting and acted upon. For this reason ANT sometimes refers to the more less active term *actants*. Since the network can act upon the member actors and those outside, ANT refers to the more active term *work-net*.

This difference between players and actants, also accounts for the network governance focus on the management of uncertainty by means of steering playing fields of humans, and ANT's analytical concern with following controversies through the tracing of associations. Although in ANT interactions are important, the interest is not in how they are facilitated but rather how they are generated. These differences between related network concepts in network governance and ANT are summarized in *Table 3*.

Network governance	**Actor-network theory**
uncertainty	controversy
exhortation	description
cooperation	contestation
players	actants
networks	work-nets
rules	intermediaries
management	association

Table 3: Overview of related concepts in network governance and ANT

The differences in the network concepts can be explained by means of the distinct network ontologies the theories represent. Based on the three principles and the six implications for the study (see *Chapter 2.3.2* and *2.4*), we identify four key differences between network governance and ANT. First in ANT actors are not only interdependent to reach goals but can only act in relation with other actors. Second where pluriformity states actors are composed of entities with varying values, ideas and goals, ANT argues the entities should be described in a single language. Third the degree of closedness in network governance, is a result of competition for free association in ANT. Fourth the configuration and its changes is not just due to the dynamics of the actors but also to the combined, contingent and (un)desired effect of these actors. The network characteristics are summarized in *Table 4.*

Hierarchy	**Network**	**Actor-Network**
Dependence on superior	Interdependence	Relational
Uniformity	Pluriformity	Symmetry
Openness	Closedness	Association
Stability, predictability	Dynamic, unpredictability	Contingency, instability

Table 4: Overview of characteristics of a hierarchy, network and actor-network (elaborated on the basis of De Bruijn and Ten Heuvelhof, 2008: 20)

3. Methodology

> Ah, if only you were an ethnologist, you could stay in your village and draw nice maps. Whereas we sociologists have to drag ourselves around everywhere. Our terrains aren't territories. They have weird borders. They're networks, rhizomes. (Latour, 1996: 46)

In the introduction of ANT we approached it primarily as a methodology rather than a theory. Specifically, we introduced it as a methodology to see and describe 'actors' world building activities' (Latour, 1991: 21). Yet—unfortunately—this methodology 'isn't applicable to anything' (Latour, 2005: 141). At the same time, if we considered ANT just an abstract theory we would be missing the point. It does provide ideas how—and how not—to study things (Latour, 2005: 142). Thus even though we introduced ANT not as a theory (i.e., as a methodology) we still have a task ahead of us in this chapter to make it useful as a methodology. Still, we do not consider it a surprise that ANT does not necessarily facilitate our research. If anything, the suggestion to deploy complexity and 'just describe the state of affairs at hand' actually slows research down and makes it difficult (Venturini, 2010: 2).

On that account, we use this chapter to clarify the way we study things in housing renewal. To start, we position the research vis-a-vis housing (renewal) studies and point out the research orientation. Accordingly, we refer to four methodological implications of employing ANT that we need to be aware of in this research. Then we introduce the research design and define the case study criteria. We continue by means of the methods of data collection and conclude with the techniques for data analysis.

3.1 Positioning the research

When we presented the approach of housing controversies, we made reference to the field of science and technology studies. In that way, we borrow concepts and methodologies from STS to investigate housing issues. On the one hand, the research then follows the field of housing research and in particular, network studies of the complexity and management of housing renewal. We position this research, accordingly, along the lines of pragmatism in housing (management) studies (Gruis, 2013). This paradigm holds the task to produce socially useful knowledge and to solve practical problems in the 'real world' (Feilzer, 2009). In this way the search is not necessarily for 'an accurate representation of reality but rather a useful one' (Rorty, 1999; in Feilzer, 2009: 8). Put differently, the research orientation sidesteps positivism and constructivism in favour of utility (Felizer, 2009).

A similar anti-dualism we stated, is at the outset of ANT as it emerged during the science wars (Latour and Woolgar, 1979). In particular we emphasized the non-dualist, or non-modern view, on the production of knowledge. When making this comparison we should recognize, however, that the non-dualist view is not motivated by utility but rather by 'the burning desire to have new entities detected, welcomed and given shelter' (Latour, 2005: 259). This pursuit of

hybridity—possibly even complexity— over utility according to ANT 'is not only legitimate, it's probably the only scientific and political cause worth living for' (*Ibid.*). The analytical move to examine the power of new entities and their actor-networks is, in this light, also a political project to give these entities a voice—in urban renewal. That is to say, we aim 'to understand how they [materials and methods] realize themselves, and to note that it could and should often be otherwise' (Law, 1992: 390).

Therefore, the consequence of pragmatism in ANT is different from in housing studies. The explicit reference in ANT, however, is to do research on praxis rather than for praxis. That is, to do research 'not to say what is, or what ought to be, but to provoke thought' (Stengers, 2005: 994). In terms of doing research, the main exercise is then not to 'start out assuming whatever we wish to explain' (Law, 1992: 380). Instead, we adhere to the ANT alternative 'to follow the actors' (Latour, 2005) and 'to learn from them how to observe their collective existence' (Yaneva, 2011: 4). Therefore, when we study housing renewal with ANT

> Pragmatism refers to a set of processes that helps us to understand what gets actors concerned about the design of cities and buildings and how they become attached to things, situations and moments, while simultaneously sharing and discussing concerns with others. (Yaneva, 2011: 43)

3.2 ANT implications

In addition to the above mentioned paradigmatic consideration, we need to reflect on the methodological and also practical implications of ANT. Scholars in urban studies have argued ANT presents 'a major challenge for urban research: identifying, describing, and analyzing these multiple enactments of the city and understanding how they are articulated, concealed, exposed and made present or absent' (Farias and Bender, 2010: 14). In particular, we find five implications of relevance to our study of housing renewal. In the first place we face a choice of

> either we follow social theorists and begin our travel by setting up at the start which kind of group and level of analysis we will focus on, or we follow the actors' own ways and begin our travels by the traces left behind by their activity of forming and dismantling groups. (Latour, 2005: 29)

The ANT way is to 'follow the actors' but this implies we cannot define a detailed research plan up front. Also in this research we remain flexible towards our research objects, arenas and issues. To some extent, we follow housing renewal beyond the site, the proprietor and the buildings of the renewal project. This furthermore implies we are flexible in the research methods we use. After all, we want 'to multiply the points of observation' (Venturini, 2010: 3) and diversify the accounts of the situation. The fourth implication is then that the case study cannot be reduced to a neat framework but is presented as a description of the situation at hand. In this way we attempt to

maintain the complexity and the authenticity of the stories told by the actors. As a result we recognize we cannot explain but only describe the situation.

We dealt with the challenge of these five implications in three ways. First we chose a focal actor to follow in the analysis but also remained open to discover other actors. Moreover, we defined a time period for the housing controversy which was set by the publication of the neighbourhood strategy and first tenant's meeting. For practical reasons and to account of the scope and depth of a graduation thesis, we have also set boundaries on the places of study; tenant's meetings and the street. To define the issues and actors we followed the idea to 'encompass [the study] within the boundaries proposed by the interviewees themselves' (Latour, 1996: 19). Where and how these boundaries were set is followed up in *Chapter 5*.

3.3 Case study method

To describe a situation of housing renewal we employ qualitative methods in a case study design (Bryman, 2008: 69-70). The case study method is generally used in network studies of housing 'to investigate complex phenomena and to develop hypotheses out of a rich contextual framework' (Rhodes, 1997: 83; in Mullins and Rhodes, 2007: 8). We use the case study method to describe the makings of housing renewal from the perspectives of various actors. Moreover, we do not develop hypotheses but test the hypothesis if non-human actors play an important role in housing renewal networks. To this effect, we present an exemplifying case study 'to capture the circumstances and conditions of an everyday or commonplace situation' (Yin, 2009: 48; in Bryman, 2008: 69). That is to say, we look at a housing renewal situation initiated by a Dutch housing association to understand the relationships between technical, material and social circumstances.

As we attempt to deploy complexity rather than to reduce it, we also aim to maintain the uniqueness of the case. Consequently, we present a situational description of housing renewal. Issues of research validity and generalizability might, consequently be raised. As Bryman (2008) notes, it 'depends in large part on how far the research feels that these [criteria for research validity] are appropriate for the evaluation of case study research' (69). In this respect, we follow Flyvbjerg (2006) work on the case study method and argue in *Chapter 4* that the empirical study allows for an in-depth questioning of practice and to which many future (ANT) inquires might be added (242).

3.3.1 Case study criteria

The case study is selected with the research objective in mind; again, we build upon existing network perspectives in the housing literature to explore an ANT approach to housing renewal. Therefore, we derive the case study criteria on the one hand, from existing network studies of housing renewal (see *Chapter 2.1*). That is we select a case study that

> concerns (1) physical renewal of (2) social housing (3) in a central city location (4) initiated by a housing association and (5) requires tenants to move out for at least the duration of the project

On the other hand, we derive case study criteria from the field from which borrow our concepts and methodologies; to repeat, we propose to study housing renewal as a controversy. We follow the STS emphasis and features (Venturini, 2010) to develop the criteria for a housing renewal controversy. In STS, controversies call attention to the associations, negotiations and uncertainties in scientific or technological issues. As we noted earlier, we are interested in controversies to find out how knowledge is being assembled and following the statement that 'the social is *only* visible when new associations are being made' (Latour, 2005: 79; emphasis original).

Accordingly, when we study a housing renewal controversy we are foremost interested in disagreement. Following the statement, the disagreeing actors are best followed when the issues are current. Finally, if we want to follow and listen to the actors we need to have access to the debate. This means that for practical reasons we need to select a controversy that is somewhat localized and has some transparency. Therefore, we complement the housing study criteria with the criteria for a housing renewal controversy, to select a case study in which

> the housing renewal project is (1) debated and (2) takes place in the moment (3) in localized arenas that (4) are accessible

3.3.2 Data collection and analysis

For the data collection we rely on the ANT suggestion to 'Just follow and describe, describe and draw, draw and map!' (Yaneva, 2011: 45). In addition, we employ (more) specific guidelines which we discuss below. Still, we keep the following ANT dictums in mind

> - you shall not restrain your observation to any single theory or methodology
> - you shall observe from as many viewpoints as possible
> - you shall listen to actors' voices more than to your own presumptions
>
> (Venturini 2010: 3)

At this point, we can mention the key methods used in the data collection. We studied the case while it unfolded so we could collect data on ten site visits over a period of one year (from August 2013 till August 2014). Furthermore, five semi-structured interviews with focal (human) actors have been held over the summer of 2014. Finally, in extended desktop research we have analyzed media articles, legal documents (land use plans, ordinances and court records), official city plans, policy documents, minutes of meetings, flyers and pictures of the street.

In the data analysis we rely on grounded theory (Corbin and Strauss, 1990), and the techniques of controversy mapping and situational analysis. We have introduced the concept of controversy mapping in *Chapter 2.3.4* to conceptualize housing controversies. In this chapter we,

we address the methodological challenge to capture housing controversies with situational analysis (Clarke, 2005). We employ situational analysis to order, place and resolve the network observations. In other words, we use it as the translation key to move from observation to description. As an analytical tool, the actual translation is still found in controversy mapping and in the descriptions. The situational maps are thus primarily a tool to organize and analyze the data.

The first mapping technique, situational maps, is an exploration of who and what make up the situation (Clarke, 2005: 94). Then, social arenas maps look at how the actors define the situation, and how these definitions of the situation varies within and between arenas (*Ibid.*, 113). Finally, the third positional maps attempts to represent the position and roles actors ascribe to themselves in the situation (*Ibid.*, 128). To summarize in the words of Clarke (2005), situational analysis includes

> - situational maps that lay out the major human, nonhuman, discursive, and other elements in the research situation of inquiry and provoke analysis of relations among them;
> - social worlds/arenas maps that lay out the collective actors, key nonhuman elements, and the arena(s) of commitment and discourse within which they are engaged in ongoing negotiations—meso-level interpretations of the situation;
> - and, positional maps that lay out the major positions taken, and not taken, in the data vis-à-vis particular axes of difference, concern, and controversy around issues in the situation of inquiry. (Clarke, 2005: 12)

3.4 Conceptual model

At the outset of this chapter we set the task to make the ANT methodology operational. We did this by revisiting pragmatism and by reflecting on five specific implications of a less Cartesian and more Latourian study. Consequently, we presented the case study criteria we find productive to explore a housing renewal controversy. Finally, we argued to employ situational analysis in the data analysis and controversy mapping to guide our case description.

Hitherto we have been guided through the borderlands of ANT and housing studies by two questions:

> 1) what material actors are in the housing renewal network of the Sint Mariastraat?
> 2) and, how do these material actors negotiate the housing renewal project?

We formulated these questions to explore the potential of ANT in understanding the process of housing renewal. Again, the research objective is to put ANT to the double test of (1) *examining if* ANT is an apt network perspective to understand housing renewal, and of (2) *exploring how* housing associations might be able to steer urban renewal in a heterogeneous networks. In this way, we investigate the contribution of ANT to (a) the theoretical issue of *understanding* the

networks of housing renewal, and to (b) the call from practice for a *new way of thinking* about urban renewal.

Now that we have treated both the theoretical (*Chapter 2*) and the methodological (*Chapter 3*) framework in light of these two questions, we can define the conceptual model for the empirical analysis. To account for material actors we firstly approach the network of housing renewal as a controversy (*question 1*). This means that we look at the associations being made between human and non-human actors in heterogeneous networks. To capture the work of material actors we follow a focal actor through the construction of these heterogeneous networks (*question 2*). This means that we examine the development of the uncertainty as a stabilization of the housing renewal network.

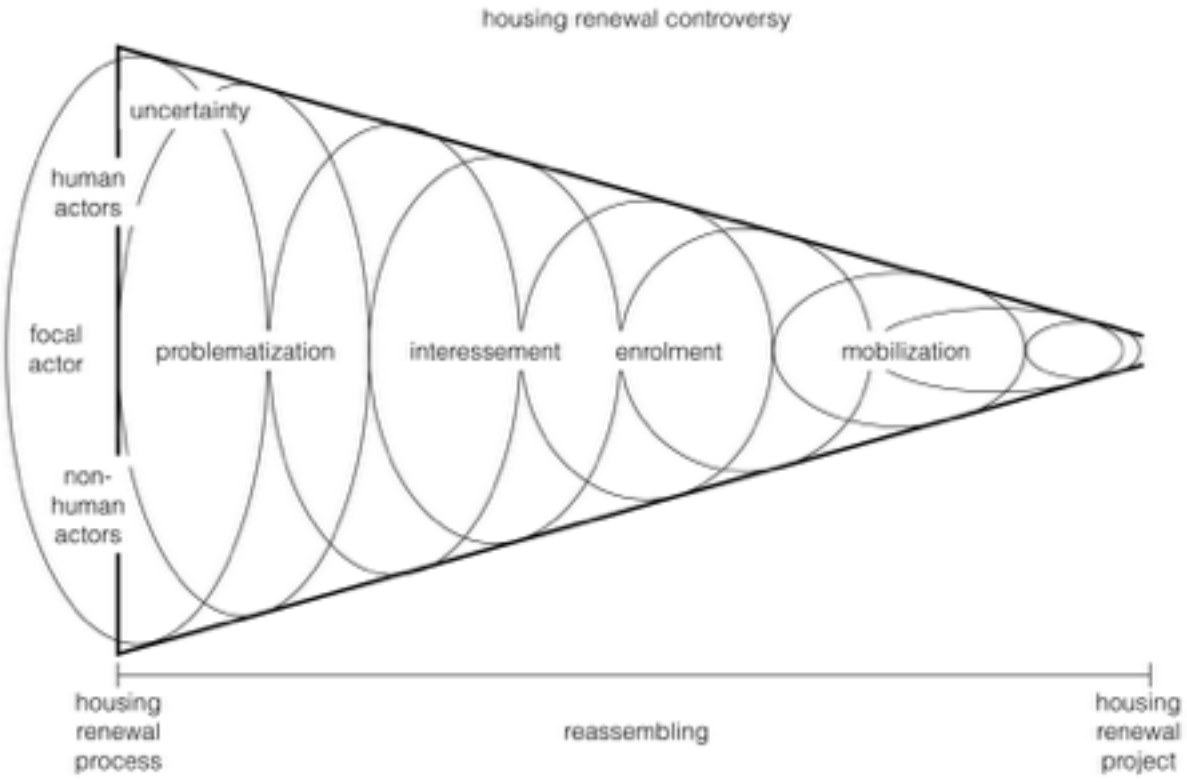

Figure 6: Conceptual model to study the housing renewal controversy

The conceptual model guides us through the case study of the housing renewal of the Sint-Mariastraat in the Oude Westen in Rotterdam (NL) (see *Figure 6*). But before we delve into this, we should recall that the development from process to project, or the stabilization of the controversy, is iterative—considered from the perspective of the focal actor. Put differently, the reduction of uncertainty (the funnel) is not a chronological evolution (the horizontal line) but an iterative process of network stabilization (the circles). As we will see in the case study, associations can always be contested and renegotiated; in that way, the housing renewal network is continuously reassembled. And as a consequence, the associations in the housing renewal network remain precarious throughout the controversy so uncertainty is never eliminated.

4. Empirical study

> Uit de voorgaande beschouwingen over de voorbereiding van een plan van herbouw dringt zich sterk de spreuk op: “gouverner, c’est prévoir”. … Helaas bestaat ook, niet ten onrechte, het gezegde: “gouverner, c’est mécontenter”. Er is geen stadsplan denkbaar, dat uit een bepaald standpunt terecht kan worden aangevallen, omdat het niet beantwoordt aan het ideaal. Nu bestaat er geen ideaal op zichzelf; een ideaal is er alleen ten opzichte van iets anders. (Angenot, 1946: 24-25; opening lecture on ‘Planning problems in the reconstruction of the centre of a big city’ in the planning course at the Dutch Economic School in Rotterdam)[6]

Where else to start than in the neighbourhood itself, ‘[a]s always, it is best to begin in the middle of things, *in media res’* (Latour, 2005: 27). On one of the site visits we tried to capture the resistance and struggle, photographing the residents’ window posters and houses’ boarded up windows. A sturdily man asked us what we were doing, we replied we were doing research into the controversies of the renewal project. He invited us to come and sit down with the people in the Gaffelstraat 1, the location of ‘Actiegroep Oude Westen'. Here in the middle of things, and people, started our expedition into the local and active controversy of the renewal of the Sint-Mariastraat. We travelled between actors and actor-networks, some dis-located in place and time, to trace the associations being made and re-made throughout the renewal process.

In this chapter we give our account of the housing renewal controversy of the Sint-Mariastraat 106-146 in the period from 2008 to 2013. The ‘story’ (Callon, 1986) starts in 2008 with the publication of the *Neighbourhood vision and strategy Oude Westen* (Centrumraad Rotterdam, 2008). This document, signed by the city, the borough and the housing association, assembled the future of a neighbourhood and a street. Since then, the alliances that were to shape this future have been negotiated, contested and bolstered by various actors. As we follow the controversy, we find shared uncertainty not just the future of the neighbourhood but something rather different too.

Before we open up the black-box, however, we provide some ‘background’ to the neighbourhood in terms of its location, history and demography. Subsequently, we slow down and start to look for, and follow, the heterogeneous actors as they form, shape and maintain their associations in the housing renewal network. In turn, we retrace some of the phases of

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[6] ‘From the preceding considerations of the preparation of a plan of reconstruction the precept of ‘gouverner, c’est prévoir’ is intrusive … Unfortunately, not inaccurately, the saying ‘gouverner, c’est méconter’ also exists. There is not city plan imaginable, that from a specific perspective can be righteously be attacked, because it does not respond to the ideal. Now there is no ideal as such; an ideal is only there with respect to something else.’ (translation author)

reassembling the street and of making the renewal project following the conceptual presented in the previous chapter.

Most of this chapter is descriptive in order to retain complexity and to 'make sure that every entity has been reshuffled, redistributed, unraveled, and 'de-socialized' so that the task of gathering them again can be made in earnest' (Latour, 2001: 221). That task, to evaluate the powers of the (non-human) actors and eventually of the ANT approach, we take up in *Chapter 5*.

4.1 Locating the renewal project

The renewal project by the housing association Woonstad Rotterdam is situated in the Oude Westen neighbourhood in Rotterdam (NL). Part of the borough Centre, the neighbourhood is located south of the refurbished Rotterdam Central Station, and adjacent to the revitalized Lijnbaankwartier, Central District Rotterdam, and Cool District. The transformations in those quarters is part of the city's agenda to push the international character of the 'world port world city Rotterdam' (City of Rotterdam, 2013). Over the last decade, this agenda has also started to frame plans for the Oude Westen.

With a total area of 57 hectares, the official plan limits of the Oude Westen are defined by the Mauritsweg and Westersingel to the East, the Weena and Diergaardesingel to the North, the 's-Gravendijkwal and Henegouwerlaan to the West, and the Rochussenstraat to the South (Rotterdam Stadsontwikkeling, 2013; see *Figure 7*). At the interior of the neighbourhood is the Sint-Mariastraat which connects the retail street Westkruiskade and the neighbourhood square Gerrit Sterkmanplein (see *Figure 8*).

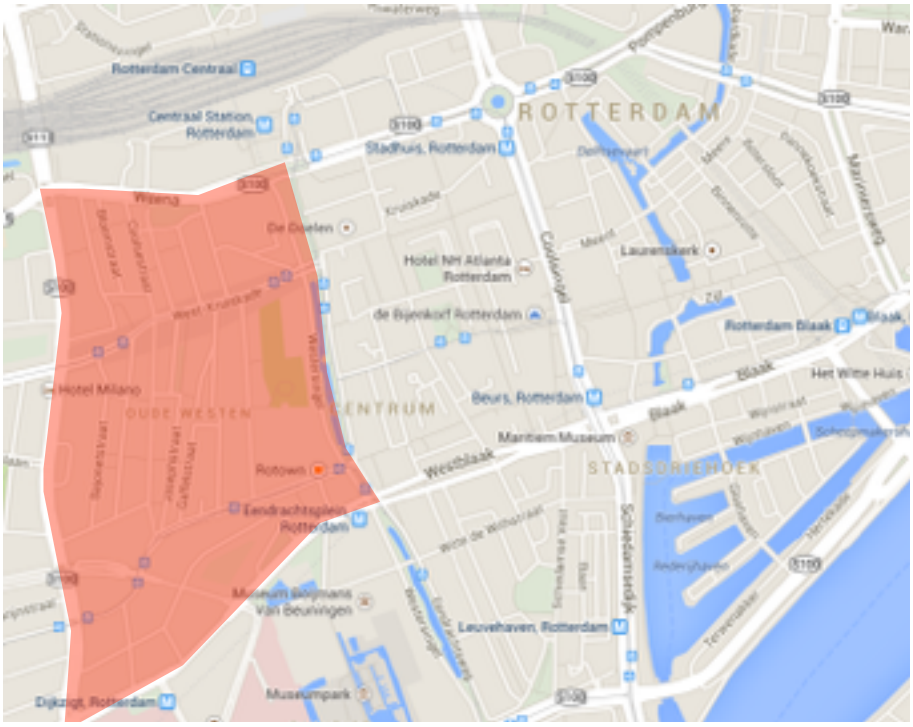

Figure 7: Plan area case study neighbourhood the Oude Westen, Rotterdam (source: maps.google.com)

Figure 8: Detail case study renewal project Sint-Mariastraat, Oude Westen, Rotterdam (source: maps.google.com)

4.1.1 Laboratory of city renewal

The Sint-Mariastraat runs north-south, a street pattern characteristic of the Oude Westen. It reflects the neighbourhood's origins in the polder allotment and its speculative development into a working class neighbourhood of small row houses in the late 19th century (Van der Gaag, 1993). In World War II Rotterdam was heavily bombed but the Oude Westen has been largely preserved. At the time, planners disapproved of the distinctive linear street pattern. Invited to present their vision on the reconstruction of the city, the Dutch planner W. G. Witteveen saw the neighbourhood as 'an undesirable element' (Rotterdam Stadsontwikkeling, 2013) and the influential American planner L. Mumford argued 'the demolition of the war had, in a way, not been large enough' (Mumford: 1946). Accordingly, ideas to demolish the neighbourhood and start building with a clean slate have been put forward but have never made it into plans. Instead, plans have largely neglected the area up to the 1970s, and when addressed they tried to isolate the neighbourhood and make it invisible from the rest of the city (Van der Gaag, 1993).

Only in 1974 the Oude Westen was formally recognized in the city planning policy as an integral part of the city (Van der Gaag, 1993: 18). The result was a city renewal program not only new to a neglected neighbourhood but also a novelty in Dutch city planning. The innovation was to break with the dominant slum clearance policies and to adopt a broader perspective on the conservation and development of existing physical and socio-cultural structures. In this way, the program started to pay attention to public space layout and offer of (cultural) facilities (*Ibid.*). In line with the emerging movement of 'building for the neighbourhood', the renewal program put the residents and the neighbourhood identity at the centre of the intervention (Platform31, 2013). This

experiment, where the Oude Westen is the 'laboratory', is remembered as 'one of the great examples of Rotterdam city renewal … that was always aware that the imagined and realized renewal was to service the people that live in the neighbourhood or that use it' (Van der Gaag, 1993: 7). In a similar way, it is with a romantic nostalgia for a politics and economics of the past, that 'the Oude Westen always remains a document of its time' (Van der Gaag, 7: 1993).

4.1.2 Morphology of the neighbourhood

Today we can still read this document of the time, the housing is relatively old and no major renovation works have been undertaken since 1974. This also means that the majority of the apartments is smaller than 85 m2 and not serviced by an elevator (Rotterdam Stadsontwikkeling, 2013). As a result, the average housing value is low (130.000 euros) and has developed little over the last years. In this way the housing in the neighbourhood provides for the lower segment of the market. The housing association Woonstad Rotterdam is the largest social landlord and housing proprietor in the neighbourhood. Of the housing in the neighbourhood the majority is multifamily dwellings (98%), rental units (80%), and rented in the social sector (65%). (CBS, 2013).

The diverse neighbourhood described in the 1970s is still recognizable in the demographics today. According to the 2013 census, the neighbourhood has 9495 residents with equal proportions of men (51%) and women (49%). The largest age groups are those of 25 to 45 years (30%) and of 45 to 65 years (60%). A characteristic of the neighbourhood is the large share of a non-Western population (61%), of Moroccan (14%), Surinamese (14%), Turkish (11%) and other non-Western (19%) descent. Finally, of the majority of the 5110 households is a one person household (56%). (CBS, 2013).

When we scale down from neighbourhood to street level, the Sint-Mariastraat shares many of the features of the Oude Westen. In this street Woonstad own 20 houses that, before the renewal works, comprised 89 social-rented dwellings and 6 commercial spaces. Although official data on street level is not available, in 2009 Woonstad did an informal exploration among 46 of the 73 regular tenants. This (incomplete) sample pointed out that 74% of the households is a male single-person household, 42% has moved in less than 5 years ago and 38% receives social security benefits (Woonstad, 2010a).[7]

The housing also shares the characteristics of the neighbourhood, that is, it is relatively old and has overdue maintenance. The street features two types of houses, those on 106 to 126 are wide and low, 128 to 146 are narrow and high (see *Figure 9*).

[7] As we have not yet opened the black-box we allow ourselves to give an impression of the neighbourhood based on the focal actor's work to produce knowledge and build relationships.

Figure 9: Two building types of the houses in the Sint-Mariastraat (left: 106-126, facing north; right: 128-146, facing south; source: maps.google.com)

The case study is concerned with the housing ensemble Sint-Mariastraat 106-146. A renewal project of these houses has been initiated by Woonstad around 2011.[8] This project—ultimately—involves the restoration of the foundations and facades of the houses. Of the 20 houses in total, 17 are being sold as 23 so-called 'kluswoningen' (task-houses) and the remaining 3 are renovated as 19 social rented units (Woonstad, 2013). The 'kluswoningen' are sold and delivered as shell, the internal finishing and detailing is done by the homebuyers themselves. We should note that only at this time of writing (September 2014) it is possible to describe the renewal as a well-defined (yet incomplete) project. Only now the dwellings have been made vacant, renewal works have started and the selling is on its way.

For long the project was 'unaccomplished', that is to say before the project there was the housing renewal process and controversy.[9] In the next part we open up the black-box of the Sint-

[8] While the project is part of a trajectory predating 2011, as we will see when we open the black-box, it was in spring this year that the project team Sint-Mariastraat was established.

[9] We should note that the controversy (at the time of writing) is not resolved, legal procedures have been undertaken by the tenants against Woonstad Rotterdam.

Mariastraat renewal to retrace some of the phases in the evolution into a defined and stable renewal project over the period from 2008 to 2013 (see for timeline of key events *Annex*).

4.2 Redistributing the renewal network

To describe the development of the Sint-Mariastraat renewal project and explore the role of material actors, we have chosen to follow the housing association Woonstad Rotterdam in the period from 2008 to 2013. Following the developed conceptual model, we map the housing renewal controversy and describe the various moments of translation. In other words, we trace the housing association's 'construction-deconstruction of Nature and Society' (Callon, 1986: 203) to analyze the negotiations between heterogeneous actors as they give shape to the housing renewal network.

4.2.1 Defining shared uncertainty

Again we begin in *media res* and identify four elements that we find throughout the housing renewal controversy in the Sint-Mariastraat. First, a main issue in the discussion of the renewal is the development of the neighbourhood. An important participant in this debate is the 2008 Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). Although it is preceded by the explorative 2002 Neighbourhood vision Oude Westen 2030 (Rotterdam Stadsontwikkeling, 2002), the vision and strategy is a formal commitment on the what and how between the city of Rotterdam, the borough Centre and the Nieuwe Unie[10] (Centrumraad Rotterdam, 2008). In this way it is 'the primum moven' (Callon, 1986: 202) in the discussion, and we therefore take it as the starting point—that is, 2008—of our investigation.

Second is the uncertainty concerning the homes of the current residents in a renewed street. After all, the renewal of the buildings and the street is for the residents an issue of the future of their home. Third, the question on the condition of the housing are important in framing the debate. In particular, the production of knowledge about the danger of the deterioration of the foundations is a key issue. Finally, a matter of concern (Latour, 2004a) is the financial position of Woonstad Rotterdam determining what it is required to do and capable of doing. Thus, we identify political, social, technical and economic uncertainty, respectively, as the main elements framing the housing renewal controversy.

Following this outline of the main elements, we can now also indicate the main entities in the debate. First our focal actor Woonstad Rotterdam, a social housing association that is the owner of the houses, the landlord of the tenants and an important player in the neighbourhood. As housing association Woonstad has a mission to offer affordable and good quality housing, and to do so to its current tenants. For this it considers a quality upgrade of the housing necessary to its social mission. At the same time, Woonstad has to comply with national regulation on the landlord

[10] De Nieuwe Unie is the predecessor of Woonstad. For the sake of the research's argument the name of the actor is of little relevance, more important is the housing association as actor. To facilitate our research objective we therefore use the name Woonstad to refer to both the current Woonstad and the former De Nieuwe Unie.

tax and thus has an interest in generating cash flow. Moreover, it needs to find alternatives to the ending of the ISV to cover (part of) the investments for renewal. In this way the renewal is guided by economic objectives. Second the residents of the Sint-Mariastraat, tenants of Woonstad Rotterdam and dwellers of buildings whose durability is being questioned. Most of the tenants are satisfied with the neighbourhood and the (low) rents, and wish to stay in their homes as long as they are safe (i.e., no significant risk of collapse). In turn, the tenants are willing to help improve the dwellings in order to return to and live in safer buildings.

Thirdly the houses Sint-Mariastraat 106-146 negotiate their engagement with other (human) actors and participate in technical discussions. Although they do not explicitly express themselves, we can say the houses were built for tenants and are expected to sustain for another 30 years. They depend on (future) residents and on the renewal works of the housing association. The houses mediate the relation between the tenants and Woonstad which is formulated by the original architects. Finally we have the future residents, they are only indirectly involved as plans infer their identity (e.g. 'young creatives') and wishes (e.g. 'red lifestyle'). On reading their representation here, the future residents want to live in an authentic and central neighbourhood that is also attractive and secure (Centrumraad Rotterdam, 2008).

Hitherto we have outlined the key elements and entities in the controversy to summarize the main uncertainties and the actors. This summary is then the introduction to the next part in which we follow the focal actor stabilizing the renewal controversy by making and negotiating associations between the entities. Specifically, we profiled the housing association to have the objective to renew the houses in line with its social and economic agenda. Now that we know the form and content of the housing renewal project, the question we investigate is how did the housing association pursue and realize this objective.

The starting point of the investigation is the 2008 Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). Under the heading of *binding and seducing*, this document sets the goal to make the neighbourhood attractive to existing and future residents. Accordingly, the document aims to strengthen the position of the current inhabitants but also to encourage a process of gentrification to attract new residents and entrepreneurs (*Ibid.*). In particular, it envisions to make it 'beautiful, clean, whole and safe and offer cultural facilities' (*Ibid.*: 5). Specifically for the Sint-Mariastraat this document announces 'Considering the building- and housing-technical state on the east-side of the street an intervention cannot wait' (*Ibid.*: 13). It then sets out the strategy to make an inventory of the 'wishes of residents, possibilities and technical states' (*Ibid.*). This means it puts forward the ways to produce knowledge about the tenants, the market conditions and the buildings. This knowledge has been further defined and stabilized in later plans such as the 2011 Masterplan Oude Westena (Gemeente Rotterdam, 2011) and eventually the 2013 Oude Westen Land use plan (Rotterdam Stadsontwikkeling, 2013).

In the same year (some of) the residents stated their claim on the buildings and the street as a home. The publication *The cultural capital of a depreciated street* (Van der Zwaard and Ter

Laak: 2008) portrays the tenants of the Sint-Mariastraat 106-146, 'their activities and knowledge', and 'the relations between their way of living and housing situation' (*Ibid.*: 8). Moreover, it presents 'how they see their housing future and the future of the street' (*Ibid.*). As it answers what the residents want, it also raises new questions regarding the vision of *binding and seducing*. Specifically, it offers a different reading of the value(s) of the neighbourhood. Through the lens of cultural capital it describes 'what the people who live and work here do and can do' (*Ibid.*) and emphasizes the importance of the housing to keep 'ambitious and creative people, in the widest sense of the word, in the neighbourhood' (*Ibid.*). Consequently, it puts into question the future audience put forward in the 2008 Vision and strategy Oude Westen by shedding a different light on the notion of cultural capital. Although it does not touch upon the technical conditions of the housing, it does draw an image the various ways the tenants recognize and accept the limitations of the housing. The publication was sponsored by Woonstad Rotterdam and is referred to throughout the renewal controversy as knowledge about the identity (cultural capital) of the tenants.

Also in 2008 is the research of the external advisor Fugro GeoServices on the conditions of the foundation pillars under the houses Sint-Mariastraat 106-146. In November 2008 the results are discussed in a tenants' meeting, Woonstad concludes 'it is worse than expected' (Woonstad, 2008a: 1). It states the research has shown that all houses in the Sint-Mariastraat have foundation issues. The report speaks of 'severe cracks because of a maximum soil consolidation of 20 centimetres, some sharp breakpoints in the mortar joint lines, and a clear tilt visible in the facade line' (*Ibid.*). Invoking the Fugro report, Woonstad summarizes the issues of 'a lack of support of the foundations, increased subsidence, bacterial attacks and an approximate remaining time of 5 to 15 years' (*Ibid.*). Subsequently, the attending residents indicate '[they] do not have enough knowledge and experience to understand the technical situation of the foundations as well as the process of restructuring' (*Ibid.*: 2). For Woonstad the primary uncertainty is immediate and technical, that is the severity of the deterioration of the foundations. Other uncertainties are not only ensuing but also depending on this technical issue.

One of these ensuing uncertainties is the way Woonstad is to finance the required foundation improvements. This is related to how the foundation improvement manifests itself in the program of the renewal. Backed up by the 2008 Neighbourhood vision and strategy Woonstad can consider the range of renewal to demolition and from social housing to market (owner-occupied) housing. Above all, the economic uncertainty needs be viewed against the background of the newly introduced landlord tax and the strict control on the financial situation of housing associations in the Netherlands. In other words, the financial considerations extend beyond the costs of the renewal project. How far and in what directions they do we might discover in following the movements of the housing association throughout the controversy.

Again, we know now that our focal actor Woonstad has succeeded in deciding the program of the housing renewal. To find out how we refer to the moments of translation, specifically to investigate by what means Woonstad identified and defined the goals and obstacles of the actors, and

offered a solution to them. In the words of translation, we look at the stage of problematization to see how Woonstad becomes indispensable and establishes an obligatory passage point in the renewal network (Callon, 1986). In this first stage, Woonstad draws attention to the technical uncertainty and formulates the question whether the foundations of the houses Sint-Mariastraat 104-146 are at risk to collapse. Simultaneously, this question defines the identities of the main actors and the relations between them.

First, the current tenants have expressed their goal to keep their home and emphasized how this could fit the vision and strategy of *binding and seducing*. The question of Woonstad highlights that in order to achieve this goal, the safety of the structures is crucial. Yet this safety cannot be guaranteed by the residents themselves, as Woonstad argues later and as the residents admit finally. Second, the houses do not express their goal but we could state they will not demolish themselves; in the worst case they degrade due to external (environmental) factors. Consequently, we could say the houses want to exist for at least a certain period of for example another 30 years. The buildings can collapse however due to their degradation, an eventuality formulated in the question of Woonstad. Thirdly, the future residents at this moment are only imagined as those, by definition, interested in living in the street. The obstacle to moving in is that, the houses are supposedly unattractive and actually unavailable to them. To this entity the technical question of Woonstad might result in upgrading the houses and in vacating them in the process; that is, Woonstad makes the houses attractive and available.

To make the associations between actors suggested in the question, the focal actor can use devices to attract the actors and set up their relations. A first device used by Woonstad is the ‘dream session’, it is targeted at the residents and aims to find out ‘how the residents see the future of their house and street’ (Woonstad, 2008a: 2). At the start, Woonstad warns that ‘technically almost everything is possible, but at what price’ and announces ‘the art is to finally have a feasible plan on which everyone can agree by and large’ (*Ibid.*). About 25 residents participate in this session and express their dreams on mood boards (see *Figure 11*).

Figure 10: Example of mood board for the future of the Sint-Mariastraat (Woonstad, 2008b: 4)

The exercise is complemented with house visits ‘to collect proposals for the future housing’ and ‘to select proposals to be tested on feasibility’ (Woonstad 2008b: 1). Moreover, Woonstad uses

the devices to collect statements on what is ‘good’ and ‘less good’ about the housing and living in the street. As we see later, the devices are only in a first stage able to create associations, they break down as soon as the residents question whose future is being dreamt about. This breakdown is recognized by Woonstad in the project evaluation:

> The dream sessions insinuate that residents have a lot of influence on their future home. Due to delayed expectation management … and the changing reality of crisis, because of which financially even less was possible, could the dreams not be realized. (Woonstad, 2013: 4)

We have seen that many uncertainties exist in parallel but that Woonstad draws these into the technical question of the carrying capacity of the foundation pillars. As a result, this question simultaneously stands for the safety of the residents, the longevity of the houses and the opportunity for the future residents. Above all, the question illustrates to the actors they have an interest in the renewal program initiated by Woonstad. This ‘system of alliances’ (Callon, 1986: 204) is represented in *Figure 12*.

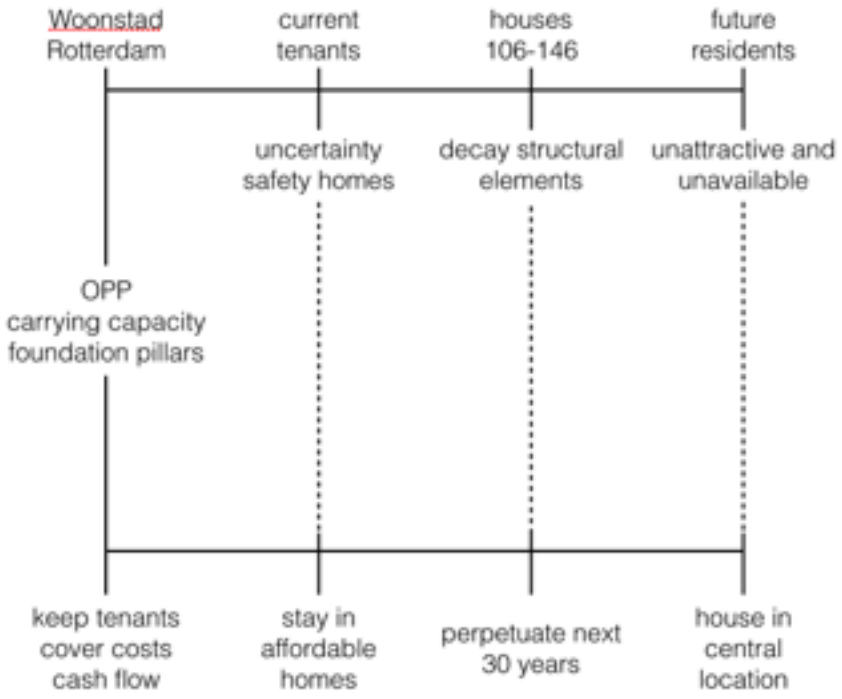

Figure 11: Process of problematization and interessement

However, we should be reminded this is only a first framing of the problem, the actors and their relations. It still needs to be tested whether the actors accept their identity, acknowledge the associations and recognize the problem. These questions are dealt with in the stage of interessement.

4.2.2 Rationality in technical issues

We have seen how devices such as dream sessions and house visits engage stakeholders in the associations set up by the focal actor. Following these is the third device of scenarios to select and work out possible common futures among the inventory of associations. In early 2009, the mood boards have been interpreted by Woonstad in four scenarios: (1) conservation, (2) 'kluswoningen' (task-houses), (3) renovation, (4) demolition/new construction (Woonstad, 2009a). The scenarios are a device communicated to the residents but also aimed at the houses and the future residents. As a consequence, the scenarios are tested based on 'data from the foundation research, technical maintenance data, and data on rent and sale' (Woonstad, 2009b). Specifically, the 'technicians at Woonstad' in the Real Estate Development department test the feasibility of the scenario (Woonstad, 2009a) and an architect has made a first massing for the scenario demolition/new construction (Woonstad 2009b).

In the first stage of problematization associations were framed around the immediate technical issue of foundations. Through the scenarios these associations are projected in the future. The scenarios are made by Woonstad, they formulate a common future. In the framework of translations, we understand this by means of the spokespersons that are established by Woonstad. First, the residents are translated into the scenario based on mood boards and notes on house visits. Second, the houses are translated by technical maintenance data and the research reports on their foundations. Finally, the future residents at this stage are only envisioned based on housing market data and city visions.

That the actors are in competition and the spokesperson still unreliable is illustrated by the immediate request of the residents for a second-opinion on the conditions of the foundations (Woonstad, 2009a). Thus while the residents do not directly question their own representativity, they do challenge that of the houses. For the residents the houses are homes, and their translation/transformation into foundations challenges these associations. Not just the residents but also the houses themselves protest against this transformation, the Fugro researchers were confronted with not finding foundation pillars in places where they expected to find them. At the same time, the Fugro research concludes based on five inspections that the foundations of all houses in the Sint-Mariastraat need to be renewed (2008a). This conclusion is questioned by the residents who undertake their own foundation research with the help of the engineering consultancy Techniek en Methode bv in the winter of 2009 (Gerechtshof Rotterdam, 2013).

> Meanwhile we have also contested if the whole foundation issue was actually necessary. … We just inspected the poles. So we were really digging. That was one of the first things we did actually. Is it actually necessary? You have to renovate the whole thing but really such a big renovation where everyone has to move out because new poles need to be installed, is there actually something wrong with those poles? That was always the argument to put people out of their houses. Then we laid two poles bare, we were digging on a Saturday, all the way

till we reached the water. And then we had it inspected by an expert.[11] (Interview with resident, 2014)

The residents have also requested the second-opinion of Ir. van Tol professor at the Delft Univeristy of Technology. His conclusion upon reading the Fugro reports was that for 7 out of 20 houses needed their foundations renewed (Gerechtshof Rotterdam, 2013).

The technical controversy over the foundations reaches, temporarily, closure in 2010 as Woonstad asserts, based on the results of the engineering research by Cardo Architects, that 'a rent stop is introduced for all houses Sint-Mariastraat 106-146' (Woonstad, 2010b). With this issue resolved Woonstad proceeds with testing the four scenarios and argues first that conservation is not an option since 'the houses are too bad' (Woonstad, 2010c). In particular, Woonstad refers to the poor condition of the foundations and argues that in any scenario this issue needs to be dealt with. This is then also the case in the second scenario of 'kluswoningen'. Above all, due to regulations such as the housing valuation system and the building code the 'kluswoningen' cannot be offered as (social) rental units but need to be sold on the housing market (Woonstad, 2009b). Thirdly, the scenario of renovation is in a first exploration possible yet appears expensive due to the facade, construction and floor heights (*Ibid.*). Finally, the scenario of demolition/new construction is according to Woonstad costly and above all requires permission from the city of Rotterdam (*Ibid.*). Overall, Woonstad warns that the upgrades will require the ground floor of the houses to be vacated (Woonstad, 2010b). In other words, in all scenarios the residents need to move out their homes, at least for the duration of the foundation works. Meanwhile, those houses where residents have already moved out are left empty since 'they are too bad to rent out' and are instead rented out to Ad Hoc, a property guardian company (Woonstad, 2010b).

4.2.3 Dissidence and controversy

The final round of house visits are organized in the winter of 2009 and the 'results' of this device are presented in a tenants' meeting in the beginning of 2010. It characterizes the tenants on (a) household composition, (b) length of residence and contact with neighbours, and (c) employment, income and health. In other words, the house visit is a device to give an identity to the residents of the street. It further outlines the technical (e.g. leakages, humidity, wall cracks) and housing technical (e.g. small, noisy, steep staircases) complaints (Woonstad, 2010a). Finally, in the house visits 54% of the residents have indicated to prefer to stay in the Sint-Mariastraat and 20% would like to stay in the Oude Westen (*Ibid.*). Consequently, the device is used to identify the relation between on the one hand the residents, and on the other hand the houses and the neighbourhood.

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[11] "Tussendoor hebben we het ook nog aangevochten of het allemaal nodig was die hele funderingskwestie. … We hebben gewoon palen onderzocht. Dus we zijn echt gaan scheppen. Dat was één van de eerste dingen die we gedaan hebben eigenlijk. Is het eigenlijk wel nodig? Je moet de boel wel opknappen maar echt zo'n grote renovatie waar iedereen er uit moet omdat er nieuwe palen moeten komen, is er eigenlijk wel iets met die palen aan de hand. Dat was altijd het argument om mensen eruit te krijgen. Toen hebben we er twee blootgelegd, zijn we op zaterdag wezen schoppen, we kwamen helemaal bij het water uit. En toen hebben we een echte deskundige laten kijken." (Interview B, 2014)

The conclusions that are drawn, or the identities and relations that are being assigned, are not immediately accepted. Some residents argue they have not been visited or they do not agree with the presented appreciation of the technical state and the housing (*Ibid.*). The latter group points out they have taken care off the deferred maintenance themselves. We thus find two resistances to the problematization, first the residents do not agree with the significance of the problem of the condition of the housing and moreover, they do not think they need Woonstad to deal with the technical defects (*Ibid.*). In other words, from the perspective of the tenants Woonstad is not indispensable in the housing renewal controversy; the obligatory passage point Woonstad is jeopardized.

Instead of reformulating the main question, Woonstad strengthens the scenario device with new findings. Put differently, associations with different actors are made to produce additional knowledge input for the scenarios. First, this is the cultural-historic exploration by the city of Rotterdam that states the street image and the facade of the ensemble is to be conserved (*Ibid.*). Consequently, the scenario of new construction is no longer viable and more research is done on the scenarios of preservation—both renovation and 'kluswoningen'. Second, based on past projects Woonstad estimates that to make a feasible renewal plan the housing needs to be differentiated in a ratio of 70% sale to 30% (social) rent (*Ibid.*). At this point, the scenario device overpowers the device of the dream session and the residents start to question 'how much space there is to realize their dreams' (*Ibid.*). In response Woonstad turns again to the device of house visits 'to find out how the residents can best be served' (*Ibid.*).

As Woonstad struggles to establish the identities and associations of the residents, it emphasizes again the seriousness of the main question. This time it refers to the foundation research by Cardo Architects, three investigations on 65% of the houses have found 'the foundations are too bad to be maintained' as 'there is insufficient carrying capacity and due to rotten wood the houses are sinking' (Woonstad, 2010b). Furthermore, Cardo architects indicates that when the foundations are renewed both the ground floor and upper floors need to be vacated, which is due to the staircases and the supporting walls. As a consequence, the foundations, staircases and walls of the houses require Woonstad to announce a rent stop and to explain the tenants' rights in the social statute. At the same time, the program of the renewal is still undefined and Woonstad states that as long as the plans are uncertain there is no guarantee that the residents can return to their homes (*Ibid.*). To investigate this uncertainty Woonstad will return to the Fugro foundation report to elaborate the renewal scenarios. As Cardo architects affirms the residents need to move out, Woonstad announces it will terminate the tenants' contracts.

4.2.4 Putting things in place

In the fall of 2010 Woonstad emphasizes again the technical problem, the foundations are in such a poor condition that they need to be renewed in all scenarios (Woonstad, 2010c). Moreover Woonstad sees a housing technical issue, the dwellings are too small to be relevant in the future. Consequently, it investigates if the facade can be maintained when the houses are merged. Above

all, it foresees the investments will be high and ‘not all housing can remain social rent’ (*Ibid.*). For this reason, Woonstad finds the scenario ‘kluswoning’, in which the foundations are collectively renewed and specific houses are sold afterwards, ’an interesting option’ (*Ibid.*). As for the residents, the ‘kluswoning’ scenario addresses the obstacle of the safety of their homes but does not offer certainty as to their objective to stay in their affordable homes. After all, while all houses will be renewed some will be sold.

Accordingly, the residents still negotiate the associations the scenario device sets out between them, safe homes and future residents. From the perspective of Woonstad, we are interested in how these entities were translated into entities which the housing association could control or speak for. First, the residents—represented by the Straatcomité—were presented the option of self-management ‘to preserve the cultural capital’ (*Ibid.*). An association of self-management is an intermediary Woonstad can help shape and can communicate with. Consequently, Woonstad announces it will work out the self-management scenario and make an inventory of ‘the roles and responsibilities’ in the cooperation with the association (*Ibid.*).

Yet Woonstad states for self-management ‘The condition is however that the unprofitable investments should stay within certain limits’ (*Ibid.*). It further argues it only invests if the foundations are in good condition and last for ‘another 40 years’ (Woonstad, 2010d). Finally, Woonstad plans further research ’to see how improvements to the housing and the foundations are related’ (*Ibid.*). It concludes ‘Improvements to the housing and the foundations are thus technically and financially related’ (*Ibid.*). The self-management intermediary then not only enrols the residents who would like to have ‘an active role in the preparations, execution and management of the project’ (*Ibid.*), it also defines their relation to the technical and financial issues of the housing.

4.2.5 Roles coordinated and contested

Including the proposal of self-management, Woonstad has worked out four scenarios and presents these in November 2010. The scenarios are not alternative futures but presented rather as various components of the housing renewal. In the first scenario of ’kluswoningen’ the foundations and facades are renovated and the houses are delivered as shells. The costs of the renovation works are calculated in the sale price, yet to improve the saleability Woonstad argues to make larger units by merging homes (scenario two). Finally, the third scenario of social rented housing is still considered but according to Woonstad, only feasible in combination with the previous two scenarios. Woonstad thus concludes that while some residents will be able to return to the street, others will have to move somewhere else (Woonstad, 2010e). The former group of residents can be appointed by the self-management association, elaborated in scenario four.

We can see a transformation of scenarios into plan components as individual future scenarios are being enrolled in a common future plan. This enrolment relies on the two statements that the foundations of all houses need to be renewed and ‘Sale is necessary for the income of Woonstad, for realizing the investments in our rental homes’ (Woonstad, 2010d). A series of translations has thus taken place from foundation reports, to mood boards and scenarios, and

now a plan outline. This is also a series of transformations in which Woonstad has transformed the other entities (e.g. houses' foundation reports, residents' mood boards and future residents' market data) into a plan in which they are represented yet formulated by Woonstad. The translation from scenarios to a plan is then 'also to express in one's own language what others say and want, why they act in the way they do and how they associate with each other: it is to establish oneself as a spokesman' (Callon, 1986, 214).

The plan development or enrolment is still precarious at this stage. Woonstad has established itself as a spokesperson for the future residents yet the group is imagined and does not physically engaged. Whether the future residents agree with the identities and associations they have been assigned by Woonstad is only really tested when the houses are for sale. For Woonstad this means that '70% of the kluswoningen have to be sold in the pre-sale to actually start' (Woonstad, 2010d). That enrolment cannot be accomplished is recognized as

> [Woonstad] indicates it is usual to start project with uncertainties and that plan development and decision-making become clearer on the way. If it appears that the 'kluswoningen' are sold insufficiently, other options will be elaborated. (*Ibid.*)

Another uncertainty is the option of self-management, for which, by definition, Woonstad cannot be the spokesperson. Nonetheless it does have an influence on assigning a spokesperson, in this case the self-management association. In fact, Woonstad specifies the association needs to be regulated by contract and is responsible for the managing and renting of the housing. It also requires a committed group of residents since Woonstad will not manage vacancy and complaints.

The self-management option not only affects the alliances of the residents with Woonstad but also with the houses. Consequently, the residents propose to maintain the small units after the renewal but Woonstad is concerned about the future rentability of small dwellings. Furthermore, the residents propose to phase the project to allow for a gradual moving out. According to Woonstad this not only increases the costs, it is in fact impossible since 'with foundation restoration the housing always has to be empty' (Woonstad, 2010e). Finally the residents put in question the differentiation of the rent and sale houses based on the current plan of Woonstad. In this plan the rental units are clustered in specific buildings, in the view of Woonstad this will keep the costs lower, it will improve the saleability and avoid nuisances for renters from 'klussers' (Woonstad, 2011a).

We can conclude that the freedom of association of the self-management group is limited because Woonstad has established itself as a spokesperson for the houses and the future residents. In other words, Woonstad states the houses have poor foundations so they need to be renewed, and the future residents want large units so the houses need to be merged. For Woonstad the renewal of the foundations and the renovation of rental units is possible when enough future (owner-occupied) residents are attracted. As a consequence, self-management is only technically and financially feasible if the association accepts Woonstad as a spokesperson. In addition, the residents themselves indicate they need a spokesperson to investigate the self-

management option with them. Woonstad suggests the architect but the residents request an external advisor.

4.2.6 Redefining relations through intermediaries

The first project meeting for the renewal of the Sint-Mariastraat is held in the spring of 2011. To speak of a renewal project means the system of alliances is, according to the initiator Woonstad, sufficiently stabilized. We are thus in the stage of mobilization, where to mobilize 'is to render entities mobile which were not so beforehand' (Callon, 1986: 210). The project starts off with the 'necessity of restoring the foundations' based on the research of Cardo architects (Woonstad, 2011b). Following the Cultural-historic exploration report of dS+V, the second starting point is the restoration of the facades to preserve the street image (*Ibid.*). Consequently, the houses are mobilized as foundations and facades in the reports of external advisors.

Similarly, the future residents are mobilized in research reports such as the Grote Woontest (Regio Rotterdam, 2012) and plans like the Stadvisie Rotterdam 2030 (Gemeente Rotterdam, 2007) and the Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). They are also imagined through the marketing campaign Werelds Oude Westen (WOW, 2013). The future residents thus circulate in reports and campaigns but again, this mobilization is also a transformation. They are referred to as the 'red lifestyle' (Woonstad, 2011b), the 'middle and high income class' (Gemeente Rotterdam, 2007: 41) and the 'starters on the rent and sale housing market' (Centrumraad Rotterdam, 2008: 13). Woonstad refers specifically to the Neighbourhood vision and strategy (*Ibid.*) in order 'to bind the Oude Westen and seduce newcomers' and support the vitality of the neighbourhood (Woonstad, 2011b). The current tenants are mobilized in a social plan that describes the rights of the tenants in case of eviction. Also the negotiations of a self-management association is a form of mobilization.

Although Woonstad says it attempts to cooperate with the residents of the street and communicate their intentions and decisions (Woonstad, 2011c), some residents have expressed their discontent with the possibilities in determining the future of the street in a letter to the city councillor of Rotterdam. The reply however is that the plans are in line with the land use plan which is derived from master plan, since the latter was open for discussion there is limited possibility in reacting upon the land use plan. Also the early device of dream sessions is being questioned, whose future was it about. As the residents negotiate with Woonstad and its allies, the group of current residents also deals with dissenters. By mid-2010 about 1/3 of the residents has moved out and their houses are either empty or temporarily occupied (Van den Noort, 2011).

Against this background, Casa architects is invited to present the state of the project. In their presentation they show images of the restoration of the foundation. It describes the extent of the intervention and announces 'all homes on the ground floor need to be vacated' (Casa, 2011). In view of 'the construction safety and nuisances' the upper floors also need to be empty (*Ibid.*). According to Casa architects this is particularly due to the thin supporting walls. The architects finally present their view on the differentiation of the units and tenures.

4.2.7 The rise and fall of spokespersons

While renewal plans are developed on the side of Woonstad, the residents are still considering the option of self-management. Eventually the option is worked out under the name Blijf Zelf (Stay Self). Woonstad requires clear accords as it questions the determination and certainty of self-management. In particular it puts the conditions for self-management and wants more clarity concerning the planning, composition of the group and their intentions. It argues too that self-management is for the existing regular tenants that want to stay in the street but also want to actively participate in the self-management. It concludes the deadline for clarity on the option of self-management by the end of 2011.

In the beginning of 2012 the kluswoningen will be sold and by the summer the houses need to be vacated. Also Woonstad announces that the houses Sint-Mariastraat 140-146 are considered either for the option of self-management or for the renovation of social rent. Woonstad has also research the conditions of self-management. It states that it will do the investments in restoring the foundations, the facade, isolate the roof, install electricity and makes the residents responsible for the management. Consequently, Woonstad is only responsible for the planned works on the shell. Furthermore, it is prepared to make a contract of 20 years under which the association will rent sixteen houses and commercial space for 4500 euro a month.

After these propositions of Woonstad, Blijf Zelf has defined its own goals and conditions in a bid book presented in the end of 2011. The bid book presents the goals, the opportunities, the members, the planning and the content of self management. This book is well received by Woonstad, in particular the program manager expresses his appreciation for the option and describes it as ‘an example for the city’ and a chance ‘to preserve the cultural capital’ (Woonstasd, 2011g). Consequently, Woonstad proposes to set up two programs of requirements and will sign a declaration of intention to continue with the plans of Blijf Zelf. An advisor is appointed to guide the residents through the project and he will set up the statutes for the association.

In spring 2012 the plan for the 106-146 Sint-Mariastraat is presented (Woonstad, 2012a). It announces the renewal of the foundations and the facades of all houses. For the houses Sint-Maraiastraat 140-146 it anticipates a maximum of 16 rental units to be occupied by the original residents under the notion of their cultural capital. While rents will increase, for those returning residents the increase will be lower than according to the housing valuation system. The prices are approximately between the 340 and 520 euro depending on the size and type of the dwelling. Consequently, the houses sint-Mariastraat 106-138 will be sold as ‘kluswoning’. With these plans of Woonstad it is up to the residents if they want to return into a regular rented home or if they participate in the self-management option. Finally Woonstad presents the self-management association a legal contract in which it describes the conditions and obligations of this option.

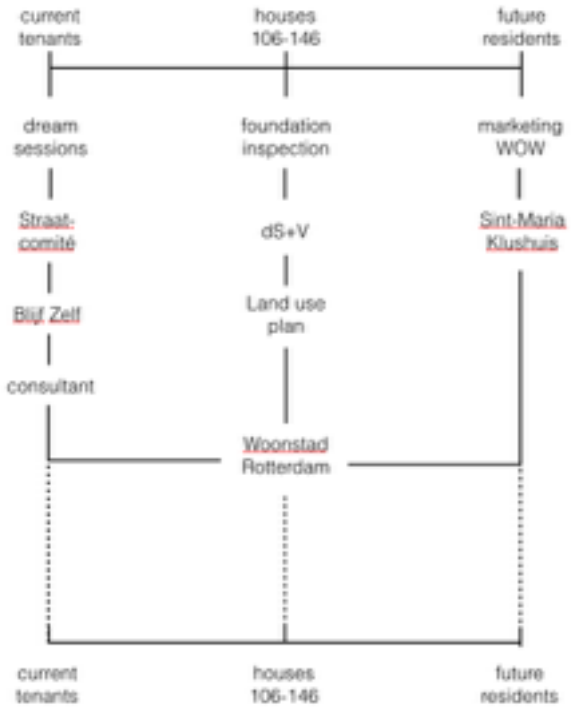

Figure 12: Transformations performed by Woonstad Rotterdam

In response to these plans and the speed of Woonstad, the Street committee is concerned about their position in the process. They re-state their primary concerns of staying and low rents. The option of self-management is seen as a chance to stay for the regular residents and an opportunity for a home for the temporary residents. At the same time, a concern is expressed within the group that the external advisor determines too much the direction of the group. As the advisor expresses: 'it's supposed to be the residents to pull the carriage and [the advisors] them supports in this. [He] is not to determine the direction' (Straatcomité, 2012). Consequently, the group has asked for legal advice concerning the tenants association for self-management. In addition, advice has been collected on the position of the committee versus Woonstad. A lawyer has stated that 'as resident you should not accept to quickly the individual proposals of Woonstad' (*Ibid.*). Another question is asked too, however, that is if Blijf Zelf still has 'a right to exist' (*Ibid.*). Those present at the meeting int he spring of 2012 argue yes, but important is to set the priorities and be resolute.

However, the group has not succeeded to keep momentum. The reason put forward is Woonstad wanted to lay down the responsibilities and obligations in a contract with the self-management association too quickly (Berkhof, 2013). Instead of entering in this agreement, the members consider to start an individual legal procedure against Woonstad once the tenants are summoned to Court. This legal procedure against Woonstad has been undertaken in the fall of 2012. In Court, the controversy that reached closure in the street is opened up again. The issue is thus again the technical state of the foundations and the necessity for renewal. Also other associations such as the need for residents to move out, to end their rent contract and to sell dwellings are being destabilized. Legally, the issues are fought that the production of knowledge

about the foundations has never been conclusive or extensive, and that the renewal of the foundations is rather a result of overdue maintenance than a program of housing renovation.

4.3 Revisiting with network governance

In the above we have given a thick description of the development of uncertainty in the housing renewal process in the Sint-Mariastraat. We structured this description along the ANT perspective, concepts and interests. Now we will briefly revisit the case with the framework of network governance (*Chapter 2.2*). In doing so, the aim is not to do a comprehensive analysis but rather to employ the network governance repertoire to find out the emphases of this approach and what it make visible in the network. This enquiry is later used to add to our analytical comparison (*Chapter 2.5*), a comparison of the empirical strengths and weaknesses of ANT vis-à-vis network governance.

The theoretical and normative assumption of network governance, as discussed in *Chapter 2.2*, is that actors are strategic realizing their goals but that complex societal problems require institutions to facilitate the mutual adjustment and cooperation (Koppenjan and Klijn, 2004: 114). Keeping this in mind, we start the network governance study in terms of the network characteristics described by De Bruijn and Ten Heuvelhof (1999; De Bruijn and Ten Heuvelhof, 2008). The first characteristic of *interdependence* is to inform us about the number of actors involved and their dependencies in pursuing their goal. In the case study we can identify three main actors, namely the city of Rotterdam, the housing association Woonstad and the tenants of the Sint-Mariastraat 106-146. The city and Woonstad were the dominant actors in the process preceding 2008, they defined their shared goal in the Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). Their goal is to make the neighbourhood attractive to current and future residents. From 2008 up to 2012 tenants participated in the definition of this goal but their position was weakened when the housing association emphasized the technical urgency of the renewal. The tenant participation declined particularly once the self-management association struggled to meet the (legal) requirements of Woonstad.

While the tenant participation weakens over time, the cooperation between the housing association and the city strengthens throughout the process. After the latter two actors define their vision in 2008, they develop a strategy that manifests in a master plan and eventually a revision of the land use plan in 2013. In fact, the 2013 Oude Westen Land use plan (Rotterdam Stadsontwikkeling, 2013) strongly facilitates the renewal objectives that Woonstad expressed as early as in 2008 (Centrumraad Rotterdam, 2008). Consequently, between the city and Woonstad shared goals have been defined early on in the process which facilitated the interdependence between the main proprietor—Woonstad—and the dominant regulator—the city. The complexity of the network is increased in 2008 when the process is opened up for tenants participation. While the city and Woonstad have defined and aligned their goal, the position of the tenants remains unclear. The participation serves two aims, on the one hand to give a voice to the tenants to shape the process of renewal, and second to think with them about their future in the street or somewhere else.

The second network characteristic of pluriformity relates to the various goals and values within the entities of the main actor. We find this multiformity in all three actors that we identified above. Various departments of the city of Rotterdam are concerned with the renewal of the street, most important are the department of Spatial Economic Development and Urban Planning. These two enter the process at different stages and indeed with diverging goals and values. The department of Spatial Economic Development is involved in the vision and strategy for the neighbourhood, promoting the goal to make the it attractive for current residents and newcomers. In the later stage of plan development, the department of Urban Planning is charged with testing (e.g., through a cultural-historical exploration) the different ways in which the stated goals can be realized (e.g., renovation is allowed, new construction is excluded).

The pluriformity of Woonstad is made clear in the references Woonstad makes in the tenants meeting to the technical and the financial department; the information needs to be reviewed from the respective expertise afore decisions can be made. The multiformity is even more apparent in the management of the participation process and the project development. Where the process managers were open to participation and aimed for an inventory of wishes and ideas, those managing the project and aiming to make decisions sped up the process by closing down avenues for discussion. Finally, the tenants are organized in tenants associations—the Street committee and Blijf Zelf—but not all tenants are members and the members are variable as new (temporary) tenants move in and join, and others move out.

Thirdly, the characteristic of closedness refers to how and on what terms new actors and issues can participate in the network. In the time under consideration we find that primarily three actors are in the housing renewal network. We expect that more (formal) stakeholders were invited in the development of the neighbourhood strategy and vision before 2008. The network of street renewal is limited to three actors: the city, Woonstad and the tenants. The closedness of the renewal network can be explained in terms of the platforms on which the actors interact. Woonstad interacts with the city through bureaucratic procedures (e.g. plan applications, regulation requests and design reports) and with the tenants in regular tenant meetings (upon invitation). In the case study we do not find a significant relationship between the city and the tenants. While closed for new actors, the network appears open to those already inside it. As for the tenants in the network, from 2008 up to 2013 the network gradually closes down and it becomes more difficult to effectively participate. The two key moments in the opening of the network are the dream sessions in 2008 and the self-management association in 2011, (more) important in closing down the network is the final conclusion on the severity of the foundations (2010), the need for a rent-stop in 2010 and the chain of decisions by the project team in 2011.

Finally, we identify in the case study the network feature of dynamic. Most importantly, we can see that the staff of Woonstad charged with the project and the composition of the tenants group changes throughout the process. The changes in the project staff on behalf of Woonstad is evaluated to have affected the trust with the residents (Berkhof, 2013). The changes on the side of the tenants are significant as regular tenants move out and are replaced by tenants with temporary contracts. As a consequence, the Street committee and the Blijf Zelf association are

only loosely organized; tenants move out or are simply no longer committed to staying in the street.

Following this discussion of the development of the network characteristics we can say something about the instruments being used to guide the network in a specific direction. We consider Woonstad the main actor and chief manager in the housing renewal network. If we start our analysis in 2008 it is worth noting that the objectives and strategies of the city and Woonstad are already largely aligned—following the 2008 Neighbourhood vision and strategy Oude Westen (Centrumraad Rotterdam, 2008). As a consequence, the first network instrument of Woonstad is to make an inventory of the objectives of the residents and to discuss with them possible strategies. Yet the goal of Woonstad has already been stated in relation to the city, to create an attractive neighbourhood for current and future residents. Unclear is however, whether this goals for the neighbourhood also applies to the street level—that is, will current residents have to make place for future residents.

If we take the assumption of network governance, Woonstad should enable actors to learn each other's perceptions and see how objectives can be linked in strategies. However, the goal to create an attractive neighbourhood is soon reasoned through the deterioration of the street. This gives the impression that a simple refurbishment will make the street more attractive. However, in the plans for the neighbourhood Woonstad has subscribed to the idea that a diversity of tenants, tenures and functions is making the neighbourhood attractive (Centrumraad Rotterdam, 2008). The position taken by Woonstad does not promote the sharing of perceptions and objectives.

As soon as the plans are becoming clear, in line with the visions build with the city (gentrification and diversity) but now arrived at through technical reasoning (poor structures), the residents feel deceived. They question the openness of Woonstad to tenant inputs and suspect the actual objectives were already defined. In practice, Woonstad distills the input of the tenants into four scenarios but their feasibility is outside the power of the tenants. They are evaluated and communicated by the technical and financial experts of Woonstad. Instead of active participation, the tenants are being guided through the process to think about their housing future both in the street and beyond. This is not simply accompanying the tenants till they are evicted, some real options to stay in the street are offered to (some) tenants. Yet, the burden this puts on the tenants to self-organize and to become executives rather than participants in the renewal project is too big to be sustained under the dynamic turn over in the street.

This brief exploration of the case with network governance illustrates that this framework emphasizes similar events as the ANT perspective. In particular, the here strategic pursuit of a political goal by technical means, the objective of diversification, and the mean of renovation for evacuation. Yet the approach is less explicit how power plays a role, ANT has an analytical focus to describe how the events are brought about. At the same time, network governance has the benefit of inferring normative considerations on what is happening or not happening. This is mostly due to the assumption that actors are strategic in pursuing goals. As Woonstad defined its goal for the neighbourhood before 2008, its strategy was already largely developed. Since tenants were only brought together and involved in the process after 2008, they had little influence in the network. Therefore, participation was mostly steered by means of confronting the tenants'

perceptions with the technical perceptions on the situation, and aimed at identifying the housing preferences to facilitate the search for a new home.

4.4 Reassembling housing renewal

We presented the renewal project of the Sint-Mariastraat 106-146 as a housing controversy, and analyzed the development of network uncertainty and closure. First we identified the main elements of discussion and the key entities in the debate. Following the controversy approach, we employed the analytical framework of translations to identify the means by which our focal actor Woonstad Rotterdam ordered the housing renewal network. This ordering involved negotiations with the current residents, the houses and future residents, in various forms and with specific spokespersons.

While the story started in 2008 with a political planning instrument, the controversy quickly turned to issues beyond the political. Woonstad determined the main uncertainty is technical and formulated the question whether the foundations of the houses could guarantee the safety of the residents, the durability of the houses and the appeal to future residents. With this question, Woonstad produced knowledge at one and the same time about the condition of the foundations and the identity of the other actors. The future residents were never physically present but constructed in plans and through market research. For the current residents, Woonstad employed devices to set out and test associations between the residents, their homes, and the future of their street. Only after three years is the technical uncertainty of the foundations resolved, yet new controversies soon emerge. After all, since all foundations need to be renewed, the residents need to move out, and to finance the project houses need to be merged and new residents need to be attracted.

The approach of controversies and translations emphasized the political, social, economic and above all technical uncertainty in housing renewal. After all, we identified the uncertainty related to technical issues and physical objects as one of the main drivers of the housing renewal network. Consequently, to have competency in judging the technical issues one has power in assembling the renewal network. This power is not often found on the side of the residents, the houses or future residents but instead is held by the external experts hired or professional staff employed by Woonstad. Once the technical uncertainty was partly resolved, new issues emerged that were not just technical but also social, economic and eventually political. Since many spokespersons had already been established in resolving the technical controversy, the housing renewal network was relatively resilient in dealing with these new issues. In other words, in the production of technical knowledge social relationships were constructed which helped to stabilize the network as new issues emerged.

We should note however, that the controversy is not yet resolved as some residents are still fighting the ‘network ordering’ of Woonstad in Court. Of interest is that this case puts into question the very first technical uncertainty of the foundations. The question is thus raised to what extent is foundation renewal necessary and not used as a strategy to sell vacated homes (Gerechtshof Den Haag, 2014). In other words, one of the basic issues in the renewal network is

destabilized as the spokespersons, foundation researches, are being questioned. Also Woonstad Rotterdam as a social housing association is questioned, do the foundations works constitute renewal or are they part of referred maintenance.

In turn, we applied the network governance framework to the case and this brought to light the goal setting and strategy development of the actors in the network. Specifically it addressed that the network was already established and streamlined before 2008. The main actors at this time were the city and the housing association. Only after 2008 are the tenants of the street invited to participate to set goals and develop a strategy for the street specifically. Although the street renewal is a different network from the neighbourhood vision, the latter frames the former and is explicitly referred to in later land use plan changes and restructuring the street. Over the chosen period we can see the alternation between a commitment to implement the 2008 vision and strategy for the neighbourhood to the street and a flexibility to define with the tenants a goal and strategy for the renewal. The clearest expression of this is the self-management association but the reluctance on the side of the housing association and the tenants did not make this happen.

Although the case description from the network governance perspective is useful, it is not completely aligned to some of its key assumptions. The first assumption is that the situation is complex. While the network characteristics are identified, the complexity in terms of the interdependencies between actors and their goals is only relative when one considers the active management role the housing association can and will take. This is related to the second concern, is Woonstad eligible and capable to enable the actors in the network to exchange perceptions and to align objectives. Woonstad is the largest stakeholder and shareholder in the renewal network, we could thus question its ability and need to adjust and cooperate with other network actors. While this is required in relation to the city (but also partly resolved before 2008), it is not clear from the case study if the tenants have resources on which Woonstad depends to attain its goal. Therefore, while the framework offers an insightful analysis the normative assumption that complexity is managed by sharing perceptions to align strategies does not seem to hold for the position Woonstad has in the network. This raises the question whether other actors and resources should have been included in the renewal network, a question we turn to in the next chapter.

5. Discussion

> How can we present a proposal intended not to say what is, or what ought to be, but to provoke thought, a proposal that requires no other verification than the way in which it is able to 'slow down' reasoning and create an opportunity to arouse a slightly different awareness of the problems and situations mobilizing us? (Stengers, 2005: 994)

In this chapter we discuss the main theoretical and empirical findings of the presented ANT approach to housing renewal. First of all, let us recall the research questions and objectives stated at the outset of this research. We have been guided in the theoretical and empirical discussion by two questions

1) what material actors are in the housing renewal network of the Sint-Mariastraat?
2) and, how do these material actors negotiate the housing renewal project?

Consequently, we defined the research objective to put ANT to the double test of (1) *examining if* ANT is a useful network perspective to understand housing renewal, and of (2) *exploring how* housing associations might be able to steer urban renewal in a heterogeneous networks. In turn, we aimed to investigate the contribution of ANT to (a) the theoretical issue of *understanding* the networks of housing renewal, and to (b) the call from practice for a *new way of thinking* about urban renewal.

We start this chapter by considering the research questions in relation to the empirical study. Consequently, we turn to a discussion of the two theoretical frameworks in terms of its key assumptions and concepts, respectively. After this we address what the Latourian approach can contribute to the research agenda of housing renewal and how it might contribute to practice. To follow up on the contribution, we look at the tensions found in the relationship between ANT, on the one hand, and (network) governance and practice on the other.

5.1 ANT and things in housing renewal

Through the analytical framework of controversy and translations we showed how various kinds of uncertainty played a key role in the housing renewal network. We identified specific stages in the renewal controversy to emphasize the devices, contestations and intermediaries, and to investigate their effort in network ordering. Specifically, we found that the technical uncertainty surrounding the foundations of the houses is a key element. The focal actor Woonstad started to speak for the foundations once stable knowledge was produced through research reports and external advisors. As this knowledge was produced, a network of relationships was simultaneously constructed with other actors. This network was mobilized when the conclusion

was reached that the foundations are too bad to be maintained. Once the technical controversy reached closure, the subsequent uncertainties could be stabilized in similar networks based on already established actor identities and associations.

To answer the first research question, we can identify non-human actors in the housing renewal network. Throughout the description of the renewal we have come across, among others, plans, scenarios, foundations, facades, houses, minutes of meetings and definitions (e.g. 'cultural capital', 'dream sessions' and 'kluswoningen'). While we do recognize that we have developed the ANT framework specifically for the aim of making visible the non-human actors, we do not only see them but we also identify the important work they do in the housing renewal network.

From the discussion of ANT (see *Chapter 2.3.3*), it should be clear that in answering the first question we cannot simply refer to the individual agency of 'things' and objects in housing renewal. Instead, we argue the power of things is constituted in networks. The most important one we have come across in the controversy are the foundations of the houses. As such, the foundations do not have any significant (non-human) agency in the renewal network. It is only when Woonstad and the residents produce knowledge about its condition and its renewal that they make a difference. The importance of the foundations is highlighted by the current Court case where the controversy is opened up again.

Consequently, the answer to the second question is most clearly found in the foundations; they are non-humans negotiating the housing renewal network. Specifically, we first consider them an important actor in the closure of the housing renewal network. After all, the durability of the foundations has been the framing question for shared uncertainty. Closure was reached when the spokespersons for the foundations in technical reports were no longer questioned, that is when conclusive knowledge was produced.

In the case study we also observe how the production of knowledge is the construction of associations in the housing renewal network. Consequently, once the technical uncertainty was settled, Woonstad soon started the project and enrolled the actors in the housing renewal network. This was possible since the other actors were already recruited to participate and to take interest in the knowledge production of Woonstad. Finally, we see the power of the foundations is demonstrated in how the controversy is recently opened again. This means that the associations and spokespersons that were initially established, are being questioned. Put differently, the obligatory passage point of the first two stages—problematization and interessement—is challenged, and the chain of transformations of the last two stages—enrolment and mobilization—is thus at risk of collapse.

5.2 Assessing network perspectives

The analytical framework that we developed and employed has been productive in approaching uncertainty in both the social and the natural. That is, the condition of the houses accounted for as much uncertainty as the reactions of the current tenants and the expectations of future residents. We used the repertoire of translation to describe all uncertainties. Above all, we

‘followed the actors’ in a way that an initially political planning question in fact turned out to be a technical housing question. In this way we refrained from going after categories or to explain the situation by means of structural or organizational configurations. Therefore we argue that also in a housing renewal controversy

> At no time can society be reduced to a balance of power or to a series of conditions in order to explain the growth and the closure of a controversy. (Callon, 1986: 213).

According to the framework of network governance uncertainty is found in ‘the inability of stakeholders to coordinate their individual interpretations in a particular situation’ (Koppenjan and Klijn, 2004: 160). The development of uncertainty it thus understood in the exchange of perceptions to align strategies for a common goal. As such, technical uncertainty is resolved early in the process since it was mostly a shortage of information. Once experts established that the foundations were in a poor conditions and that only two scenarios were financially feasible, the network had to deal with these ‘facts’. In network governance, Woonstad’s strategies are not found in the production of knowledge but rather in the organization of meetings with the tenants. The conclusion we can draw here with network governance is that participation was mostly used to understand the goals and expectations of the residents. Only on a few occasions a discussion took place on issues that were not excluded by expert reports or facts.

Network governance is less critical about the production and use of knowledge and information. Instead, it is optimistic about the strategic behaviour of the actors to come to a consensus through cooperation. While we have identified the network characteristics as mentioned in the literature, we might question the degree of interdependency in the network. The city and the housing association are interdependent but their values and objectives are aligned in an early stage. As for the tenants, who are invited only later into the network, it is difficult to define the resources they bring into the network and with which they can negotiate the direction of the network. One resource that plays an important role is the ‘cultural capital’ of the residents which is referred to throughout the process and which is used to argue for the self-management alternative.

As a result of the organized interdependence between the city and Woonstad, and the limited interdependence between the tenants and the other actors, we also need to question the complexity of the network. While we do deal with a kind of ‘wicked problem’ in which a societal issue is to be dealt with in a network environment. The perspective of network governance tends to emphasize the role of institutions in these problems. Accordingly, we find that the tenants have few means and resources to steer the network. After all, it has already been largely framed by the most important stakeholders—the city and the Woonstad. This process observation is confirmed in the final project, it is more the result of the cooperation and consensus between the city and the housing association, than of a network that includes the tenants.

5.2.1 Two network ontologies

We have highlighted the different interpretations of the network in network governance and ANT. Still, the housing renewal network we studied with ANT does feature the network characteristics of network governance. We have actually described them, albeit differently. The main differences stem from the two distinct network ontologies of ANT and network governance (as we discussed in *Chapter 2.5*). We now briefly revisit the network characteristics with ANT.

Hierarchy	**Network**	**Actor-Network**
Dependence on superior	Interdependence	Relational
Uniformity	Pluriformity	Symmetry
Openness	Closedness	Association
Stability, predictability	Dynamic, unpredictability	Contingency, instability

Table 5: Overview of characteristics of hierarchy, network and actor-network (elaborated on the basis of De Bruijn et al.: 2002: 20).

We believe this ANT study has taken the feature of interdependency much further than a network governance study would. We have outlined the three principles of ANT and discussed the feature of relationality. The actors and actor-networks are interdependent in a heterogeneous way. Consequently, we find interdependency in the first question of Woonstad: it presented the actors with an offer they could not refuse, if they wanted to achieve their goal. That is, if the actors want safety, the houses want longevity and future residents want an opportunity to move in, they have to accept the efforts of Woonstad to resolve the technical controversy. Moreover, as Woonstad produced this technical knowledge, it build social relationships in the housing renewal network that could still be enrolled afterwards for different ends.

Consequently, pluriformity manifests itself in the housing renewal actor-network in two ways. First is that since in ANT the network is not taken as a stable entity, its network is multiple in the way that the actor-network can be associated with differently by different actors. This we have seen when speaking about houses, which were by different actors understood simultaneously as foundations (Woonstad) and homes (residents). The second understanding of multiformity is given by intermediaries, that is an actor can be translated and transformed in multiple ways (e.g. foundations in tables or sketches).

In the housing renewal network we described closedness is expressed in the identity, objective and relations actors have in the network. The critical point of ANT is that these three are not chosen by the actors but are a relational effect. Some have more freedom than others, for example we described how Woonstad attempted to define the identity and relations of the residents, the houses and the future residents. It did so by formulating the question of the controversies, by engaging devices and by establishing intermediaries. Although we have seen that imposed identities were contested, we also argued that if actors define themselves differently they can only do so in relation to other actors. This was the case when some residents founded

the self-management association and attempted to make different associations to the housing than those suggested by Woonstad (e.g. the size of the dwellings and the arrangements of the units). A final appearance of closedness is the closure of the housing renewal controversy itself.

Therefore, the aim of network governance to create common grounds is looked upon somewhat critically from the analytical ANT framework of controversy and translation. In network governance shared goals and strategies are the result of cooperation. Yet the theory is less explicit about with whom and on what conditions this cooperation can be established. Participation and its form depends on the network, and its specific structures and rules. As Bortel and Mullins (2009) note 'networks can be efficient but at the same time profoundly undemocratic and lacking transparency and accountability' (206).[12]

This study of networks, however, has been investigating by what means shared goals and strategies are defined. Based on this we argue that the goal to close a controversy is about negotiation and conflict, instead of cooperation and consensus. We saw in the case study how the focal actor Woonstad had the power to order the network by means of defining and speaking for other actors. Consequently, even if we would say the residents are represented in the final plan, that is they were part of the cooperation, this study also emphasized how they become represented and by whom. Thus while representation is part of participation, it is also transformation. Specifically, we have been able to address the importance of speaking for material actors in ordering the housing renewal network. So as Callon (1986) concludes

> The repertoire of translation is not only designed to give a symmetrical and tolerant description of a complex process which constantly mixes together a variety of social and natural entities. It also permits an explanation of how a few obtain the right to express and to represent the many silent actors of the social and natural worlds they have mobilized. (215)

To this contribution we would like to add the openness of the research to different actors, scales and issues. The housing renewal network remains precarious and in this way, not simply a task of project management. From the very beginning we have not assumed the hierarchies in network structures and the behaviours according to network rules. This study has approached not the certainty but the uncertainty, and analyzed how specific actors gained control over uncertainty. At the start of the research we could not have predicted that a housing renewal project was being negotiated by and through the foundations of houses. In fact, this very actor is once again at the centre of the controversy now opened up in Court.

5.2.2 Towards a research agenda

In the above paragraphs we have argued that the ANT approach developed here to housing renewal networks has turned out to be both relevant and significant. First, we have been able to point out that material actors are involved and do mediate the housing renewal project. Second,

[12] We return to the issues of participation and democracy in *Chapter 5.4.2.*

we have emphasized that uncertainty can be found in the social and in the natural world. Thirdly, we have presented a framework that is explicit about the power and the strategies specific actors have to order and speak for other actors in the network. Finally, we have seen that in this ordering to gain control over non-human actors gives a lead in dealing with human actors.

We have illustrated why and how non-human actors are significant in housing renewal networks, now the critical point is whether this is also a research approach worth pursuing. In *Chapter 3.5* we have argued that the gain (making non-humans visible) comes with real implications for the way of doing research and the meaning of the conclusions. As for the way of doing research, we have described ANT primarily as a methodology but also noted it is not very instructive. We like to repeat that as a theory and methodology, ANT slows research down; the researcher is sent out into the field 'to follow the actors' (Latour, 2005). We admit that in this research we have set limits on the case study; we selected a focal actor and defined a time frame to make the research feasible within the set time for the graduation project. Still, the research was sufficiently slowed down to discover that nature is as uncertain as society. As a result, we found that technical uncertainty, including its material actors, is an important force that shapes the housing renewal network. Moreover, we observed that the stabilization of technical uncertainty has a direct impact on the arrangement of other (human) actors.

As for the practical relevance, we highlighted that the conclusions from ANT research are less normative than the findings in the literature of network governance. As shown in other ANT research, the relation between ANT and practice is a complicated one (see Rydin, 2010). Following the situational research approach we would argue that no set of strategies or tools is fit for every situation. Instead, the recommendation would be for a reflective approach to practice and to learn throughout the process. Therefore, the contribution of this research is in the first place to slow down the understanding of practice and to encourage practitioners to follow less established pathways and learn down the road.

In view of these methodological and practical implications of the research, we revisit the themes and questions of network perspectives in housing studies (see *Chapter 2.1*) to evaluate whether the ANT approach is indeed worth pursuing. The main point here, as was also made earlier, ANT shifts the perspective of the study of networks from configurations to orderings. This subtle change in wording tuns a management question into a power question. The alignment with current research themes is thus primarily a critical reflection on who orders the network, how do they order the network, and what are the outcomes of this order. Accordingly, while the approach is less useful in informing us how the network should be structured, it can give us insight into the existing questions how actors and ideas are mediated in networks, and to what extent hierarchical relations play a role (Mullins and Rhodes, 2007: 8-11). The capacity of ANT to 'deconstruct' the primary actors of network governance—i.e., institutions and organizations—into their constituting parts provides a critical view on this hierarchy; it makes visible the multiplicity of the network and the competition inside it.

The impression is that ANT has limited explanatory power to manage networks better in practice. Instead it offers particular analytical capacity to the task of making power visible in networks. Consequently, ANT can take up the specific issues that network governance has so far not been able to adequately address. We mentioned these in *Chapter 2.1.2* and they are (1) the understanding of democratic anchoring in decision-making, (2) the development of network governance methodologies, (3) the exploration of network resources, (4) the consideration of modes of co-ordination, and (5) the examination of the relation between network configurations and outcomes (Bortel and Mullins, 2009: 100).

If we consider these five points in relation to the findings of the case study, we made visible the ambiguous relationship between democracy and technocracy—that is, between the political and the technical (1). In the network governance approach the information of experts is less questioned and used to set the rules and frameworks actors can operate with. Second, ANT provides a 'methodological bracing' (Sayes, 2014: 136) for the study of networks, especially with its commitment to detect new (non-human) entities and its set of analytical claims (2). This methodological bracing thus relates to subjects of research as well as to the approach. Based on these two, network resources and coordinations previously invisible can be studied (3). In the case study we identified that expertise—and knowledge on material actors specifically—is an important resource in network ordering. Moreover, we described the approach of translation to analyze how the focal actor coordinates the network (4). The issue of network configurations and outcomes (5) is only partly addressed in the approach. While we have illustrated how the closure of the controversy leads to a stabilization of the network, uncertainty and thus unpredictability remain imminent.

Compared to network governance however, the ANT approach remains primarily an analytical and situational approach with an ambiguous relation to practice (see *Chapter 5.4*). The practical relevance of network governance was affirmed when we approached the case study with this framework. Although we have been very succinct in this analysis, we believe that the approach is explicit and accurate in identifying the actors and the shape of the network. This is particularly related to its assumption that actors are strategic (they deliberately act to reach a consensus to see their goal—partly—realized) and that uncertainty is a network characteristic that can be resolved by the—human—actors themselves (they learn about each other's perceptions and goals to cooperate according to universal rules).

To conclude, we believe that the framework and case study presented here are a demonstration of one way ANT can be used in the study of housing renewal. Moreover, we conclude the ANT approach to housing renewal is a research project worth pursuing. From the comparison with network governance, we do not go as far as to state that we have found 'new theories that are better suited to explain the actors' worlds' (Yaneva, 2011: 43). In particular the relationship to practice is ambiguous, an issue we return to next. Yet we do find that the capacity of ANT to gain insight in how materials mediate power in housing renewal networks needs to be researched further. In this thesis we developed a conceptual and methodological dimension of this project. Particularly the analytical framework of controversy and translations has offered

useful insights in how uncertainty develops in the housing renewal network. We believe this methodology is a valuable contribution of ANT to housing studies. In addition to existing questions (see *Chapter 2.1*), an important new issue is how the socio-technical nature of housing renewal is made part of or extended beyond the political. Research in this direction might shed new light on questions of democratic anchorage in housing renewal. Above all, it might require us to revisit some of the network strategies in network governance.

5.4 Thinking and working after ANT research

At this point, we do not give specific lessons derived from the case study but instead emphasize the re-thinkings our approach has generated. While we aimed to demonstrate this in the case study, we also recognize that the re-thinking of practice applied in practice is a significant demand on those practitioners. Not least because of the non-modern—other-worldly—emphasis on the ontological dimension of networks, and the assumptions on how humans and things get along. We therefore acknowledge that the concepts we present

> to support reflection and learning are abstract, generalized and high level … This is not about a gap between theory and practice (because all practice has some theory implicit within it and vice versa). Rather, the problem concerns the disjuncture between the theoretical concepts and the active ability of planners to incorporate these into everyday practice so as to change that practice. (Rydin, 2012: 41)

On this note, we do however question if the ANT housing renewal research agenda *should* include an approximation to practice. After all, this might undermine the analytical power of ANT and jeopardize 'the chance to make a difference, intellectually and politically' (Law, 1999: 2). At the same time, we do not want to blame practice for their limited ability to incorporate the actor-network perspectives presented here. In what way then, is the research here relevant? To answer this question we first need to note that ANT takes a rather peculiar stance by multiplying the actors under consideration in housing renewal, and by describing how their formations and negotiations might produce unexpected outcomes. Therefore, we might conclude 'ANT itself challenges the simple distinction between critical and normative planning (the study of what planning is doing and what it should be doing)' (Rydin, 2010: 267). Following this statement, we argue ANT opens up an avenue for reflective research in housing renewal studies.

Invoking Flyvbjerg (2001), we suggest to frame ANT housing renewal studies with the reflective research of phronesis. This kind of research is inspired by Aristotle's division of the *episteme*, the *techne* and the *phronesis*, and rather than scientific knowledge or know-how, the studies of the phronesis aim 'to develop society's value-rationality vis-à-vis its scientific and technical rationality' (*Ibid.*: 53). We have argued that so far, housing management studies remain largely tied to the techne, and the application of knowledge and skills. This research was not guided by 'a practical rationality governed by a conscious goal' (Foucault, 1984: 255; in Flyvbjerg,

2001: 56). This is in line with our description of a specific situation, and the less Cartesian approach to research. For this kind of research, Flyvbjerg (2001) proposes four questions: '(1) Where are we going? (2) Who gains, and who loses, by which mechanisms of power? (3) Is it desirable? (4) What should be done?' (Flyvbjerg, 2001: 162).

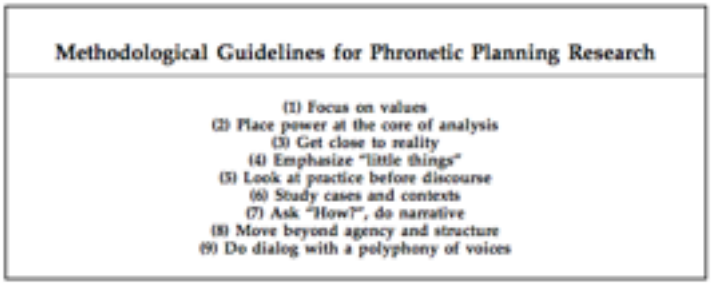

Figure 13: Methodological guidelines for phronetic planning research (Flyvbjerg, 2004: 295)

In the next paragraphs we make some first steps in how these methodological guidelines can have relevance in practice. Particularly, we focus on the intersection of governance and democracy to define how and when networks should be opened and closed.

5.4.1 Network governance and controversy

We have argued in *Chapter 2.1.2* that network governance tends to favour the formal relations between recognized actors. Second, we have seen that actors are usually approached as groups or organizations. In the ANT approach we did not define a scale of analysis to speak of actors, in fact we followed the actors which lead us to identify both organizations and individuals. Third, we have noted that the governance approach is in the end a normative perspective on process and uncertainty management. Also in the ANT study we have looked at the ways in which the housing association orders controversies (manages uncertainty) in network; the housing association is the focal actor. A key difference however, is that with the network governance perspective we evaluated the management in terms of effectiveness. This effectiveness is understood in terms of the degree of cooperation to reach a consensus that is close to the initial goal of the focal actor.

The network governance case study indicated that both cooperation and consensus have not been effective in the housing renewal network. While there were instances in which perceptions were exchanged and alternatives were considered, in the end the combination of a stabilized network of key actors (the city and Woonstad) before 2008 and the input of technical information, guided the decision-making and lead to the closure of the network. While Woonstad was effective in aligning strategies and maintaining a relationship with the city, in its relation to the tenants it attempted a cooperation but a consensus was never reached. In other words, the network was only effective to the degree that the city and the housing association reached a consensus in which the tenants could participate (with variations such as the self-management association) or not. We therefore conclude that according to network governance, the network has been ineffective in finding an overall consensus but effective in steering the dominant consensus.

This two folded achievement of ‘partial consensus’ is also found in the way network instruments have been used. The vision and strategy the housing association has adopted with the city for the neighbourhood in 2008, provided a framework for the renewal in the street. Yet this framework was poorly communicated when the tenants were first invited to participate in the process. They were asked to imagine their future in the street, yet they were not told that some plans had already set boundaries on their future. As a result, the residents were disappointed in realizing that they were not participating in the plan development but rather in the decision-making on an already developed plan consensus. While the poor communication on the already defined boundaries of the plan affected the trust in the network, so-claimed objective information on technical issues was introduced to demonstrate the rationality of these boundaries and the overall urgency of the project goals. Therefore, new information is being introduced in the participation process to further define the project; knowledge production and participation happen in parallel. Put differently, as tenants introduce new issues or alternative plans, these are only briefly considered as they soon turn out to be ‘impossible’ according to emerging information.

Against this background, we like to highlight two events in the case study which render a key difference between network governance and ANT. First is the issue of the research on the technical state of the foundations. In the case study we illustrated how the foundations were the subject of a controversy, the housing association and the tenants competed in producing knowledge about the urgency and intensity of foundation restoration. A number of foundation tests were executed over the period from 2008 to 2010 commissioned by the housing association and the tenants. Seen from the perspective of network governance, foundation reports bring new information into the network which sets new rules and so reduces uncertainty. On the contrary, in ANT the foundation research fuelled the controversy and increased uncertainty—albeit for a limited time.

Consequently, in network governance we find that expert research is an instrument to steer the network towards a consensus on the plan. Since in ANT nature is assumed as uncertain as the social, technical knowledge is yet another arena in which participation, cooperation and above all, competition can take place. The capacity of the tenants to commission their own experts for a foundation research is an example of this. Thus, while in network governance information is an instrument to make the process more effective, knowledge in ANT is part of a controversy but more importantly an opportunity for democracy. While it might not have been actively facilitated, the tenants’ participation in the production of knowledge could not have been foreseen in network governance. In ANT on the other hand, knowledge (and nature) is yet another arena of participation and negotiation. The controversy over foundations, we believe is part of ‘a politics of hope’ (Coutard and Guy, 2007) where the idea that technical information establishes rules—that is, forecloses the political—does not hold.

The second event we would like to revisit is the emergence of the proposal of a self-management association lead by the tenants, that takes care of the rental units by order of the housing association. The option can be judged differently depending on the perspective taken. In

the view of network governance the recommendation is to 'not choose a solution too early, but define a number of functionalities or problems' (De Bruijn et al., 2002: 39). In the case study we find that Woonstad defines a 30% share of rental units based on its experience and financial experts. Yet Woonstad is open to how the rental units are realized and managed, including the option self-management. But rather than being part of the consensus, the self-management option presents a new project in itself. Particularly because of the initial demand that Woonstad puts on the members of the self-management organization in terms of developing a proposal, signing a contract and writing out a separate program of requirements.

From the ANT perspective self-management option is traced back to the first tensions between the tenants and Woonstad on the issue of foundations. This has created a space of possibilities almost in the sense that the tenants can contest the specifics (the organization of 30% rental in the plan) and do it themselves. That Woonstad offered this space is hard to understand from the perspective of an effective decision-making process. In fact, it is the very disagreement that has created real possibilities. These possibilities were nonetheless, not fully exploited by the two parties. This could be explained by the challenge of finding committed tenants in a vacating street, and the attempt of Woonstad to simultaneously facilitate and enfranchise this form of rental in the street.

Therefore we argue that if network governance is geared towards the effectiveness of finding consensus on a plan, ANT has illustrated that dissent on all type of issues (technical and political) can create possibilities for the search of a (new) plan. The two events illustrated that network governance and ANT take different positions on the outcomes of participation. We already raised the issue of democratic anchoring in network governance, we believe that ANT sheds new light on what democracy can stand for in situations of uncertainty. As demonstrated by the two events, the ANT lens adds an understanding of how the participation on issues might be more democratic and effective than the participation on the plan itself. The very focus of ANT on the issues, regardless of whether they belong to the social or technical realm, is an important avenue for approaching the effective participation of tenants in housing renewal networks. Therefore, we claim that the parts, issues and things deserve more credit than the plan. This means that we contrast the cooperation and uncertainty management for consensus on the plan in network governance with the competition and controversy for the search of a plan in ANT. While the first implies participation on the whole, the second promotes participation on the parts. The way in which this difference plays out in the organization of networks and can be implemented is discussed in *Chapter 5.4.3*.

5.4.2 Renewal policy of Woonstad reconsidered

Following this contrasting of network governance and ANT, we can take a more critical stance towards the case study. So far we have remained loyal to the analytical framework and the actors' description it has rendered. In the network governance study we provided a more nuanced image of the process; networks and goals were pre-defined on a neighbourhood level before tenants

were invited to participate on a street level. At this point we will take some distance from the theoretical frameworks to take a stance on the renewal strategy and practice as presented in this thesis. In particular we like to focus on what is said that is done and that what is actually done. While this might sound like a treacherous task, we do it in relation to the previously discussed tensions of governance and politics. Above all, we are supported by the different analytical emphases of network governance and ANT. That is, throughout this chapter we allude to the tension between technical and political issues, and how these are dealt with in participatory decision-making processes of housing renewal.

We have employed and compared the network governance and ANT approach to emphasize different issues and perceptions of the housing renewal. This has been insightful since it complements the normative and analytical focus of the respective frameworks. Based on these insights we like to return to and elaborate on the discussion of the aims, knowledge and practice of housing renewal (*Chapter 1.3*). We described contemporary urban renewal as a decentralized and continuous task that builds upon the differences and efforts of the place according to the ideas of governance (KEI/Nicis, 2012: 18-28). In this light we defined urban renewal is 'the assignment of citizens, societal actors and the government to maintain and improve the quality of the living environment' (Donner, 2011). We consequently discussed the strategy of the participation ladder, and the goal of liveability. With the theoretical and empirical points developed, we now return to these issues. So, what can we say about the aims, knowledge and practice of urban renewal—and of Woonstad particularly—when considering the theoretical framework and case study.

The definition of urban renewal informs us about the who, what, and what for. Taking into consideration the proceedings of this thesis, we support the claim that urban renewal is an assignment (something that needs to be done) by various actors (in networks, if we like). From the perspective of ANT, we are more critical about the renewal aim of liveablity. We have already emphasized that this concept is ambiguous but still used as an objective measure of the quality of the living environment of a neighbourhood. Moreover, liveability has become a steering instrument in urban renewal. In Rotterdam we find the so-called Rotterdamlaw (De wet bijzondere maatregelen grootstedelijke problematiek, 2005) which is strongly based on the idea that a diversification of the neighbourhood supports liveability. In other words, gentrification is considered a desirable neighbourhood development and is legally enforced. As such, neighbourhood change and (economic) growth are defined in the expert planning arena instead of being discussed in a public arena. Therefore, the management of renewal and neighbourhood change is considered largely a technical rather than political exercise.

The preponderance on the technical dimension of the process and aims of renewal in the view of the city, is also expressed in the defined participation ladder. This model of participation is, as mentioned earlier, an ideal type of citizen involvement. It does not guarantee participation so even by referring to the model the actual participation might still be questioned. In the case study the actual participation of the residents is contested by the residents in an open letter to the city mayor (Van den Noort, 2011). The dissatisfaction with the outcome of the participation model is related to our critique of procedural participation. We described the Rotterdam approach to

participation and the four steps in organizing cooperation and stimulating a consensus on the 'good enough' outcomes. For this it relies on a participation plan that is to frame the process, again turning participation primarily into a procedural and technical exercise rather than a political one. One of the consequences is that in this approach there is no opportunity to question the bigger framework; e.g., of gentrification, liveability and tenure diversification.

As illustrated in the case study, Woonstad has a more open approach to participation and to the goals of housing renewal. While it has defined goals of neighbourhood quality and gentrification together with the city in 2008, the way these are interpreted is less procedural (and thus less technical) than the Rotterdam city policy informs; particularly the Rotterdamlaw, the participation ladder and the overall city vision and strategy. Woonstad recognizes liveability is hard to define but relates it to comfortable living in a safe neighbourhood (Woonstad, 2014: 27). In their view, liveability is closely related to the attitude and behaviour of the residents (*Ibid.*). While Woonstad attempts to steer on the latter two where possible and necessary, it also sees the importance of stimulating active citizenship.

To promote active citizenship and to facilitate the role of residents to improve liveability, Woonstad has introduced the program Working Neighbourhoods (Werkende Wijken). This program is based on five main assumptions (Woonstad, 2014: 25):

1. If it goes well with the neighbourhood, it goes well with the residents.
2. The living environment can be improved
3. The key: self-employment (zelfwerkzaamheid) and self-support (zelfredzaamheid) of residents
4. Pride in the neighbourhood and self-employment reinforce one and another
5. Conditions: safety, continuity and development

The assumptions manifested themselves in the case study. Most importantly, it explains the appreciation of Woonstad towards the tenants' study of cultural capital, the engagement in tenants meetings and the bid book Blijf Zelf. Although these assumptions are telling, they are little specific about the very definitions of the goals: the well-being of the neighbourhood and residents, and the improvement of the living environment. Above all, the fifth assumptions presents an important condition for Woonstad. It is an assumption that can only be interpreted by Woonstad and argued for by technical means. In addition to these limitations, it is worth noting that Woonstad differentiates between general participation projects in the neighbourhood and participation in renewal (Woonstad, 2014: 26). The participation in renewal is largely understood in terms of the need to facilitate the residents in finding a new home when the extent of the renewal requires them to move out. Participation in renewal is thus primarily a process in which Woonstad identifies together with the tenants the housing preferences and helps in the search for a new home. The approach to renewal is expressed in Woonstad's statement:

> As one of the largest real estate owners in Rotterdam, we are continuously engaged in adapting our stock to the needs of our clients; clients of today, but also those of tomorrow.13 (Woonstad, 2014: 26.)

Specifically for the renewal project of the Sint-Mariastraat, we can identify the active involvement of the residents in the process but also their 'pacification' based on technical conditions. In their own evaluation, Woonstad believes it has not investigated sufficiently the renewal options before they were presented by the residents (Berkhof, 2013). For example, the legal aspects were not yet investigated at the time that the self-management option was proposed to the tenants. Once the option was already in development and Woonstad for the first time mentioned the substantial legal obligations and requirements in a contract, the trust between Woonstad and the members of the association was affected. Accordingly, Woonstad takes largely the stance of network governance to manage expectations and to communicate the framework.

Network governance is also expressed in Woonstad's idea hat the tenants should be involved in the project but not on the basis of an equality between the tenants and Woonstad (*Ibid.*). It is up to Woonstad to define the boundaries and the conditions of the process. At the same time, Woonstad considers the innovative options that were presented in the Sint-Mariastraat process a lesson for the future. The evaluation appreciates the bottom-up approach to the process and the quality of the neighbourhood initiatives. On this basis, the evaluation sees the need to offer the project managers the freedom to get off the beaten path. It does emphasize that this requires good communication within the project team and with the residents to remain clear on the internal and external boundaries of the project.

In addition to the evaluation, the findings of this research have been discussed with Woonstad (Verbaan, 2014). The focus of this reflection was on the link between uncertainties and expectations. On the side of the tenants, a major expectation was the effective input through participation on the plan. For Woonstad, the expectations are primarily related to the technical uncertainty. The discovery of the weight of technical issues turned out to be a great pressure on the financial objectives. Due to this, technical and financial boundaries for participation were only set when the participation process was already on its way. This affected the trust between the tenants and Woonstad. The absence of a participation plan has further complicated the expectations about who has the say and supervision over the process. In this way, the growing dominance of the relation between technical issue and financial boundaries as well as the absence of a participation plan and supervisor are found to have caused deceptions on the side of tenants.

The appreciation this thesis has expressed for the simultaneous development of technical information and political discussion and the absence of a participation procedure, is used by Woonstad to explain the very shortcomings of the participation process. Again, we find that Woonstad operates mostly on the basis of network governance notions rather than ANT

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13 Als een van de grootste vastgoedeigenaren in Rotterdam zijn we doorlopend bezig ons bezit aan te laten sluiten bij de behoeften van onze klanten; klanten van vandaag, maar ook die van morgen.

concepts. The process is evaluated on the basis of cooperation and consensus. The contestation and emergence of new plans encouraged by ANT is illustrated in the case study but has not materialized. We could state that initially Woonstad followed more an ANT approach to organize housing renewal and participation but once it defined the urgency of the project it relied increasingly on network governance instruments instead. The instruments have indicated that participation was still aimed to reach consensus on an already defined plan. When this consensus was not reached, the cooperation was soon short-circuited. In this light, Woonstad refers to the political not as those issues that need to be negotiated for a collective existence but rather as the strategic choices that follow from Woonstad's policy. Most interestingly, the political is thus framed as a strategic question; the political are issues defined and managed by Woonstad.

Employing our ANT concepts and analysis, we argue the democracy in the first stages of the project has been abandoned in favour of a governance approach to realize the goals of the neighbourhood vision and the strategy of Woonstad. The governance approach was adopted once the financial and legal implications of renewal and self-management respectively, were known by Woonstad. In turn, the feasibility of the tenants' ideas decreased—especially since while the need for renewal was acknowledged by the tenants they hold on to the condition of a limited rent increase and small houses.

To continue the ANT approach even after controversies (foundations and self-management) reached closure, we see the importance to open up the arena and increase the number of stakeholders to be able to re-assess the demands. This will help to avoid a version of NIMBYism where the network only circulates around the defence of particular demands. At this stage, the demands were low rents for the tenants and financial feasibility for Woonstad. Of particular interest is then to invite the future residents into the arena. A negotiation on the qualities of the neighbourhood, its development and the form of housing can create new possibilities for a shared plan. With ANT we thus rethink the meaning of the management of uncertainty: in network governance it is an exercise of closing controversies but in ANT it is the shared definition and opening up of controversies.

An implication is however, the process is slowed down and this opposes the urgency Woonstad defined in 2011. Moreover, a limitation of the process is that the future residents were still mostly absent when the project was started. Woonstad recognizes the defect to meet the 70% pre-sale requirement afore announcing the rent stop. But if future tenants where still not established at the start of the project, the task is then to explain the urgency with which the project was started. Woonstad has framed the urgency largely in technical terms. We described the technical urgency with which Woonstad framed the renewal network. Yet we also argued that the framing of the plans had already been done in 2008. For this reason we see the technical urgency as part of the discourse and the actual motivations in the political. Since the 2008 neighbourhood vision and strategy, the political discussion between the city and Woonstad has turned around diversification. The goal of diversification presented a financial possibility for Woonstad that gradually consolidated in the communication between Woonstad and the city, and the consecutive master plan and revised land use plan.

The stance on urgency we take is that the urgency is political and driven by financial considerations. This does not mean that we neglect the need to renew the houses (and foundations) but we do perceive that this technical uncertainty was discursively mobilized to obscure the actual forces and practices in the network. This means that those political issues closed down in 2008 and those still open in the participation process, were foreclosed and covered up by technical means respectively. We believe that the translation approach made the making technical of issues visible, yet it is the network governance approach that made visible which political issues were made technical. In other words, the ANT approach tells us more about how issues are dealt with and network governance informs us what these issues are. The contribution of ANT is thus an analytical view on the mechanisms of uncertainty management, and a political view that issues and materials should participate and be negotiated in housing renewal networks. So we do subscribe, maybe with less vigour, that 'the burning desire to have new entities detected, welcomed and given shelter is not only legitimate, it's probably the only scientific and political cause worth living for' (Latour, 2005: 259).

5.4.3 A model for process building

When considering how a renewal process is to be organized, we stated the difference between the focus of network governance on a consensus on the plan and the concern of ANT with the negotiation on the parts of a plan. While the former assumes to find—through cooperating on the whole—a consensus on the plan, the latter hopes to discover—through negotiating the parts—the composition of the plan. Put differently, the ANT objective is to discover how the parts relate to the whole. Accordingly, participation takes places on issues and it is through these issues that networks obtain shape. We have seen this in the case of foundations, an issue that as is was negotiated built relationship that were maintained throughout the process to deal with other/ emerging issues. Therefore, we present an alternative to network governance's assumption of the strategic behaviour of actors according to rules and the need for process design. This is the idea of process building based on the assumption of free association of all kind of actors and guided by the need for negotiations on the issues and things in the network.

Two implications deserve further attention, what and when should issues be negotiated. According to network governance, network management defines a vision and 'a number of functionalities or problems' not as 'a ready-made view, but a vision that makes clear to the parties that a direction is being chosen and that also offers them room to participate themselves in choosing that direction' (De Bruijn et al., 2002: 39). This means that the issues that are open for discussion are pre-defined in process management and are assumed to give room for participation while staying within the framework of the vision. In short, the network governance recommendation is thus to 'pose a view, propagate it vigorously and at the same time be prepared to adapt it and be willing to learn in a process' (*Ibid.*).

On the other hand, the ANT recommendation—as in research—is to slow down the process by putting into question the relationship between the parts and the plan. We therefore recommend an interrogation of the issues that allow new political subjects to emerge: the matters

of concern (Latour, 2005). As these issues and subjects emerge their negotiation and participation can offer new possibilities for democracy. According to this suggestion, the issues should not be pre-defined but emerge as those that matter to the public(s) in an open participation process. While contested issues might be viewed as interruptions of the process, they also create spaces of possibility to move beyond consensus and instead redefine the plan. That is, the interruptions can 'be transformed into leverage points that make real room for direct involvement of unruly and heterogeneous publics in the planning process' (Metzger et al. 2014: 21). As such, this ANT inspired open participation can be an alternative to more procedural forms of participation; as encouraged by network governance and as illustrated by the participation ladder.

This is important since the case study of housing renewal illustrated the limits of participation on a task that is both technical and political. As an analytical perspective ANT allows to make visible the mechanisms by which renewal is made political or technical. As a practical recommendation, it suggests to blur the distinction between the two dimensions of renewal. This means to allow participation on the issues, and so to question the knowledge production of those who attempt to order the network. The ANT analysis of the case study informed us that those who order the network are those who close the controversy and those who define the consensus on the plan. They 'foreclose the political' and give credit to the planning community's 'acronym DAD (Decide, Announce, Defend)' (*Ibid.*).

We do emphasize however, that this recommendation does not mean that in participation anything goes or 'that all that is solid melts into air'. It does mean that instead of defining the vision, issues, and publics up front, the process should be open to all kind of issues and actors. In turn, actors should be able to negotiate the issues and so build the substance of the plan. While we blur the distinction between the technical (nature) and the political (society) and imply that everything is negotiable, it is still subject to judgement. Accordingly, the appropriate devices, mechanisms and knowledges are still relevant to assess the legitimacy of political and technical claims. An important consequence of ANT is then, that it provides new ways of being political in housing renewal. And most importantly, it offers new forms and moments of participation. The event of competing foundation research in the case study is an example of this.

Now that we considered what and when issues of a plan should be negotiated, we can return to our initial claim of process design versus process building. The former is based on the assumptions of network governance and the latter on the ideas of ANT. In process design the core elements are openness, protection of core values, speed and substance (De Bruijn et al.: 2002, 46). According to these, all relevant parties should be involved in a transparent network that protects the interests of the actors. Yet they also require a commitment to the process and that, when found necessary can be sped up by command and control. Accordingly, it recommends to transfer conflicts to the periphery of the network so to protect the network environment. Finally it presumes substance in the network, that is a relevant variation that is gradually reduced to a decision.

Following the claim to build a process based on the assumption of free association of all kind of actors, and guided by the need for negotiation on the issues and things in the network, we contrast the model of process design with a model inspired by ANT (see also Latour, 2004b). In

this model we also identify four core elements that are, in this case, part of building a process to discover the plan—instead of, designing a process to find consensus. This implies that to start, the process should be open to all actors and issues that (are) believe(d) to be concerned with the housing renewal (*perplexity*). Once a definition of shared uncertainty has been formulated, it should be negotiated on its specific issues and approached with multiple propositions (*consultation*). Only after this stage can the validity and compatibility of the propositions be appropriately (technically or politically) judged (*hierarchy*). As soon as this has been accomplished, the project is a collective achievement of defining and stabilizing uncertainty and should be beyond question (*institution*).

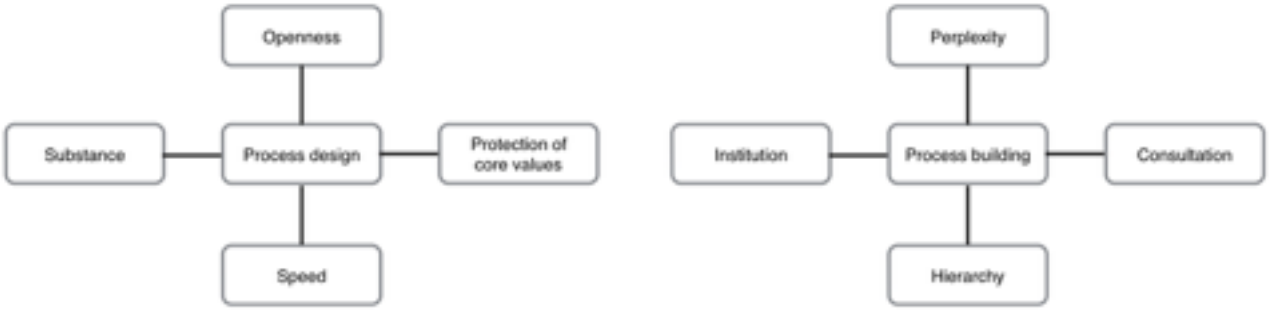

Figure 14: Model of process design left (adapted from: De Bruijn et al. 2002) and process building (adapted from: Latour, 2004b)

To build a process in housing renewal is important for three reasons. First, it challenges the limits of procedural participation where the uncertainty in housing renewal is managed either as a technical or political issue. In this way, it introduces new forms and moments of participation that do not just lead to consensus but to new ideas and practices of housing renewal. The challenging of technical issues such as foundations and floor plans in the case study are found to have played their significant part in the emergence of the option of self-management.

Second, to build a process is important for the stability of the housing renewal project. It is not enough to guarantee the identity and behaviour of human actors, by means of a network design based on rules. Following the principle of symmetry and free association, non-human actors might suddenly contest the spokespersons that have been set for them. If the associations are not maintained, they are at risk of collapse and the black-box might burst open. In the case study we identified that in the translation of a technical issue, Woonstad competed with the tenants who did their own inspections and hired their own experts. Woonstad and tenants were in competition to associate with the foundations. That stable associations with heterogeneous actors are important is demonstrated by the fact that the foundation controversy is once again opened in Court.

Finally, process building takes into account the role non-human actors can play in the ordering of the network. It takes into account both the object and subject, the human and non-human actors. The assumption is that technical and political issues are intricately related and

should be approached as such. In other words, the production of (technical) knowledge is the construction of (social) relationships, and vice versa. The case study illustrated this in the controversy over foundations and the strategies of translation. Woonstad produced knowledge about the foundations, and at the same time defined the identity of and the relationships between the actors in the network. The social and the technical are thus not simply related but simultaneously acted upon. As such, the housing renewal controversy is not accomplished by just technical or political instruments, by managing humans or knowledge but by heterogeneous means.

6. Conclusions

> They exist, naturally, but they are never given a thought, a social thought. … As if a damning curse had been cast unto things, they remain asleep like the servants of some enchanted castle. Yet, as soon as they are freed from the spell, they start shuddering, stretching, and muttering. They begin to swarm in all directions, shaking the other human actors, waking them out of their dogmatic sleep. (Latour, 2005: 73)

We assert the analytical framework of controversy and translations has been productive in identifying the importance of socio-technical uncertainty in the housing renewal network. In other words, the case study illustrates a situation where both nature and society are uncertain and gradually stabilized through the efforts of the focal actor Woonstad. It first formulated the uncertainty in the network and established the obligatory passage point around foundations. Consequently, the actors in the network negotiated their roles but were also framed with the devices of Woonstad. Eventually, the spokespersons for the foundations such as reports of architects and engineers were beyond the question and the various actors were enrolled in Woonstad's renewal network.

While actors negotiated the associations specified by Woonstad, they did so through intermediaries over which Woonstad increasingly gained control. In this way we illustrated that knowledge produced about the technical condition of the housing is also a construction of (social) relationships that stabilize the housing renewal network beyond technical uncertainty. Therefore we conclude, in housing renewal nonhuman actors are important since actors engage with socio-technical project. The management of uncertainty is thus understood as the steering of both human and non-human actors, or in ANT words housing renewal is accomplished by heterogeneous means.

To conclude, we like to note that while Woonstad is the focal actor in the case study the reflection called for extends beyond the specific objectives of the housing association in renewal. In other words, the case study revisited the position of the housing association but also other human actors and new non-human actors in the housing renewal network. Consequently, we hope to have highlighted the various values and objectives that are interacting on unequal terms. The analytical framework of this research has emphasized that rather than Woonstad's effectiveness of accomplishing the housing renewal, the closure of housing renewal controversies is a shared project. Or, as Latour (2004b) puts it, 'A common world, if there is going to be one, is something we will have to build, tooth and nail, together' (455).

7. Recommendations

In the discussion of the findings we emphasized the reflective research that we have undertaken to reflect on the housing renewal practice with concepts and perspectives that support practitioners to get off established pathways and innovate. The specific implications of this research for practice are based on our model for process building. This model is based on the insight that participation on the parts, issues and things of renewal deserves more credit than cooperation on the consensus of the whole project. After all, the reduction of specific uncertainties builds networks that could durably integrate other and emerging issues. At the same time, the opening of specific controversies can break up the whole project.

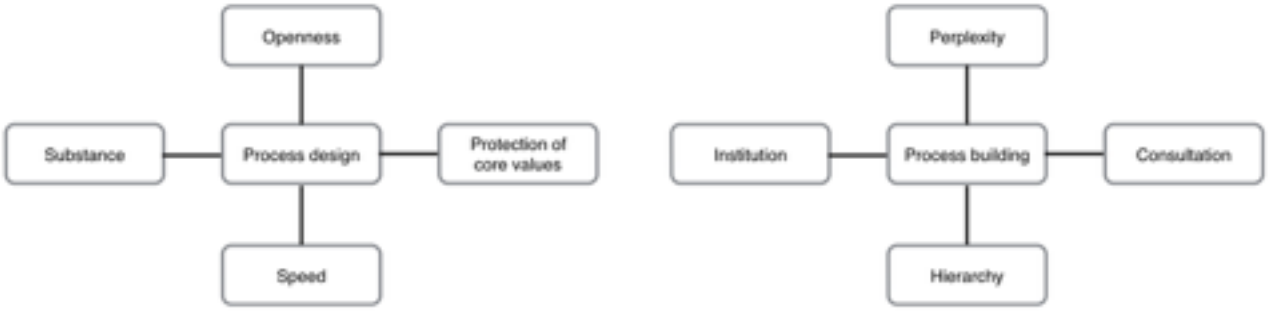

Figure 15: Model of process design left (adapted from: De Bruijn et al. 2008) and process building right (adapted from: Latour, 2004b)

We consequently recommend to not pre-define the issues and stakeholders but rather to establish a forum that is open to all actors, issues and ideas. Only after this can the housing association, who is after all the project leader and owner, legitimately set the boundaries and conditions of the project. The propositions can now be tested, politically or technically, within the framework. When they are accepted they should be recognized as the collective work of defining and closing a controversy. Specifically, we present the following recommendations:

- uncertainty should be considered both in technical and social issues
- uncertainty should be managed to build durable social and material relationships
- uncertainty should not just be managed in networks but also be defined in networks
- issues and stakeholders should not be pre-defined by the project manager
- open forums should aim at defining shared uncertainty and collecting propositions
- boundaries and conditions should be legitimized by the appropriate means
- propositions should be negotiated and evaluated within the established framework
- project teams should communicate the framework actively as a common project
- actors should dare to take new paths and should be given space to do this

Furthermore, we argued ANT has a strong analytical potential to identify the powers to order the housing renewal network. For this we developed and tested the framework of translation and

controversies in the study of housing renewal. Based on these first steps and insights, we believe the employment of ANT in studies of housing renewal is a useful and important project. Therefore, we recommend further research at the intersection of ANT and housing renewal, and consider the following issues to be particularly relevant.

- to revisit the democratic anchorage of network governance based on its strategies to reach consensus
- to study by which mechanisms uncertainty is defined and housing renewal is made technical or political
- to examine the various ways of being political in participatory housing renewal processes
- to visualize the development of housing renewal controversies with tools developed in STS
- to further explore the methodologies of ANT in the use of studying housing renewal networks
- to investigate the ambiguous relationship between the type of reflective research, and the relevance for and implementation in practice

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Reflection

> It's true that certain people, such as those who work in the institutional setting of the prison … are not likely to find advice or instructions in my books to tell them "what is to be done." But my project is precisely to bring it about that they "no longer know what to do," so that the acts, gestures, discourses that up until then had seemed to go without saying become problematic, difficult, dangerous. (Foucault, 1981; quoted in Flyvbjerg, 2001)

At the start of this thesis I announced to investigate how actor-network theory (ANT) can contribute to (a) the theoretical issue of *understanding* the networks of housing renewal, and to (b) the call from practice for a *new way of thinking* about urban renewal. I believe the research has demonstrated a real contribution of ANT to both theory and practice. This was with the objective of the Real Estate and Housing graduation studio in mind

> to develop theories for and empirical knowledge of management and redevelopment of housing stock to contribute to the scientific development of the discipline of housing and to contribute to the acceleration of the rate of diffusion of innovation within housing management. (TU Delft REH, 2013: 22)

In the thesis I approached the topic of housing renewal theoretically and empirically. Furthermore, I illustrated the questions this perspective can answer to and what new questions it raises. Finally, I argued that the practical relevance of this type of research, called reflective research here, has a different outcome than the traditional housing renewal studies. Specifically, I suggested that reflective research is found in between normative and critical research.

The practical relevance for the graduation studio has been called into question at the start of the research. Throughout my research I came to terms with this question by looking at the specific research tradition ANT ascribes to and its potential to bring about innovation through rethinking practice. I recognize that the paradigm followed is different to that of the REH housing lab. Consequently, I am aware that my choice of paradigm has been a major influence on the research approach, design and outcomes. This difference has been discussed in the thesis in relation to two meanings of pragmatism.

Next to these conceptual considerations, I further like to point out the exercise this research has been in developing an argument. The task I have set myself to test ANT in studies of housing renewal has been an engaging project. It has been a real test since till half-way in the research I was not aware whether, to put it bluntly, ANT made sense in studying housing renewal. This search and doubt has been a motivation and a challenge. After all, I am happy to have taken up this challenge and I hope to have illustrated an analytical framework that can inspire future research on housing renewal.

I should also note that I believe I have only explored a small piece of the potential and toolbox of the conceptual framework I developed. Particularly in relation to the visualization of controversies that is implied in controversy. For me, controversy mapping has been mostly an analytical tool to navigate through the case study. The visualization of the controversy would have required a substantial amount of time, not least because I am not familiar with the visualization tools used. This, to visualize the controversy, is something I hope and invite others to do in future

research. In fact, the flexible approach to research and the ‘following of the actors’ has itself been time-consuming. Also here I have to note that due to the limitations on place and time I have not been able to follow the actors in the moment; I had to trace them in textual accounts and interviews. To study the actual practices is also a dimension of this approach that I hope to take up in future research.

A final challenge has been the distance. I simultaneously was engaged in two projects in two different locations, and this required coordination for the supervision and field research. At the same time, I considered it a valuable learning experience for an academic career where parallel research projects in international teams are the norm rather than the exception. In view of this kind of career and future research projects, I have also decided to write the thesis by referring to ‘we’.

Therefore, I believe the test undertaken justifies to further explore the ANT approach to housing renewal. In particular the focus on socio-technical uncertainty has offered useful insights that would not be immediately visible in network governance. The key feature is that ANT slows down research, for practice the suggestion is also to slow down. A central question for the housing association in this sense is: what do technical issues and materials do?

This question is important to gain a better insight into similar projects Woonstad is currently involved in like the Bajonetstraat. For this I have revisited the housing renewal strategy and communicated this to Woonstad. They recognize the importance of involving tenants in the making of a plan but also admits that the financial and technical conditions are finally set by Woonstad. After all they are the project leader and owner. To study Woonstad plays these roles, the research has raised the important questions relating to how power is organized in housing renewal. In particular, the distribution of power between experts, residents and things. Therefore, I do believe things are overlooked and we should attend to them more closely, both in research and in practice.

Works cited

Flyvbjerg, B., 2001. Making social science matter why social inquiry fails and how it can succeed again. Cambridge University Press, Oxford, UK; New York.

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Annex

List of human and non-human actors used for situational mapping

Actors - Human	Actors - Non-human
Straatcomité	Wijkvisie Oude WestenBinden en Verleiden
Woonstad Rotterdam	Masterplan Oude Westen
Deelgemeente Centrum	Bestemmingsplan Oude Westen
Gemeente Rotterdam	Stadsvisie Rotterdam 2030
Tenants Sint-Mariastraat	Cultureel historische verkenning
Aktiegroep het Oude Westen	Scenarios
Association Blijf Zelf	Foundation pillars
Cardo Architecten	Het cultureel kapitaal van een afgeschreven straat
Fugro Consultancy	Facades
De Nieuwe Unie	Cascos
Ad Hoc	Bidbook
CASA architecten	Program of requirements
dS+V	“Task house”
AKTO adviesbureau	“Dream session”
CAE Nederland	“Cultural capital”
Techniek en Methode bv	Houses Sint-Mariastraat
SHR Wageningen	Wijkvisie Oude Westen 2030
Prof. ir. A. F. van Tol	Power point presentations
Volkswoningen	Marketing campaign WOW
Contractor Hemubo Bouw	Minutes of meetings
Woonvisie Makelaars	Project Sint-Mariaklushuis
Wijkpastoraat Oude Westen	

Timeline of main events in the period under consideration (2008-2014)

01/03/2008	Neighbourhood vision and strategy Oude Westen
05/03/2008	Fugro research
26/05/2008	Fugro research
15/10/2008	Fugro research
10/11/2008	Fugro results
10/11/2008	Presentation Cultureel kaptiaal van een afgeschreven straat
24/11/2008	Droomsessies
14/01/2009	Moodboards translated to scenarios
22/04/2009	Results scenario tests
1/10 to 11/2009	House visits
18/12/2009	Techniek and Methode report
27/01/2010	Results house visits
01/06/2010	1/3 of residents has left
15/06/2010	Announcement rent stop
15/06/2010	Akto Engineering report
04/10/2010	Emergence option self-management
12/04/2011	Cooperation agreement between Woosntad and tenants
01/05/2011	House visits
17/05/2011	Presentation project Casa Architects
01/07/2011	Proposal renewal plan
10/08/2011	CAE Netherlands report
14/12/2011	Presentation Bid Book Blijf Zelf
24/01/2013	Revision land use plan Oude Westen
05/04/2013	Court decision rent stop in favour of Woonstad
01/06/2013	Deadline rent stop for tenants
21/09/2013	Start sale campaign kluswoningen