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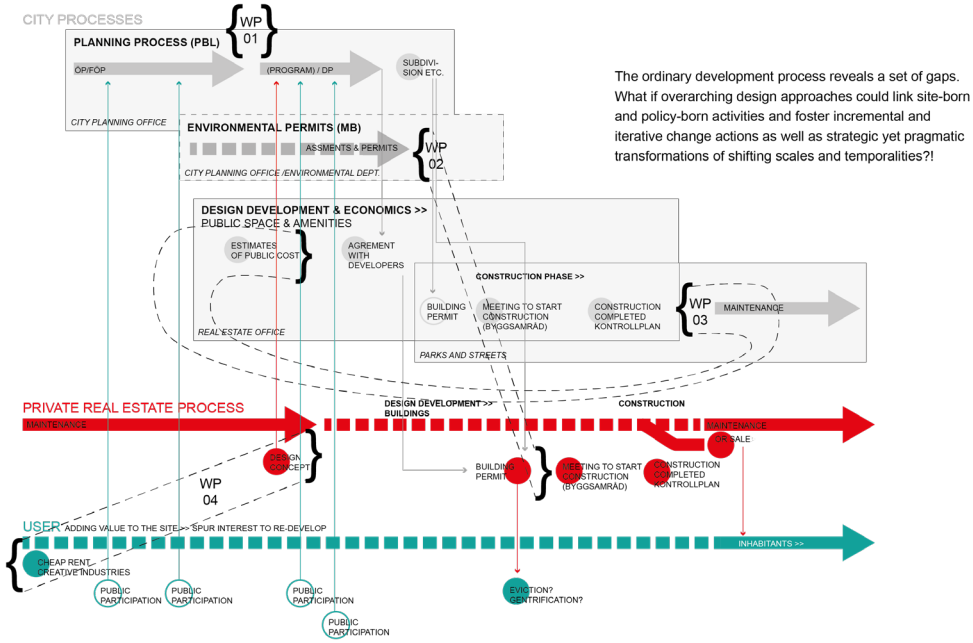
Building transformative capacities:

Links between site and plan in post-industrial urban landscapes

Caroline Dahl



The ordinary development process reveals a set of gaps. What if overarching design approaches could link site-born and policy-born activities and foster incremental and iterative change actions as well as strategic yet pragmatic transformations of shifting scales and temporalities?!

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Cover: The transformation process as the intertwinement of various actions and actors. (Illustration: Caroline Dahl)

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Abstract

Transformation of rundown industrial areas into mix-use and dense urban districts has been common practice in urban planning and design since the late 1990s. The discipline and practice of landscape architecture has been specifically engaged in the transformation of such post-industrial sites into large parks and landscapes, with an expanded aesthetic appreciation of the derelict as a result. This is not the case in urban planning and design, the practices of which all too often apply a *tabula rasa* approach to post-industrial sites, rendering them blank, removing all existing site qualities and conditions in favor of a generic urban model. This is problematic for two reasons: it erases cultural heritage and counters aspirations to stop wasting resources, both being important in achieving sustainable urbanity. This thesis takes as its entry point the masterplan - today's primary tool for urban planning and design, and the criticism that is currently leveled against it and masterplanning in general. The thesis sets out to explore alternative modes of operating in order to formulate revised protocols for the transformation of urban landscapes. It asks: How can design approaches contribute to devising such alternative approaches? To explore this question, it draws upon inherent attributes of the discipline of landscape architecture; the ability to foster dynamic processes, recognize the undeveloped as opportunities, and bring action-oriented site knowledge to the fore. Using qualitative case study and design research, three transformation projects have been studied: *Ile de Nantes* in Nantes, France; *Jubileumsparken 0.5* at *Frihamnen* in Gothenburg, Sweden; and the *BayCity*, Providence, Rhode Island, USA. Finding that the projects operate through the design activities of *iterating, prototyping, and simulating* the dissertation argues that, when transforming post-industrial sites, design approaches can leverage strategic and future-looking masterplanning with incremental and transformative site-born actions that contribute to urban sustainability through economy of means and adaptability. The result of the dissertation shows how design approaches can *augment*, *complement* or *supplement* masterplanning by building transformative capacities through increased site- and time awareness. Its purpose is to inform the practices of urban design and planning by enriching established protocols of transformation of post-industrial urban landscapes.

Keywords: site transformation, urban transformation, post-industrial urban sites, temporalities, design approaches, masterplanning, urban design, design research

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Att bygga transformativa kapaciteter: länkar mellan site[1] och plan i post-industriella landskap

Sammanfattning

Omvandling av nedgångna industriområden till funktionsblandade och täta stadsdelar har pågått inom stadsbyggandet sedan slutet av 1990-talet. Landskapsarkitekturen, såväl disciplinen som praktiken, har varit synnerligen engagerad i transformation av sådana post-industriella områden till stora parklandskap, ofta med en vidgad syn på förfallets estetiska värde som ett resultat. Så har inte varit fallet inom stadsbyggandet, där angreppssätt som *tabula rasa* fortfarande är allt för vanligt förekommande. Detta medför att post-industriella områden töms på existerande kvaliteter och betingelser till förmån för implementering av generiska stadsbyggnadsmodeller. Detta är problematiskt av två skäl, som båda är väsentliga för en hållbar stadsutveckling, att kulturarv raderas och att resurshushållning försvåras. Avhandlingen tar avstamp i den rådande kritik som riktas specifikt mot *masterplans*[2], och stadsplanering generellt, genom att undersöka alternativa sätt att bedriva transformation av post-industriella områden. Frågan som avhandlingen kretsar kring är: Hur kan design-influerade angreppsätt bidra till alternativa tillvägagångssätt? För att utforska detta har förhållningssätt från landskapsarkitekturen använts, däribland förmågan att driva dynamiska processer, att använda det outnyttjade som potential, samt att aktivera platsspecifik kunskap. Forskningsanslaget är kvalitativt med inslag av fallstudier och design research. Tre transformationsprojekt har blivit särskilt studerade: *Ile de Nantes*, Nantes, Frankrike; *Jubileumsparken 0.5* i *Frihamnen,* Göteborg, Sverige; och *BayCity*, Providence, Rhode Island, USA. Avhandlingens resultat visar att design-inspirerade angreppssätt som iteration, prototyp, och simulering kan länka strategiska och policy-styrda planer med stegvisa och site-initierade förändringar. Vidare att dessa kan förstärka, komplettera eller ersätta *masterplans* genom att bygga transformativa kapaciteter där ökad uppmärksamhet visas site och tidsdjup. Syftet är att influera stadsplaneringen genom att bredda rådande tillvägagångssätt för att stötta en hållbar utveckling som är resurshushållande och förändringsbenägen.

Sökord: site transformation, urban transformation, post-industriella områden, tidsdjup, design-inspirerade angreppsätt, masterplanning, urban design, design research

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1. Det engelska begreppet *site* saknar en svensk motsvarighet som avspeglar den disciplinära innebörden av begreppet, se vidare i kapitel 3.
2. I avhandlingen används den engelska benämningen *masterplan* vilket i stort kan jämställas med de svenska planinstrumenten fördjupning av översiktsplan och/eller planprogram.

Preface

Trained as an urban designer and planner in Sweden at Blekinge Institute of Technology (BTH), and later as an architect in the USA at Southern California Institute of Architecture (SCI-Arc) my knowledge base is broad, crossing several fields of knowledge. Experience from decades of planning and architectural practices in regional, local and experimental contexts, within public authorities and private companies, further adds to my particular epistemological and ontological understandings which have been enriched by working ten years in an academic environment of landscape architecture.

Crossing disciplines and working transdisciplinarily in-between practice and academia has long characterized my work as well as the research put forward in this dissertation. A decade of global nomadism – from Malmö to Los Angeles, Hong Kong, New York, Turin, Beirut and back to Malmö – has exposed me to different cultural contexts that have fostered an approach to places and situations that I believe go beyond narrow identifications of contradictions and 'the other'. Processes of defining what separates 'us' from 'them' or 'this' from 'that' do not interest me. My explorations have been guided by a critical curiosity to better understand a place or a situation. Although I am connected to several spatial disciplines, it was an obvious choice for me to embark on doctoral studies in landscape architecture, as I have come to believe that the keys to unlocking urban sustainability lay within this field. It is the 'doing', the recognition of the existing and the attention paid to the undeveloped that draws me to landscape architecture.

This doctoral project has allowed me to carry out in-depth studies concerning spatial transformations of post-industrial urban landscapes, as regards to how site and temporalities are understood. It has further allowed me to interpret and construct narratives about places and situations and to test these together with practice. Hence, at the end of my doctoral studies I find myself somehow back where I began my professional life – in close contact to practices of urban planning and design. I hope the outcome of my doctoral project will have the capacity to influence that practice to perform differently, and I am looking forward to future explorations of changing landscapes, in practice as well as in academia.

Alnarp, April 30, 2020.

Contents

List of publications

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

I Diedrich, Lisa* & Dahl, Caroline (2016). Ile de Nantes 2000–2010: a method for the meantime? *Journal of Landscape Architecture*, vol. 11(2), pp. 72-83. DOI: 10.1080/18626033.2016.1188576.

II Dahl, Caroline* (2016). Gothenborg's Jublieumsparken 0.5 and Frihamnen: explorations into the aesthetic of DIY. *SPOOL,* vol. 3(2), pp. 73-85. DOI: http://dx.doi.org/10.7480/spool.2016.2.1115

III Dahl, Caroline* (manuscript). About time: becomings in the urban transformation project BayCity. Submitted to *Footprint #28*: All is in Formation: Architecture, Cybernetics, Ecology.

IV Dahl, Caroline* & Lindholm, Gunilla (manuscript). "Beyond masterplanning: an inquiry into current criticism and initial suggestions of escape". Under review in the *NAF/NAAR Proceedings Series.* Revised manuscript will be submitted June 5, 2020.

In the printed version of the thesis, Papers I-II and IV are reproduced with the permission of the publishers.

* Corresponding author.

The contribution of Caroline Dahl to the papers included in this thesis was as follows:

I Both authors were involved in the writing process. First author, my supervisor Lisa Diedrich, was the corresponding author. The study was based on field work and document studies that were carried out by both authors, partly in collaboration. Both authors contributed to all parts of the paper.

II As sole author, I was responsible for all parts of the paper. The research was carried out as a case study, including field work and document studies. In writing the paper, I received valuable comments from my supervisor Andrea Kahn.

III As sole author, I was responsible for all parts of the paper. The research was carried out as a case study, including field work, document studies, and one interview with the responsible architect. In writing the paper, I received valuable comments from all my supervisors Lisa Diedrich, Andrea Kahn and Gunilla Lindholm.

IV As first and corresponding author, I had the general responsibility of writing the paper as well as undertaking the majority of the research. My supervisor, Gunilla Lindholm, contributed to the discussion and conclusion. The study was based on literature reviews and I presented a preliminary result at a conference in June 2019. I discussed the literature search strategy for the paper with Åsa Ode of the SLU Library in Alnarp.

1 Introduction

In the foreword of the English translation of the 1990s book *A Landscape of Events* by the French architect, planner and philosopher Paul Virilio (2000), Bernard Tschumi claims that "time has finally overcome space as our main mode of perception." A decade later the French art critic Nicholas Bourriaud (2009, p. 113) explains in *The Radicant* that "the major aesthetic phenomenon of our time is surely the intertwining of the properties of space and time" where "time is one of the coordinates of space." Another ten years after that, German landscape architect and scholar Antje Stokman (2013, p. 290) explains that "the geometric concreteness of space plays a lesser role than the perception and description of the processes by which it is generated and altered." Such understandings of space spur, according to Stokman, a practice of "designing emergence" (ibid.). Both Bourriaud and Stokman discuss 'space' as something intertwined with 'time'. In the case of Bourriaud, 'space' is discussed as being dependent on 'time', while in the case of Stokman 'space' is almost dissolved by 'time'.

But how are the emergences discussed by Stokman, or becomings, as planning theorist Jean Hillier (2007) would put it, designed? In planning, spatial change is projected as an imagined future. But, how we move from here and now – tentatively through the transformation of multiple becomings – to that projected future is seldom communicated or even elaborated on in the planning process. In landscape architecture spatial or physical change can be initiated through planning, design or maintenance. As the subject matter of the discipline is biotic, hence never fixed, such changes happen through constant iterations of becomings, or temporalities. Could the inherent *modus operandi* in the discipline of landscape architecture have value also for other spatial disciplines such as urban planning and design?

Change, or more specifically transformation as the interaction between the properties of space and time, is embedded in this doctoral project from a specific

point of view: how design approaches can support links between site-born incremental actions of change with policy-born strategic masterplans, in order to sync competing processes and mobilize site-specific resources of derelict industrial areas intended for transformation into urban sites?

The transformation of post-industrial urban sites, areas formerly used for industrial, harbor, or railroad purposes, encompasses a large portion of contemporary urban development practice. As urban futures and places for emergent urban cultures and habitats, it is important that visions and protocols for how to materialize change are updated beyond the Modernist approaches of the last century. Such approaches entailed, for example, the rejection of cultural heritages and the dependency on utopian urban models (Cuff & Sherman 2011). Another key aspect to overcome, beyond a Modernist approach, is the mindset that urban design and planning leads to absolute and finite results (Weller 2008; Cuff & Sherman 2011; Chen et al. 2017; Tarbatt 2017; Cooper & AlWaer 2017). Hence, the interest of this dissertation in extrapolating process over plan, method over model, and iterative over linear.

Discourse on transformation of post-industrial landscapes has been successfully developed within the discipline of landscape architecture since the 1990s (Kirkwood 2001; Kamvasinou 2006; Diedrich 2013; Braae 2015). In architecture, thoughts on emergence and becoming were also developed during the 1990s in conjunction with the heydays of poststructuralism and the advances in computer-aided design processes (Picon 2010; Carpo 2013). Such thoughts were in turn inspired by 1960s cybernetics and the emergence of system theory. The complex and constantly changing challenges of today invite us to revisit thoughts developed during the 1990s, and in this way, we can raise new ideas for how to better cope with the societal transitions at hand.

This dissertation focusses on finding means to augment, complement or supplement protocols for transforming our cities and urban landscapes in order to better meet future challenges. For society at large, understanding post-industrial urban landscapes and how to transform them is a matter of stop wasting resources, but even more it is a matter of being able to navigate complexity and uncertainty from the ground up. Dutch scholars and practitioners Tom Bergevoet and Maarten van Tuijl (2016, p. 33) claim that ”if we want to make our towns and cities more sustainable, we will have to look for more flexible set of instruments that can make transformation possible.” Abilities that are necessary for the implementation of the Agenda 2030 with the Sustainability Development Goals, and the New Urban Agenda. There are other discourses that

aim to ushering society's shift towards sustainability. Many of these, such as the discourse on transition theories, make use of governance and policy to bring about change. As much as these are applicable, this dissertation focuses on spatial ontologies and the processes that shape those.

Masterplanning has dictated urban development since the mid-nineteenth century. This makes it omnipresent while almost invisible. This dissertation takes its point of departure in a critical inquiry of the masterplan and masterplanning in order to go beyond such protocols and to identify alternative approaches that might replace or interact with masterplanning and masterplans. In doing so, the dissertation relies on Judith Butler's approach to critical resistance in which the thinking "attempts to destabilize the limits of the present order" (Hoy 2005, p. 94). Furthermore, that such critical resistance can be enacted without having a 'better' solution to offer (ibid.). This validates the exploratory nature of the conducted research included in this dissertation as well as the open-ended outcome.

This dissertation starts from discourses on site-thinking and site-specificity in post-industrial urban landscapes, moving to calls for time-specificity and the intertwining of space and time; transformation. Furthermore, this dissertation traces transformative capacities that have the potential to implement design approaches that can link two competing protocols used when transforming post-industrial urban sites; site-born incremental actions versus policy-born strategic masterplans. The purpose of linking those competing protocols is to mobilize site-specific resources and help make cities more sustainable.

1.1 Competing protocols

There are many protocols that can push society to change in one direction or another. Among the driving forces that are shaping the current urban landscapes are the measures taken to cope with climate change adaptation of the built environment, the economic restructuring of cities and society in a post-industrial era, demographic change, migration and urbanization. These global driving forces are today rapidly restructuring the way cities are built and governed "yet urban policy and urban governance appears stuck somewhere in the twentieth century [and the] lag between transformational change and governmental action is immense" (Katz et al. 2007, p. 478).

The lack of actions by public authorities pose certain challenges on a global scale. Protocols left over from the twentieth century seem not only result in

indecision and obsolete measures being put in place, but to also cause concern about what they actually stipulate. Targeting one specific area of public work, urban planning and design, Mark Jarzombek (2008, p. 22) claims that "[a] green masterplan is still a masterplan," and argues that the environmental concerns of the late twentieth century have prompted a greenwash of the contemporary masterplan. Jarzombek foresees that reinvention of the tools and mindsets of urban design and planning is vital to achieve productive sustainability (ibid.). This also goes along with the 2012 conclusions of the Swedish Delegation for Sustainable Cities, following their five years of being a governmental task force, charged with the addressing obstacles to improving sustainability in urban planning and design (Delegationen för hållbara städer 2012).

The main argument in this dissertation is that there are competing protocols when transformations of post-industrial urban sites are initiated. One protocol works through strategic and policy-born masterplanning and another protocol works through incremental interventions on site. The aim with this doctoral project has not been to prove one of those protocols worthier than the other. Instead the focus has been to find ways of linking the two protocols in order to mobilize site-specific resources and support cities to become more sustainable.

Masterplanning is the most common protocol to guide urban development. Often said to have been invented by Ildefons Cerda (1999) during the nineteenth century, the practice of masterplanning is continually evolving (Figure 1-3). The opponents that argue against current masterplans and masterplanning to guide the development of cities, call for a planning practice that will invent new protocols (Gunder & Hillier 2007; Jarzombek 2008; Cuff & Sherman 2011; Verebes 2013; Davoudi 2015). It is suggested that such protocols use; "accumulation as a means of catalyzing change" (Cuff & Sherman 2011, p. 25); "new prototypical practices" (Verebes 2013, p. 223); and an "utopic strategic planning [that is] critical, transgressive, and transformative" (Gunder & Hillier 2007, p. 480).

The advocates for a continued masterplanning practice are envisioning that masterplanning should become "integrated, loose-fit frameworks designed as evolutionary, generative systems, possessing adaptive capacities for intelligent differentiation of place" (Bullivant 2012, p. 276). It is interesting that both opponents and proponents of masterplans and masterplanning seem to be striving for future protocols that support open-ended change. This prompts the question; What, then, is the problem?

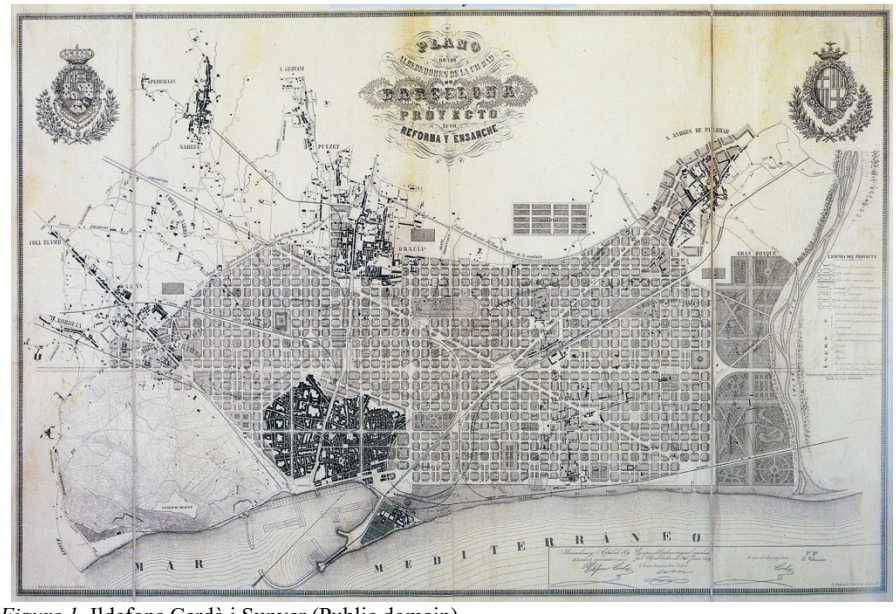


Figure 1. Ildefons Cerdà i Sunyer (Public domain)

Figure 3. © Morphosis Architects

Figure 2. C.M. Stieglitz, World Telegram staff photographer (Public domain)

Figure 1-3. Clockwise from top. Centuries of masterplanning; Ildefons Cerda's masterplan of the extension of the city of Barcelona during the nineteenth century; Robert Moses – the notorious masterplanner of New York City during the twentieth century – in front of a model of the Battery Park proposal; and the phasing scheme of College Avenue Masterplan in New Brunswick from the early twenty-first century by Morphosis Architects forecasting a computational paradigm in masterplanning.

Sharon Wohl (2018, p. 473) states that there is "a general shift away from modernist ideology [that] has moved planning toward more contingent, reflective, and critical stances." According to Wohl, one consequence of this is that masterplanning is conducted less through conventional protocols and "physical interventions" represented in a plan to instead elaborate on the process and "procedural aspects of change" (ibid.). This statement probes the question of whether the rejection of physical interventions implies that masterplanning happens through policy rather than materialized form? On the other hand, process and change as 'procedural' properties, are both embedded in discourses on design thinking in which design is understood as a synthetic practice, iteratively working through phases of ideating, testing and evaluating (Cross 1982; 2001). A future scenario for the relationship between planning and design might be that it is not about which one to use but about introducing a greater awareness of when to use what protocol to instigate change, whether policy or action.

Romice et al. (2017, p. 195) testify to the importance of bringing forth new knowledge on how to manage change by stating that "what prevents urban designers from understanding, and therefore tackling, the challenges of our times, is the lack of an adequate theory of change." Anthony Dunne and Fiona Raby propose design as a tool to open up new perspectives on 'wicked problems', coined by Horst Rittel and Melvin M. Webber in 1973 (Rittel & Webber 1973), through speculative design (Dunne & Raby 2013). Furthermore, Dunne and Raby (2013, p. 2) emphasize the "idea of possible futures and using them as tools to better understand the present" while also offering debate and discussion on scenarios. Working with such things as the Habits of Mind, urban development as transformation becomes less about forecasting finite plans and solutions, and rather about facilitating open-ended change, both in terms of mindsets and materialized forms. Thus, this dissertation takes design as a specific viewpoint and as a tool in order to study projects of transformation of post-industrial urban sites.

1.2 Design as a transformative tool

One learning outcome from the discipline of landscape architecture's engagement with post-industrial landscapes is the acceptance of a "destroyed" nature (Latz 2001). The practice of urban design finds itself challenged by such acceptance, as discussed by Bob Giddings and Bill Hopwood (2006, p. 344), who recognize that masterplans by necessity have had to provide an image of

what the place will be like in the future, and that this vision "is often in contrast to the present character of an area that is perceived as run-down and dilapidated."

Urban planning and design's urge to do 'better' by providing a better version of the place in question is problematized by Michael Gunder and Jean Hillier (2007). Striving for 'the better' will not only prevent designers from recognizing existing site qualities, but it will inherently cause them to fail to "achieve a perfect or utopian city" (Gunder & Hillier 2007, p. 467), because inherent in the idea of an utopian city is the normative idea that cities can be good, but they can't. Cities are neither good nor bad. Gunder and Hillier (2007, p. 480) call for "utopic strategic planning [that] would be critical, transgressive, and transformative". They explain that a utopic strategic planning will be performative, in which plausible futures are tested and decided through scenarios, rather than in a normative or prescriptive way, by trying to shape a utopian future on an urban model.

Workflows and Habits of Mind are also the concern of Simin Davoudi. Davoudi (2015) explains that the evidentialist turn in planning favors prescriptive approaches in which plans and policies are based on evidence, describing a linear understanding of planning where one first gathers evidence and subsequently drafts the plan. Apart from the linearity of the process, what Davoudi (2015, p. 2) problematizes is that evidence, data, are often misunderstood as facts, and that "robust and credible is interpreted as quantitative and measurable." If the plan fails, the evidence base has been too weak. In a society where data are increasingly available and big data are generated by online algorithms it is easy to fall back on calls for more data, when what is actually needed is the ability to value the data and to interpret what relevance the data have for the situation at hand.

Simin Davoudi furthermore explains that "[n]otions such as 'frontloading' are symptomatic of conceiving planning as a linear process in which evidence for well-defined and neatly structured problems is gathered first before solutions are formulated" (ibid.). As recognized by Davoudi (ibid.) this view fails to acknowledge the "mismatch between such an ideal world of planning and its actual disordered, uncertain and essentially political realities" – what are also known as 'wicked problems' (Rittel & Webber 1973).

Figure 4-5. Photo: Caroline Dahl

Figure 4- 6. Clockwise from top. Parc aux Angéliques in Bordeaux, France by Michel Desvigne Paysagiste. The elongated structured plantings creates a framework for the evolution of new urban fabric. The landscape design becomes a tool for incremental transformation of an old industrial area. The continual management of the site allows for reflection and reconsideration by actions of adding, supplementing or erasing.

Figure 6. © Michel Desvigne Paysagiste

Jillian Wallis and Heike Rahman (2016) explore a similar aspect and call it the gap between a scientific-driven planning and a generative-driven design process. Also, scholar Ellen Braae (2015) elaborates on two contradictory mindsets that operate during transformation processes; project development versus design process. Braae makes a case for design processes and offers four transformation paradigms that help to understand how spaces change over time through design actions (ibid.). Grounded in landscape architecture, Antje Stokman (2013) shares the interest of how space changes. Her topological understanding relates "the appearance of space to the spatial processes that shape and continuously change it" (Stokman 2013, p. 289). Furthermore that topological space is "more a performative process than form" in which the designer's task becomes designing emergence as oposed to forming (Stokman 2013, pp. 290, 291).

Figure 4-6 depics the project Parc aux Agéliques in Bordeaux, France by landscape architect Michel Desvigne, in which the management of the emerging park guides the overall transformation of the area. The planting scheme, with elongated lines of trees being repeated perpendicular to the waterfront, mimics the old property division in the area at the same time as it creates a framework for both green structure and urban fabric. The performative process of park management interacts with the transformation of the adjacent city blocks, allowing space to continually emerge rather than being imposed as fixed form. By integrating processes that shape and change space in spatial understandings, the concept of space moves beyond the act of defining states of space. Thus, spatial practices need to operate differently. This is why this dissertation is studying alternative approaches to urban transformation of post-industrial sites that go beyond masterplanning and propositions of instant utopian cities.

But, this dissertation does not only explore 'design' as a means to link masterplanning with transformative site-born activities, it also uses design as a framework for the research activities which are conducted within the doctoral project. In particular the doctoral project has been guided by design research, first developed by Nigel Cross (1982; 2001) and later by Christopher Frayling (1993), Murray Fraser (2013) and Gjoko Muratovski (2016). The research design of the doctoral project is further explained in *Chapter 2*.

1.3 Transformative approaches to post-industrial sites

In addition to the challenges that outdated protocols of linear masterplanning pose, much of current restructuring is happening within already built-up areas,

where the negotiation of specific urban form and use is essential. As opposed to post WWII urban development that to a large extent took place as urban expansion the focus of contemporary urban planning and design is urban densification.

Since the end of the twentieth century, it has been common that such urban densification occurs via urban renewal projects, where derelict industrial areas are retrofitted into dense and mixed-use urban districts. As introduced previously in this dissertation, Ellen Braae (2015) identifies two contradictory approaches to such renewal; project development versus design process. The first approach, project development, is similar to what is commonly defined as a tabula rasa approach – to clear out the site and start the transformation with a "blank sheet of paper" (Braae 2015, p. 292). Braae elaborates that such an approach results in objects – that are identified as valuable for one reason or another – are transferred to the new configuration as "constants" or monuments. As such they are passive objects with little or no impact on the area's overall transformation. Their only purpose is to act as a reminder of the site's history.

This approach is common to conventional masterplanning and is perhaps still the most usual approach to guide urban renewal. A growing number of projects also rely on certification systems such as LEED, BREAM etc. These certification systems share a prescriptive vision of applying an urban model of an 'eco-city' or 'smart city' or any other currently prevailing concept. These prescriptive urban models tend to, on a global scale, render developed areas quite similar (Rapoport 2015; Hult 2015; Harris & Moore 2015). Masterplanning's dependency on fixed urban models is one shared shortcoming that is identified by several scholars (Weller 2008; Cuff & Sherman 2011; Chen et al. 2017; Tarbatt 2017; Cooper & AlWaer 2017). A common response is to engage with new technology and computer-aided design processes in order to introduce more dynamic work flows and systemic outcomes (Weller 2008; Tian & Shen 2011; Derix 2012; Yazici 2016). It is debatable whether or not masterplanning and masterplans are able to change in such a way.

Embedded in many urban renewal projects and certification systems is a growth paradigm that fosters a specific urban development (Hult 2015; Rapoport 2015). Several scholars in the discipline of urban planning have criticized masterplanning's commercial turn (Bell 2005; Chen 2015; Rapoport 2015; Hult 2015; Vogel 2016; Tarbatt, 2017). Such a commercial turn is argued to drive an economy of scale, which heavily depends on the possibility to scale up and repeat the same solutions everywhere (Rapoport 2015; Hult 2015). This explains

the resilience of urban models. Common responses to the commercialization of masterplans are empowering bottom-up participation and active stakeholder negotiations (Ferrer Arroyo & Avila de Montero 2000; Halla 2002; Sousa 2010; Ganis et al. 2013; Marsal-Llacuna & Segal 2016; Ganis et al. 2016; Marsal-Llacuna & Segal 2017; Wohl 2018).

In contrast to this global discourse on growth oriented eco-cities, more experimental approaches to urban transformation can also be identified. This coincides with Braae's (2015, p. 293) second approach which is explained as the process in which one "starts with the whole and selects from its diversity the elements intended for adaptation and 're-installation' in the whole." The act of adapting and re-installing elements require us to not only answer the question of what to keep, but also of how to change it (ibid.). This second approach invites for interpretation and speculation regarding what it might become; what Dunne and Raby (2013) dubbed speculative design, in which possible futures are used as ways to better understand the present.

Such speculative design can rely on various design approaches and activities, but common features are that these speculative futures are both probable and plausible, making them preferable according to Dunne and Raby (ibid.). If one understands 'probable' and 'plausible' as a gradient on which different design approaches and actions can slide, then speculative design and applied approaches or activities can be seen either as strategic, probable futures, or as pragmatic, plausible to implement. However, approaches or actions do not need to be only 'strategic' or 'pragmatic', but rather that 'strategic' or 'pragmatic' can be seen as inherent qualities that can be amplified one by one or in combination depending on the site and situation.

Many recently realized transformation projects showcase that applied design approaches can be both strategic and pragmatic. Those are for example, 'plan-guide' (*cf.* Ile de Nantes), 'loose-fit' (*cf.* All London Green Grid), 'mini-laboratories' (*cf.* van't Klooster), 'prototyping' (*cf.* Jubileumsparken 0.5), 'conceptual masterplanning' (*cf.* Energize Kowloon East), 'simulating' (*cf. BayCity)*. These approaches are invested in utilizing process and performance to guide an open-ended outcome through site-specific design actions that are both pragmatic – plausible to implement here and now, and strategic – pointing towards a probable future. Some of these projects proceed in parallel with conventional masterplanning while others, to various degrees, are intertwined with urban planning and design processes.

If growth paradigms have been embedded in urban development schemes as elaborated on above, then economy of means, or thrift, is embedded in ontologies of urban transformation. To apply urban transformation demands a recognition of the existing, of what is already there. This ultimately poses two contradictory conditions; masterplanning being linked to urban development, grow paradigm, linear process and evidentialist, versus design approaches resonating with urban transformation, economy of means, and iterative process. Speculative design understood as preferable futures that are both plausible and probable can help link those two protocols.

1.4 The otherness of post-industrial sites

Part of the empirical material in this dissertation is post-industrial transformation projects, utilizing design approaches to initiate change. This dissertation argues that such design approaches build transformative capacities through increased site- and time awareness. However, current urban planning practices often organizes new urban districts on former post-industrial sites in generic gridiron urban forms with little or no relevance for the historical and spatial premises of the site. Why are these re-development areas seldom guided by the particularities of the sites? Are the qualities of post-industrial sites so hard to appreciate?

One discourse on the otherness of post-industrial sites is Ignasi de Sola-Morales's (1995) writings on *terrain vague*. Recognizing the changing post-modern urban landscape of the late 1990s, Sola-Morales discusses the tension between the proper, formal city and the vacated, decaying areas left on the outskirts of the city as a residue of late capitalism; harbors, industrial land, left-over spaces etc. Sola-Morales (1995, p. 122) coined such areas as *terrain vague* and explains "[w]hen architecture and urban design project their desire onto a vacant space, a *terrain vague*, they seem incapable of doing anything other than introducing violent transformations, changing estrangement into citizenship, and striving at all costs to dissolve the uncontaminated magic of the obsolete in the realism of efficacy."

Sola Morales's discourse is close to 25 years old, and the instances of 'violence' that architecture and urban design have enacted upon such areas, in order to discipline them into generic urban form, are manifold throughout Europe and large parts of the Western world, as recognized by contemporary scholars such as Ellen Braae (2015), Lisa Diedrich (2013), and Helene Schytter (2010). Sola-Morales (1995, p. 123) proposed that attention should be paid "to continuity: not the continuity of the planned, efficient, and legitimated city but

of the flows, the energies, the rhythms established by the passing of time and the loss of limits." So far, very few transformations of post-industrial sites have been guided by Sola-Morales's proposal. Could it be that the global discourses on sustainable urban development, together with policy work on the European level since – at least – the 1990s (*cf.* ESDP, Leipzig Charter) has prompted a tabula rasa approach of introducing urban models rather than transforming what is already there, the *terrain vagues* of the contemporary city?

The discipline of landscape architecture has been successful in fostering an emerging type of parks being transformed from post-industrial areas. Landscape researcher Rebecca Krinke (2001, p. 125) states that:

> "[d]esigners are increasingly asked to work on land with decades of environmental damage, oftentimes with multiple sources of contamination. Many potential development sites are within cities, where even though the land may have environmental problems, its location may make it too valuable to ignore. […] New paradigms of landscape types with their own environmental issues […] may suggest new design solutions."

Peter Latz (2001, p. 158) landscape architect and designer of *Landschaftspark Duisburg-Nord* in Germany, one of the most recognized transformations of a post-industrial area, explains that "[t]he task of dealing with run-down industrial areas and open-cast mines requires a new method – one that accepts their physical qualities but also their destroyed nature and topography." The contested values of post-industrial sites are increasingly accepted. Krystallia Kamvasino (2006, p. 261) notes that the *Landschaftspark Duisburg-Nord* manifests the "change in urban politics and ideas" and a public approval of a "new aesthetic and cultural receptivity." What Kamvasinou is noting is that since the beginning of the twenty-first century there has been a growing acceptance of *terrain vague*, at least when the envisioned design is a park or open space (Figure 7-11).

Figure 7-8. Parco Dora in Turin, Italy by Latz + Partner on a former industrial site, connecting several urban districts along the river Dora Riparia. The otherness of the place; the vast scale of structures and the rational repetition of columns are used as framework for the new park. (Photo: Caroline Dahl)

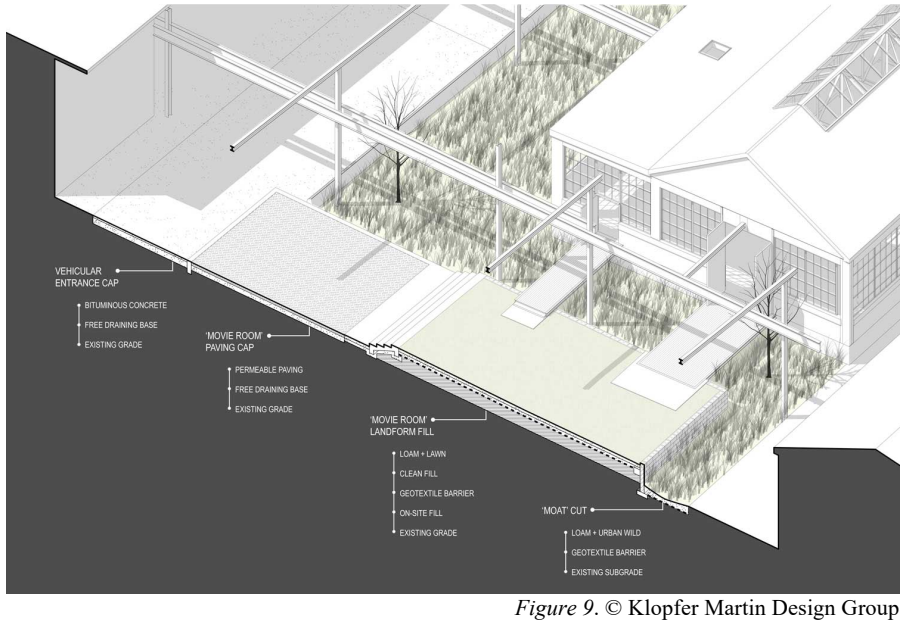


Figure 9. © Klopfer Martin Design Group

Figure 9-11. The Steel Yard in Providence, RI, USA by KMDG landscape architects. Formerly a steel fabrication factory, the site today holds a non-profit art center. The transformation of the environmentally damaged site had to negotiate heavily polluted soil. By incorporating the destroyed nature of the site in the design strategy, a gradient of pervious and impervious surfaces for outdoor workspace were constructed which allowed the contaminated soil to remain on-site. In addition, strategies of re-use of various material is present.

Figure 10-11.
Photo: Caroline Dahl

There are many learning outcomes that urban planning and design can harvest from the disciplinary advances in landscape architecture in general, and the discourse on transformation of post-industrial landscapes in particular. One such ability is to recognize what is actually there. This is called for in urban planning and design where Christian Derix (2012) is concerned about designers' and stakeholders' inability to 'see' the existing. Derix (2012, p. 216) explains that "place, as in the composition of spatial and social features, produces intangible domains of values that cannot be described in statistical tables or rendered results, but as dynamic relationships." Hence, Derix calls for "new stages in the workflow" where the representation or abstraction of site-specific conditions and values could be communicated (2012).

The lessons from landscape architecture's engagement with transformation of post-industrial landscapes can be summed up in the following epistemological traits:

- Recognize what is already there and an understanding of the processes that shape and change the landscape.
- Appreciate decays and becomings beyond linear understandings of evolution of space.
- Narration to guide the understanding of place and a resistance towards undertakings for better, fixed or finite outcomes.
- Ability to work incrementally and trans-scalar without the obligation to act comprehensively and holistically.

1.5 Urban transformation from a landscape perspective

In this dissertation the inquiry into urban transformation takes its departure from a landscape perspective. In doing so the work aims at apprehending the urban as a dynamic, relational landscape in which space is understood as the interweaving of space with the processes that shape and change it, as discussed by Nicolas Bourriaud (2009) and Antje Stokman (2013). This is different from understandings of 'the urban' as defined in disciplines of architecture, urban design or planning, in which the ubiquitous relationship between *figure* and *ground* still establishes most discourse (Rowe & Koetter 1978; Rossi 1984; Aureli, 2011).

Understanding the urban from a landscape perspective entails the opposite as it fosters the ability to regard the urban landscape as a relational site which is not a mosaic of agglomerated plans, projects and places. Instead it is dynamic with overlapping processes crossing scales, durations and ontologies. Carol Burns

and Andrea Kahn's (2005) theory on site-thinking frames such an understanding by introducing a relational mindset in which a site can be regarded through different perspectives; area of control, area of influence, and area of effect.

Furthermore, to understand a site as an urban landscape involves engaging with what is already there while paying attention to the natural and constructed processes and driving forces that constantly shape and reshape it. This is an approach that does not accommodate the dichotomy of before/after representations. To navigate various durations, or time-frames, is not a question of provisionally, it is a question of understanding layers of change and at what speed they operate.

The European Landscape Convention (2000) describes landscape as being something beyond mere physical space and states that "the landscape forms a whole whose constituent parts are considered simultaneously in their interrelations". This demands that increased complexities in the overlay of planning perspectives, implementation perspectives and management perspectives need to be navigated. Adding to this the particular circumstances of post-industrial sites in which change happens at different speeds and durations, the complexity increases further, which calls for expanded requirements for coordination and communication in urban transformation projects.

To sum up, a landscape perspective on urban transformation of post-industrial urban sites invites us to consider space as process and how to navigate materialized temporalities.

1.6 Roadmap

The roadmap of this dissertation is as follows: Chapter 1 takes off by tracing and analyzing global driving forces and competing protocols in contemporary urban planning and design of post-industrial areas. Design is introduced as a transformative tool, and the particularities of transformations from a landscape perspective are presented. The otherness of post-industrial sites is also framed in the introductory chapter.

Chapter 2 explains the research design and process that have supported the research methodology and actions throughout the doctoral project. Transformation projects that have accompanied the doctoral project – some as cases in papers and others used for more general orientation – are introduced.

Chapter 3 introduces theoretical lenses that have guided the work. Chapter 4 presents published papers and drafted manuscripts and in Chapter 5 the work is discussed, and conclusions drawn.

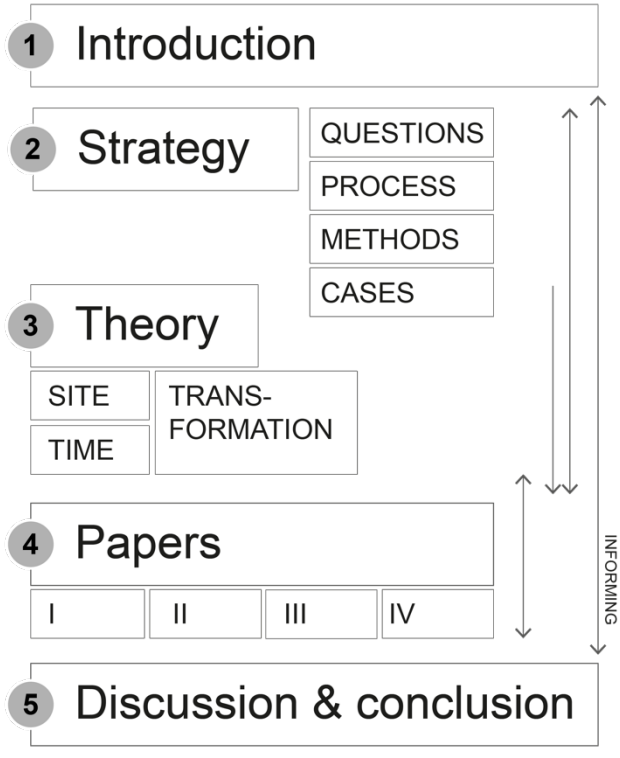


Figure 12. Structure of dissertation.

2 A qualitative research strategy

According to Simon Swaffield and Elen Deming (2011), an interpretative research strategy "presumes that the meanings of objects, events, images and actions are not obvious," requiring the researcher to make sense of their research materials. This dissertation takes such an interpretative approach. It is qualitative in nature and its aim is exploratory, following inductive rather than deductive logic.

The act of constructing such understandings positions the research in between the researcher(s) and the data (ibid.). Using an interpretative approach, the investigations made are not aimed at proving something true; rather they bring forth an understanding of the studied data to construct plausible explanations. Understanding involves actions of interpretation and construction of narratives about places or situations, which then can be validated or rethought based on further investigations. Hence, lessons are not to be taken deterministically but rather as a preamble to future research directions.

The research conducted for this dissertation reaches out to disciplinary fields related to landscape architecture; art, design, architecture, and urban planning. Traversing those disciplines allows for theories, lenses, or perspectives from 'the outside' to be projected on questions and empirical material. On the other hand, it also demands that the researcher establishes clear delimitations as the amount of available scholarship becomes unwieldy. Furthermore, to bring together scholarship from different disciplines, it is important to build an understanding of the epistemological traditions and value systems inherent in those disciplines.

2.1 Research question

This dissertation argues that, when transforming post-industrial urban sites, design approaches can link site-born incremental actions of change with policy-born strategic masterplans.

As introduced in the previous chapter, planning protocols and procedures first established during the nineteenth century have resulted in urban expansion, while contemporary driving forces and urban planning practices have – since the early twenty-first century – engaged in densification and renewal of existing urban fabrics. Furthermore, densification and transformation of existing urban areas tend to encompass higher degrees of complexity than urban expansion on rural land, as stakeholder constellations are often fragmented or complicated on urban sites. The urban sites in general are often contaminated and derelict and the unpredictable effects of climate change influences urban sites as it does all others. It thus follows that the planning tools and protocols of the last century are not well equipped to navigate contemporary complexities (Paper IV). In response, to this situation alternative, site-born, practices have emerged (Papers I, II, III).

The reason this dissertation argues that design approaches have the ability to link strategic and future-looking masterplanning with incremental and transformative site-born actions, is because design supports incremental and iterative approaches to action as well as future oriented speculations. In addition, design can foster strategic yet pragmatic transformations of shifting scales and temporalities. Studies of transformation projects show how the design activities of ‘iterating’, ‘prototyping’, and ‘simulating’ bring forth an increased site and time awareness that restructures how planning is being conducted. The result of the dissertation shows how such design approaches can ‘augment’, ‘complement’ or ‘supplement’ masterplanning in the transformation of post-industrial urban sites, by building transformative capacities through increased site and time awareness (Papers I, II, III).

The practice of urban planning, including masterplanning, is an ever-evolving practice as Lucy Bullivant (2012; 2017) has argued. Recently-posed criticism towards masterplans and masterplanning argues for utilizing design as a loose framework for change in urban planning. This in order to resist unquestioned growth-led planning and fixed outcomes and instead contribute to urban sustainability through economy of means and adaptability. (Paper IV)

This research synthesizes ideas from different fields of theory and practice, to support scholarship on, and practices of, incremental, iterative, and open-ended transformation processes of post-industrial urban sites. Its purpose is to inform the practices of urban design and planning and to enrich established protocols of urban transformation. The aim with this doctoral project is to contribute to a better understanding of how spatial change can be orchestrated over time and through various actors, by means of strategic use of design actions. Of particular interest are projects that test other ways of doing transformation beyond top-down masterplanning, and how such projects link to urban planning processes.

The main research question that is guiding the doctoral project is:
Can design approaches be used to link site-born incremental change actions with policy-born strategic masterplans in post-industrial urban site transformation processes?

Additional questions explored through literature reviews and the studied projects are; How do actors involved in transformation processes recognize qualities of post-industrial sites? What design approaches are used, and at what moment(s) during the urban transformation process? How can design approaches add to masterplanning?

2.2 Research process

Design research is an emerging field with multiple meanings and approaches. This doctoral project, where it is used as the main research strategy, primarily adopts its understanding of design research from Frayling (1993), Fraser (2013) and Muratovski (2016). Muratovski (2016, p. 4) states that "academic design research aims to advance, change or challenge the normative body of the design field and to gather a deeper understanding of the field itself." The practice of urban design is the normative body that this doctoral project aims at influencing. Of particular target is design actions during site transformation and related planning processes.

Christopher Frayling (1993) suggested three modes of research by design; research into design, research for design and research by design. All three approaches have been useful in this doctoral work in order to bring forth different aspects of the studied projects. Research 'into' design has been used when studying designers' approach to urban transformation projects, in particular in the cases of *Ile de Nantes*, *Jubileumsparken 0.5*, and the *BayCity*

project (Papers I, II, III). Researching methods of transformation in general, and particularly the aspect of time during such processes, is intended to contribute to advancing practices of urban design, hence research 'for' design. Research 'by' design has mainly been applied in research activities connected to the *Frihamnen* case and the two-year collaboration project that has been undertaken in parallel, and intertwined, with the doctoral project. Murray Fraser (2013, p. 1) states that "architectural design research can be described as the processes and outcomes of inquiries and investigations in which architects use the creation of projects, or broader contributions towards design thinking, as the central constituent in a process which also involves the more generalized research activities thinking, writing, testing, verifying, debating, disseminating, performing, validating and so on." This is how this doctoral work has been executed, with literature studies building up over time, cases studied and visited and then revisited.

2.2.1 The iterative research process

The diagram on the next page illustrates the process of the doctoral project (Figure 13). It took off, with the ambition to reveal shortcomings of masterplans and masterplanning when guiding transformations of post-industrial sites. This ambition soon shifted to an interest in understanding how 'design' approaches versus 'planning' approaches provide different epistemological and ontological perspectives on how one engages with such sites and their transformation. This brings out questions about 'what' is actually transformed, e.g. what on the site is recognized to have a value worth sustaining and including in the new design. To pursue this question the first paper explores the task of identifying site-specific values and conditions in the *Ile de Nantes* project. It also extends to include questions of how that evaluation is orchestrated and by whom (Paper I).

The second paper further explores the question of 'who*'*. The paper identifies challenges of overcoming, or integrating, short-term design actions on site with long-term planning processes in the *Jubileumsparken 0.5* project. Furthermore, it highlights issues of organizational hurdles and power relations between different actors in the project. A subsequent collaboration project reveals aspects of how various time-frames are understood and relates to each other during a transformation project. This points towards time, or temporalities, as being vital factors in order to deal with the complexity and uncertainty that actors in a transformation process experience. The second paper also prompts an interest in exploring theories and practices regarding how short-term design actions on site can be integrated with strategic masterplanning processes.

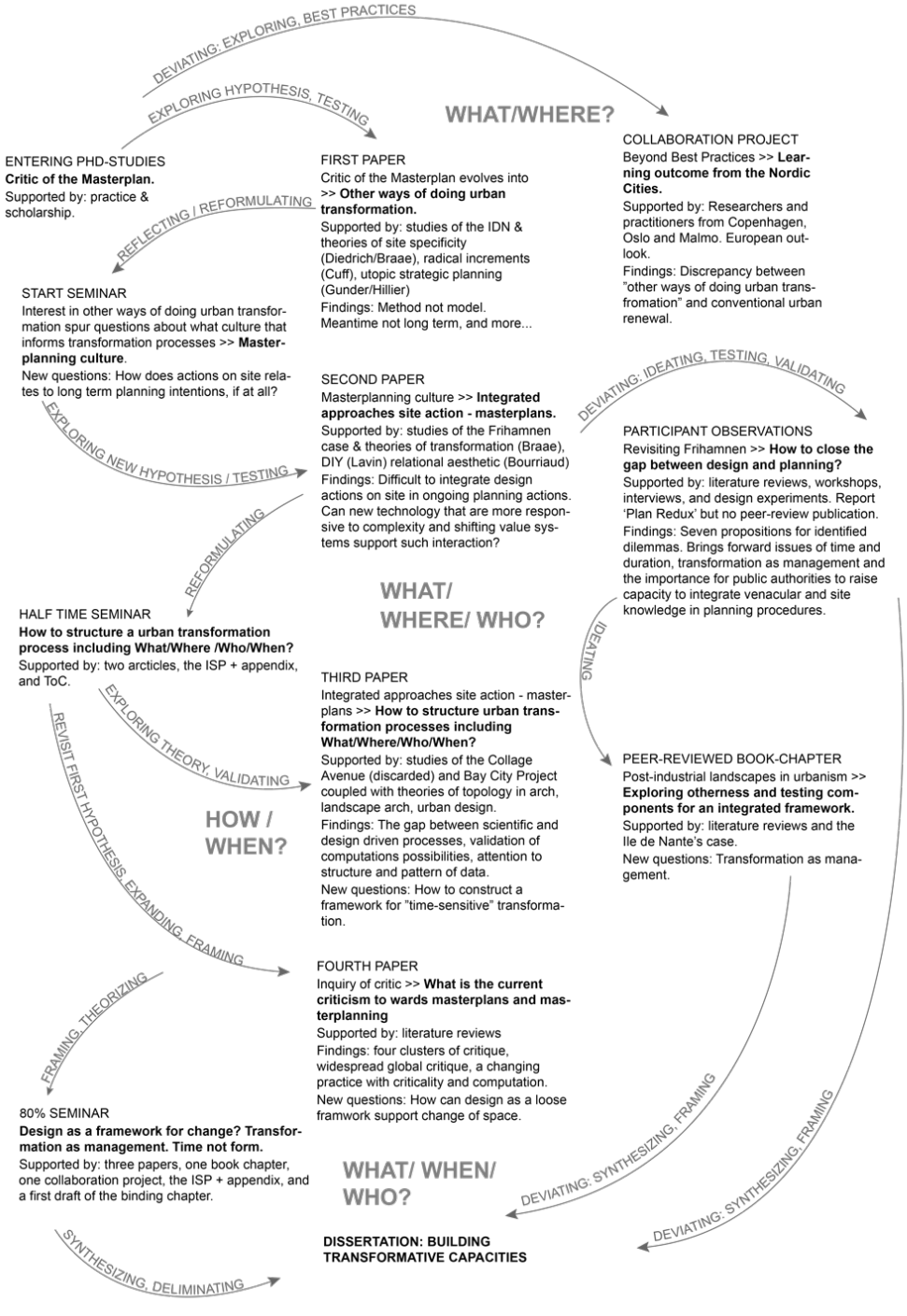


Figure 13. Illustration of the iterative process that the doctoral work has followed.

The third paper studies the concept of topology, and theories on becomings and emergences together with explorations of a third case, the *BayCity* project. Questions about 'when' and 'how' guides the third paper (Paper III). The research for the third paper intersected and benefited from the simultaneously occurring collaboration project on the *Frihamnen* area focusing on aspects of time and reported on in the publication *Plan Redux: om tidsdjup i omvandlingen av Frihamnen* (Dahl et al. 2019)

In the fourth paper the initial interest in masterplans and masterplanning is in focus with the aim of reviewing the recent criticism aimed at masterplans and masterplanning. Assumptions in terms of masterplans' and masterplanning's shortcomings, made earlier in the context of this doctoral project, are confirmed while also adding perspectives and understandings of how urban design and planning practices have evolved over recent decades. Furthermore, the fourth paper discusses what kind of aspirations for future developments that exist and what new knowledge that is called for (Paper IV).

In conclusion, adopting design research as the main research strategy has allowed the doctoral project to develop over time through the guiding questions of 'what – who – when – how'. The simultaneous research activities of writing, reading, studying cases and collaborating on projects with practitioners have offered opportunities to test, evaluate and validate hypotheses and inquiries that have enriched the specific outcomes.

2.3 Methodology

Adhering to strategies of design research, research activities have been conducted in parallel, sometimes intertwined. The main activities have been literature studies, case studies, and participatory observations.

2.3.1 Literature studies

Through-out the doctoral project, literature studies have been continually conducted on concepts and theories. The literature studies have offered ways to explain and challenge the status quo of contemporary thought and practice related to urban transformation (Herrington 2017).

Literature studies on site-thinking, site-specificity and transformation theories formed the basis for Papers I and II. A broad literature search and review was made in conjunction with writing Paper III in which the use of the concept

of topology was traced in design disciplines. This was more of an explorative inquiry, using snowballing approaches, than a systematic review.

The literature study on current criticism of masterplans and masterplanning, that formed the basis of Paper IV, started prior to the commencement of the doctoral project. It was initially conducted as an explorative inquiry with the aim of collecting a broad understanding of the historical and contemporary criticism of masterplans and the masterplanning culture. This collection of books and papers was reviewed for the purpose of Paper IV, and an additional snowballing approach was used to identify additional publications.

Methodologies to conduct this review were borrowed from narrative analysis (Snilstveit et al. 2012). In contrast to systematic reviews, narrative analysis tries to understand 'why' or 'how' the subject matter works… or does not. As a second step a qualitative semi-systematic mapping was performed. According to James et al. (2016, p. 1) systematic mapping tries not to:

> "answer a specific question […] but instead collates, describes and catalogues available evidence […] relating to a topic or question of interest. The included studies can be used to identify evidence for policy-relevant questions, knowledge gaps (to help direct future primary research) and knowledge clusters (sub-sets of evidence that may be suitable for secondary research, for example systematic review)."

The search process and selection criteria for this semi-systematic mapping is explained in detail in Paper IV.

2.3.2 Cases and case studies

The transformation projects studied in this doctoral project are chosen in order to offer an altogether wide range of situations and insights. The selection started with a broad scanning of ongoing transformation project from which six projects were selected for further studies (Figure 14). The selection had the purpose to show diverse performative approaches to urban transformation in order "[to] maximize the utility of information from small samples and single cases" because the "[c]ases are selected on the basis of expectations about their information content" (Flyvbjerg 2006, p. 230). The purpose is not to compare the different cases, which differs to some other case study methods in which validation is thought to arise from analyzing and comparing several similar cases (*cf.* Yin; Abercrombie, Hill, & Turner). Robert E. Stake's (1995) constructive

and inductive approach to case studies is guiding the explorations into understanding the selected cases.

Stake's approach aligns with design, and design research which is a constructive and interpretive practice in which the specificity and particularity of the work is the essence, in order to get a deeper understanding. This brings out an epistemological difference between science and design that can be exemplified through Margot Lystra's (2014) description of Lawrence Halprin's

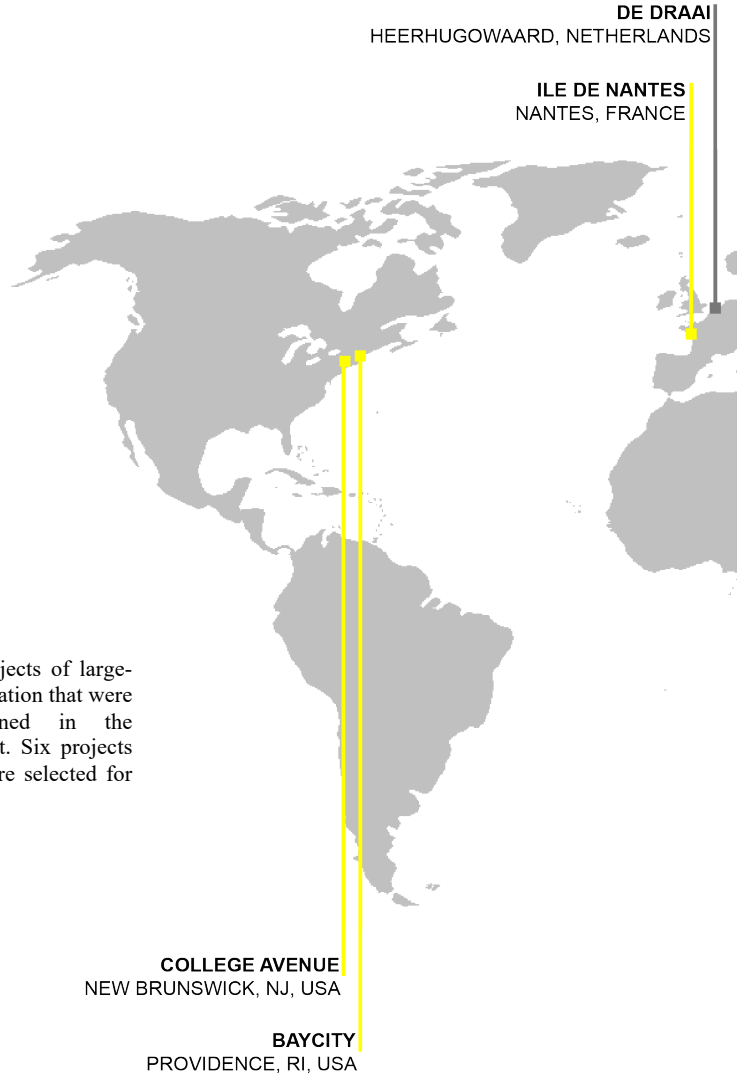
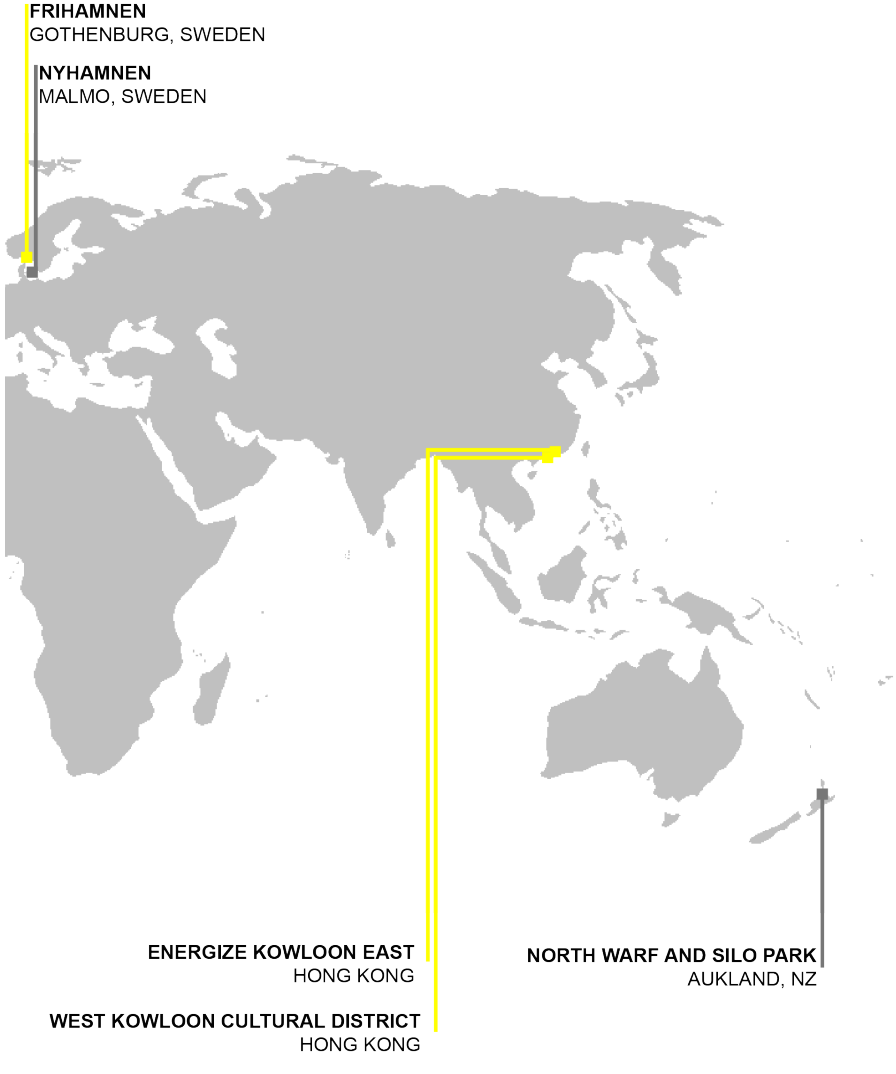


Figure 14. Projects of large-scale transformation that were initially scanned in the doctoral project. Six projects (in yellow) were selected for further studies.

'designerly' approach of Eco-scores and Ian McHargue's scientific approach of *Design with nature*. Lystra argues that one key difference in the two approaches, design versus science, is whether the architect thinks of herself as part of the process – the designerly approach – or in control of the process and thus external from it – the scientific approach (ibid.). This dissertation favors a designerly approach. Each specific case is viewed as a reliable and qualitative source of information that contributes to the building of knowledge in the thesis.



Cases were selected to showcase how experimental design approaches interact (or do not) with planning approaches. A key parameter used to identify which projects to study was that they 'sat within' city administration, e.g. projects had to be initiated and managed by a public authority. Hence grass roots initiatives are not included. This delimitation allowed for the study of interaction between 'design' and 'planning' as practiced by professionals (Papers I, II, III).

The six selected projects were further studied and the result from three of the studies have been disseminated in papers. Two of the projects, College Avenue and West Kowloon Cultural District, were dismissed after further studies because they were not found to offer additional insights. The geographical locations of the collected projects vary, as do sizes, processes, development authorities, and paces of transformation. They cases are not intended to be comparable. Several of the sites have been visited repeatedly, others on a single occasion and one was limited to desk studies. Some visits were made alone and others in the company of fellow researchers.

In cases where the site has been visited the understanding is constructed and reconstructed as a synthesis of document studies, collected data and experiences *in situ*. In cases where the site was not visited document studies and desk studies of Google Maps etc. form the basis for synthesis. Revisiting the cases, both *in situ* and through interviews or renewed document studies, has allowed for a transformative understanding of how the sites change over time through design actions. This ongoing interaction with the cases has helped to determine the contents of Papers I, II, and III.

The six projects that were studied in depth are cases of complex landscapes in change; they can also be described as waterfront areas undergoing transformation. Vast post-industrial areas with constructions and immaterial remnants from a previous industrial and shipping era, they are under threat of either decay or real estate interests. As transformation projects they comprise a set of design approaches initiated by different actors on the site, of various durations (Figure 15). Planning actions are occurring in parallel or intertwined with these design actions.

Figure 15, next two pages. Selected projects. Three projects have been studied in-depth (fill circle) while others have been more instrumental in gathering a general understanding. Attributed insights have changed when projects have been revisited over time (grey, dashed circle).

ILE DE NANTES

Approach: plan-guide

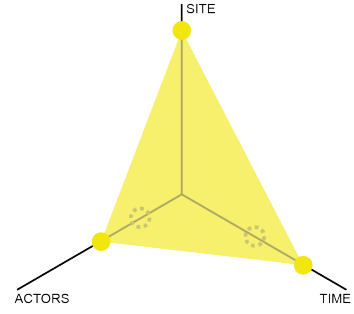
Year: 2000-ongoing

Area: 340 ha

Location: Post-industrial harbour site with adjacent urban district in Nantes, France.

Actors: Public developer SAMOA & Design team with Alexandre Chemetoff / Atelie de l'Ile de Nantes (2000-2010).

Take-aways: Strong on design actions derrived from site ▪ Mystified/autnomous actor constellations ▪ Multiple durations/temporalities.



FRIHAMNEN

Approach: prototyping

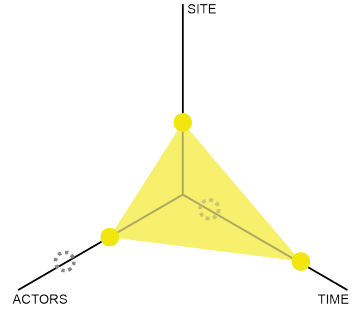
Year: 2013-ongoing

Area: 30 ha

Location: Post-industrial harbor site in Gothenburg, Sweden.

Actors: Public developer Älvstranden Utvecklings AB & Design team with City planning office in collaboration with various designers, among them Raulabor Berlin.

Take-aways: Initially strong actor constellations on site, later weakend by difficulties overcoming gap between placemaking and planning ▪ Limitied recognition of site-specific qualities ▪ Initially one time-span only, later increased complexity of temporalities.



BAYCITY

Approach: simulation (system-based urbanism)

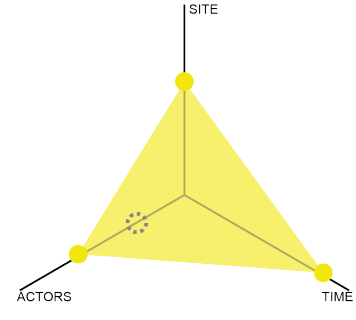
Year: 2007-08 (not implemented)

Area: 470 ha

Location: Post-industrial harbor site in Providence, Rhode Island, USA.

Actors: City of Providence & Design team with Thurlow Small Architects in collaboration with Muchi-East and RISD Architecture Department

Take-aways: Time is prominent allowing for multiple outcomes of design actions responding to actors interests ▪ Actor perspective - clustered into limited categorires ▪ Computer aided.



COLLEGE AVENUE

Approach: combinatory urbanism

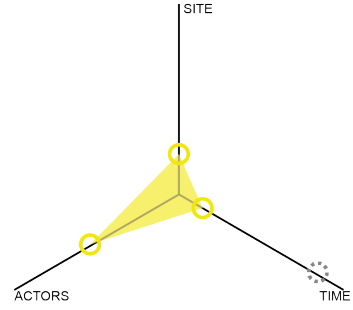
Year: 2006

Area: 30 ha

Location: Collage site, New Brunswich, NJ, USA.

Actors: Rutgers State University & Design team with Morphosis Architects.

Take-aways: Unclear how much is derived from site ▪ Time is prominent allowing for multiple outcomes of design actions, however mostly phasing ▪ Actors are set in relation to what plays out over time ▪ Computer aided ▪ Design intent more interesting than proposal.



WEST KOWLOON CULTURAL DISTRICT

▪

Approach: placemaking

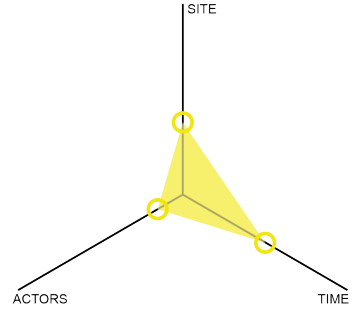
Year: 2011 - ongoing

Area: 40 ha

Location: Landfill site in Kowloon, Hong Kong, SAR.

Actors: Public developer West Kowloon Cultural District Authority & Design team with Foster + Partner.

Take-aways: Using the ”meantime” to increase real estate interest for the project ▪ Unclear if temporary interventions or ment to last ▪ Relation to site is weak ▪ Reuse an aesthetic effect ▪ Top-down approach.



ENERGIZE KOWLOON EAST

Approach: conceptual masterplanning

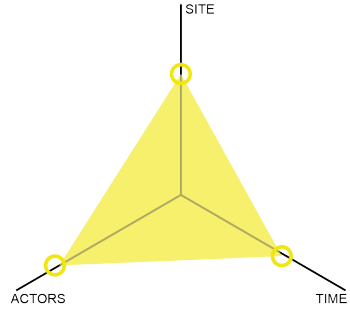
Year: 2011 - ongoing

Area: 480 ha

Location: Landfill site in Kowloon, Hong Kong, SARPost-industrial site and former airport in Kowloon, Hong Kong, SAR.

Actors: Public developer Energising Kowloon East Office

Take-aways: Resonds to initiatives from actors on site ▪ Various duration ▪ Iterative conceptual masterplans ▪ One site, two systems; top-down and bootom-up ▪ But, the masterplan lingers in the background.



Experimental approaches that are identified through the cases are, '*plan-guide'* in the *Ile de Nantes* project in Nantes, France (Paper I); 'prototyping' in *Jubileumsparken 0.5* in the *Frihamnen* area in Gothenburg, Sweden (Paper II), 'placemaking' in the West Kowloon Cultural District project in Hong Kong; system-based urbanism or 'simulating' in the *BayCity* project in Providence, Rhode Island, USA (Paper III); 'combinatory urbanism' in the College Avenue Masterplan project, in Brunswick, New Jersey, USA; and 'conceptual masterplans' in the Energize Kowloon East project in Hong Kong. These approaches and projects are invested in utilizing processes and performance to guide open-ended outcomes and site-specific design actions. Some of these projects proceed in parallel with conventional masterplanning while others, to various degrees, are intertwined with urban planning and design processes.

Of the selected projects the *Ile de Nantes* transformation project in Nantes, France under the guidance of Alexandre Chemetoff, and later Jacqueline Osty, is the most recognized project in terms of innovation and accomplishment. As such it plays an important part in this doctoral project and has been revisited both in thought, writing and real life throughout the project. The first paper focuses on this project (Paper I). The research for the paper is structured as research on, and into, design through a design critique (Bourriaud 2009; Lyotard 1999). Using Nicholas Bourriaud's (2009) concept of 'journey-form' to structure the critique allows for a review of an ongoing process. It is not the final result that is being evaluated in comparison to the intended design, but rather how change of space is orchestrated and materialized in an aggregated process. In the paper techniques includes literary research, drawing analysis, comparative analysis, and direct observations is used. Design critique is also used in Paper II, to structure research on the *Frihamnen* area and the placemaking project *Jubileumsparken 0.5* in Gothenburg, Sweden. The approach to the *BayCity* project in Providence, Rhode Island, USA, follows a similar methodology. The project is the focus of Paper III.

The College Avenue Masterplan project with its design approach of combinatory urbanism was initially intended to be part of Paper III, but in-depth studies showed a rather conventional phasing scheme that did not merit further investigation. The in-depth study of the placemaking approach in the West Kowloon Cultural District project also revealed a rather conventional approach, which is why the project was not used for further studies. The approach of 'conceptual masterplans', in which iterative and incremental transformations happen in parallel with conventional masterplanning merits further studies. Time has not yet permitted the result to be synthesized into a paper.

All research on the cases lends itself to methodologies inspired by transareal approaches, appropriated by Diedrich, Lee and Braae (2014) into the Travelling Transect method. The narrational style of Papers I and II, emphasizes the autoethnographic methodology and the interpretational strategy of the research (Abbott 1992). To Abbott, narration of a case is to be understood as a sequence of major turning points and the impact such situations have on the research and researcher.

Turning points are also part of the work of Diedrich, Lee and Braae (2014), who talk about 'prompts', "places of situated knowledge, which captured and sometimes deviated the researchers' attention on site from the planned itinerary." This explains the dynamic relation that the researcher has towards the data and the research, and why preformulated hypotheses are less useful in exploratory methods and approaches. Sasha Barab and Kurt Squire (2004, p. 9) discuss Abbott's work and add that the challenge in presenting design narratives is "uncovering these events so that the reader understands their complexity but doing so in a way that lends itself global relevance while at the same time meaningfully capturing the dynamic unfolding of the phenomena."

In this doctoral work 'prompts' have been instrumental in understanding how various cases contribute to the research. The narration style has allowed for the interpretation of the cases to be communicated openly, allowing for transparency and validation of the research. Furthermore, throughout the research autoethnography complements more quantitatively driven research by incorporating lived experiences. With a personal constructivist exploratory approach, the ideation and envisioning process is in focus, instead of binary 'cause and effect' inquiries.

The constructivist approach suggests to recurrently re-thinking the research questions, a research strategy also supported in design research. In design thinking research, the process of 'defining', 'understanding', 'ideating', 'testing' and 'evaluating' is iteratively revisited in a manner that goes beyond simply conducting research activities as parallel processes (Plattner et al., 2012). In design research and design thinking research, the intentional actions of revisiting and reformulating call for the researcher to simultaneously go deeper into the research and reflecting on a meta-level. This condition of doing and thinking opens up opportunities for transdisciplinary approaches.

2.3.3 Participant observations

Participant observations undertaken together with a fellow researcher have been executed as a joint collaboration with the city of Gothenburg during 2016-2018. The collaboration dealt with temporary housing and public space in the *Frihamnen* area in Gothenburg. The participation was made clear for the civil servants in Gothenburg (DeWalt & DeWalt 2011). The observations started at a moment when there was a great need for reflection and understanding of what had happened previously in the transformation process of *Frihamnen* in general and specifically how that related to *Jubileumsparken 0.5*. Due to the civil servants' need to rethink and redirect the work, the participant observations reached a level of participation that could almost be seen as a process of co-creation.

Bo Westerlund and Katarina Wetter-Edman (2017) explore the intersection of wicked problems in messy contexts with the action of prototyping. Based on Buchanan's (2001) four orders of design – signs, things, actions, and thoughts – Westerlund and Wetter-Edman (2017, p. 11) argue that prototyping is a useful method for the production of all four orders and in particular the fourth order, thoughts; "[d]esigners and stakeholders must be engaged in extensive prototyping and reflection in collaboration in order to create relevant understanding of the current situations, stakeholders, issues, problems, opportunities, disadvantages as well as propositions." The *Jubileumsparken 0.5* project used prototypes to stimulate a transformation process (Paper II). Indeed, the collaboration between the civil servants and the participant observers benefited from this when introducing prototyping as a research approach in order to have the participants engage in a process of critically reflecting on and debating the situation. Prototypes that were constructed during this collaboration dealt with understanding dimensions of time and duration and modes of flexibility.

The outcomes of the project have not yet been disseminated in scientific papers, but a report on the collaboration aimed at the city officials has been published in Swedish (Dahl et al., 2019). The experiences gained during the collaboration continue to inform this doctoral project. The collaboration project included literary studies, workshops, interview studies and design processes.

3 Theoretical lenses: site, time, and transformation

This chapter presents the theoretical lenses studied and tested for this thesis. In the chapter a number of concepts useful to help understand and elaborate on aspects of design as a driver of urban transformation will be introduced. Three lenses – site, time and transformation – will be used in order to bring forth ontological inertias and epistemological gaps. There will be a section for each 'lens' which will present a cross-disciplinary literature review, followed by an explanation of how the lens has been vital in order to interpret the studied cases.

In the first section the lens of 'site' and the concept of 'site-specificity' are reviewed in order to bring forth understandings of 'what' material we deal with in projects of urban transformation. A review on perspectives of 'time' in landscape architecture follows. This part of the review focuses on issues of time, duration and succession in landscape architecture and related discourses in order to offer perspectives of 'when' to take action in urban transformation projects and how to understand different time-frames in processes of change. The third section looks into approaches that aim at integrating the properties of space and time, by visiting a few concepts and approaches to transformation and change. This review has an additional focus on digital advances and computation in architecture and landscape architecture as well as the designer's role in transformation processes.

The aim of the review is to broadly discuss these theoretical lenses and concepts in order to position the dissertation in existing discourse. The review also aims at critically analyze whether the presented theories and concepts provide a basis for 'why' urban transformation of post-industrial sites differs to other urban discourses as well as to understand 'how' they can be applied in current and future research and practice.

3.1 Site as a resource

The scholarship of Carol Burns and Andrea Kahn (2005), and related theoreticians such as Neil Brenner (2009) is fundamental for this dissertation. These scholars propose site to be a multivalent, trans-scalar concept that allows for an understanding of an area as being both physical with a geographical position, an expanse and structures as well as a dynamic place embedded with memories and meaning, under the influence of driving forces while also having a reversed impact on its surrounding territory. This dynamic and relational understanding of a site supports methods of continual transformation that reject approaches such as tabula rasa (Papers I, II, III).

The urban site as an irreducible plurality has been thoroughly explored by Andrea Kahn (1996, p. 181; 1998, p. 54) through her theories on site-thinking, from the site as a "constellation of scales, programmes and events" to the urban site described as "a transitory and multivalent space, an aggregation of ever shifting scales (regional, metropolitan, and local), programs (political, ideological, physical, functional), and actors all set within a temporal framework accepting prior conditions and future modifications." Kahn outlines five concepts for urban sites in order to structure site-thinking; mobile ground, site reach, site constellation, unbound sites, and urban constellation. These concepts ascribe certain qualities to urban sites that can also be viewed as particular mindsets utilized when engaging in urban design. The concepts call for a dynamic understanding of site, the existence of a multiplicity of scales, a practice of continual interpretations of site complexities, an openness towards expanding and shifting ideas and locations, and an understanding of context as a process in which sites participate, contributing to its provisional nature (Kahn 2005, p. 289-294). Together with Carol Burns, Kahn (Burns & Kahn 2005, p. xii) developed a framework for understanding urban sites such as: the area of control, the area of influence and the area of effect (Papers I, II). (Figure 16)

Understanding site as these overlapping 'areas' allows for synthetic thinking, prompting a site's physical conditions to be considered alongside aspects such as the driving forces at play on the site, or the impacts that actions taken on a site might have on its surroundings. To understand the site as not just a physical construction, but as how it is interlinked with socio-economic and cultural dynamics is key in being able to integrate and leverage those transformative driving forces that are not always materialized in built form. If the action space for transforming a site can be dynamic and exceed the physical borders of a site it also mitigates various stakeholders' perspectives of what constitutes that site (Papers I, II).

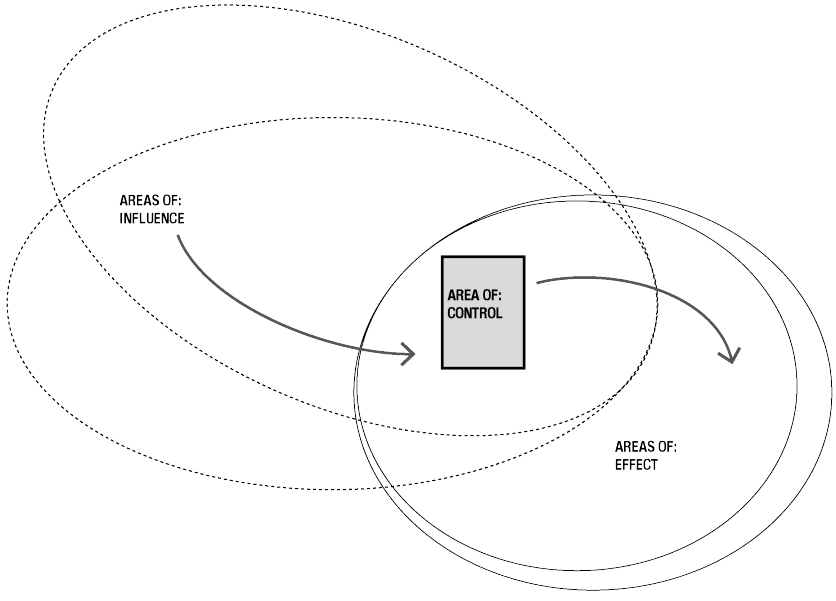


Figure 16. The relationship between areas of control, areas of influence, and areas of effect. (Illustration: Caroline Dahl based on Burns and Kahn 2005.)

The non-static reading of the site and its circumstances holds the capacity to unlock closed expectations, hence avoiding disappointments in the transformation process, and related processes such as policy-driven processes and site-born processes (Paper II).

3.1.1 Site and place

The concept of 'site' in architecture and landscape architecture differs from other geographic, or territorial, orientated concepts such as 'place', 'property', 'area' etc. Place, in particular, is an ambiguous concept that scholars of various disciplines have framed and reframed over time (*cf.* Cresswell 2013). The discipline of landscape architecture traditionally relies much on theories developed in the discipline of human geography in which 'place' is commonly defined in juxtaposition to 'space' (*cf.* Tuan 1974; Ingold 2011). Other scholars are more interested in how place is created through interaction with, or appropriation of, land and the narratives that are constructed through such action (*cf.* Olwig 2006; Massey 1994).

Robert A. Beauregard (2005, p. 43) discusses the interaction between the concepts of 'place' and 'site' and elucidates that the intention of turning place into site is an action of emptying out a place from socially embedded narratives in order to prepare it for real estate development, that will subsequently turn the site into (another) place. Beauregard (2005, p. 42) explains that "[s]ites are only way stations between place and place." According to Beauregard (ibid.), the act of turning a place into a site "is created through the acts of planning and design" and that "[p]lanners and designers take control of a place by distilling its narratives." In extreme cases this distilling process is more a matter of emptying out the place by eradicating all narratives – similar to tabula rasa approaches. Indeed, the quality of those distilling processes is a matter of the designer's or planner's ability, and the circumstances under which the processes are happening. This underlines the importance of developing and offering tools and approaches for site surveys that rather trace change and transformation of space, instead of defining a fixed state of space (Paper I, III).

Building on Beauregard's theory, one strand of inquiry could be if the 'meantime' – in between 'place' and 'place' during which the site exists – can be 'stretched' to last longer than the stipulated development process. This would challenge the usual *modus operandi* of real estate development (Paper I). Gunnar Sandin (2003, p. 30-31) suggests that it is a gradient transition between place, site, and place again, that occurs during a development process. Sandin proposes that the concepts reflect various stages in the development process, which intertwine the concepts of site and place with the concept of time (ibid.). A benefit of regarding the concepts as successive is that it replaces a common understanding of place and site as dichotomies. In addition it challenges transformation approaches as tabula rasa.

Thinking of site and place as gradients, able to coexist and blur, suggests an operational method of incremental change instead of phasing that allows for thrift and economy of means as well as developing the site through iterative actions of ideating, experimenting, and evaluating etc. This suggests that narratives of place and site can be integrated, which in addition suggests that narratives can be extracted also from site, not only place as Beauregard suggests (Papers I, II). Overall, theories on the interplay between site and place, are relevant for this dissertation because they offer thinking about when sites exist.

3.1.2 Site and matter

Burns and Kahn's (2005) site-thinking challenges a dichotomy of site and place. It also expands a one-dimensional anthropocentric ontology of place which is common in other disciplines in which 'humans' are leveraged as singular and superior in the creation of place. Discourses on site-thinking and site-specificity expand beyond dichotomy of space and place to dynamically include both biotic and abiotic life worlds which are of great importance in transformation of post-industrial sites as this allows for the recognition of existing values and resources to direct the process (Papers I, II, III).

Philosophies of New Materialism, and in particular Jane Bennett's (2010) philosophical project *Vibrant Matter: A Political Ecology of Things,* elaborate further on the agency of biotic and abiotic things. According to Bennett all matter – both humans and non-humans – has agency, what she and other philosophers before her have identified as thing-power (*cf.* Latour 1993; 2007). In order to resourcefully reuse qualities and matters of post-industrial sites, the identification of thing-power can function as facilitation (Paper I).

Jane Bennett (2010, p. 21) further explains that thing-power, "always depends on the collaboration, cooperation, or interactive interference of many bodies and forces." Bennett builds on the philosopher Spinoza's thinking (*cf.* Deleuze 1988) when she states that "bodies enhance their power in or as a heterogeneous assemblage" that is not necessarily a social construction but the "confederate agency of many striving macro- and microactants" (Bennett 2010, p. 21). In order to explain on what premises these different actants relate, Bennett refers to Guttari and Delueze's (1987) theory of assemblage that suggests that the relation between different groupings of diverse elements is vibrant and non-directional because the interactions between them are dynamic and changeable.

The agency of the assemblage is not random but nevertheless not possible to predict as a unifying and static body of matter (ibid.). This thinking magnifies the insufficiency of describing a site as 'state of space' because the agency and actants that constitute that site are engaged in a constant positioning and repositioning within an assemblage that goes beyond static moments in time and space. To be able to leverage specific agencies or actants as prompts for design actions becomes a pragmatic approach to transformation that does not require a unifying whole or a frontloading of data. Taken as a whole, building upon scholarship on site-thinking and new materialism reveals both the opportunity of recognizing agency in matters and the inherent challenge of identifying,

relating, and directing this agency in urban transformation projects over time (Paper I, II).

3.1.3 Site-specificity

To acknowledge that matter has agency and that the relation between such agencies dynamically changes over time might pose a general challenge in any urban development process, but even more so in terms of transformation of post-industrial sites. The otherness of such sites, as discussed in the introductory chapter, means that such sites' values are less recognizable in terms of conventional categories, taxonomies, or typologies used in urban planning and design, for example nature and biodiversity, cultural heritage, morphology, infrastructure, public service etc. Hence, developing new innovative programs might be beneficial in order to recognize values of such sites (Paper II).

Ignasi de Sola-Morales (1995) stresses that, in order to understand and be able to evoke the potentials of *terrain vague,* one needs to recognize the fundamental two-fold qualities of such sites; "absence of use" and "sense of freedom" (Paper II). However, "absence of use" does not imply that the site is empty. The discipline of landscape architecture and discourses on site-specific art are practices that have the ability to augment subtle qualities of site.

Elizabeth Meyer (2005) traces the discipline of landscape architecture's relationship to site-specificity in an American context by identifying various site reading strategies and site design actions. Meyer's intention is to reveal that sites are not empty canvases, but full of forms and meanings that can be made tangible through design (Papers I, II, III). According to Meyer, the close relationship to the specificity of sites is what differentiates the discipline of landscape architecture from other disciplines. Meyer (2005, p. 94) explains that recent interest in re-emphasizing the link to site-specificity is connected to other intersecting shifts in the design field, such as "from sustainability to phenomenology, from regionalism to smart growth, from feminist critiques of modernization to green politics, from postmodern skepticism about meta-narratives such as master planning to site-specific art." Meyer's statement illuminates a shift that directs attention towards the dual interest of abstraction and pragmatism as well as individualism and performance.

In art, site-specificity emerged during the 1960s and 1970s through a growing recognition of site-specific artists and art works. Art historian Miwon Kwon (1997) explores the trajectory of site-specificity in art from the 1960s to the late

1990s. Kwon distinguishes between the various meanings of site-specificity from the early years of working with an actual location and its spatial premises, to understanding site-specificity as a cultural framework in which socio-economic driving forces and institutional motivations are included to finally arrive at a concept of functional site-specificity as proposed by James Meyer (ibid.).

Kwon explains that working with the actual site became a bodily experience during the early years of site-specific art works (ibid.). This implies that site-specificity rejects abstraction and the objectification of space. As abstract space, according to Lefebvre (1991), constitutes both the realm of capitalism and urban planning this consequently means that site-specificity aims at resisting commodification of space (Paper II). However, Kwon (1997) further explains that site-specific art over the years developed a schizophrenic relationship to "the market" which diminished the connection to the actual, real, site. Site-specific artworks and projects do not need to be implemented or materialized in order to abide to the concept:

> "to decode and/or recode the institutional conventions so as to expose their hidden yet motivated operations - to reveal the ways in which institutions mold art's meaning to modulate its cultural and economic value, and to undercut the fallacy of art and its institutions' 'autonomy' by making apparent their imbricated relationship to the broader socioeconomic and political processes of the day." (Kwon 1997: p. 88)

Kwon explains that such site-specificity is to be understood as a cultural framework (Paper III). This kind of site-specificity is also closely related to the concept of *functional site specificity* which "is a process, an operation occurring between sites, a mapping of institutional and textual filiations and the bodies that move between them" (Meyer, 2000). James Meyer makes an, for this dissertation, important distinction between "a vectored and discursive notion of 'place'" and what he calls a "phenomenological model" of place in which the latter is understood as static and fixed (ibid.). In contrast to this Meyer (2000, p. 25) states that place in functional site-specificity is "a temporary thing, a movement, a chain of meanings and imbricated histories: a place marked and swiftly abandoned." (Papers I, III)

Such modes of operation open up for both performative and narrative approaches. Miwon Kwon (1997, p. 92) describes contemporary practices in site-oriented art discourses "in which both the art work's relationship to the

actuality of a location (as site) and the social conditions of the institutional frame (as site) are subordinate to a discursively determined site that is delineated as a field of knowledge, intellectual exchange, or cultural debate." Furthermore, Kwon (1997, p. 102) explains that it is "now the performative aspect of an artist's characteristic mode of operation (even when collaborative) that is repeated and circulated as a new art commodity, with the artist functioning as the primary vehicle for its verification, repetition, and circulation." Indeed, for a project to be successful it is crucial not only what is transformed but also how the designers operate during the transformation process. This in turn poses additional challenges for the designer's role in transformation processes which risk to become both too commercial and too autonomous. (Papers I, II, III)

In the 1990s Sola-Morales (1995: 123) asked the question: "How can architecture act in the *terrain vague* without becoming an aggressive instrument of power and abstract reason?" His own answer was to propose that attention should be paid "to continuity: not the continuity of the planned, efficient, and legitimated city but of the flows, the energies, the rhythms established by the passing of time and the loss of limits" (ibid.). Such suggestions rhyme well with the discursive development of site-specificity in landscape architecture and art described above. But Sola-Morales also forecasts what scholars in the discipline of landscape architecture have recently developed in terms of how to view site transformation and spatial change (*cf*. Diedrich 2013; Stokman 2013; Braae 2015).

3.1.4 Reading sites

In addition to theories on site-thinking and site-specificity, suggestions on how to read the qualities and conditions of a site is of relevance for this dissertation. As stated in the previous sub-chapter, Elizabeth Meyer (2005) has traced strategies for site readings. Starting in the mid-nineteenth century, Meyer finds strategies that use a site's specific qualities as armature for the new design in terms of landforms, vegetation, or other spatial traits. Understanding and exposing such glacial landforms as a framework for site-specific design actions is one site strategy proposed by Meyer. This first strategy is also related to the second strategy, site as a figure, in which the topography is read as figure and field. This opens up for "new hybrid orders of architectural geometry and site topography/geology" in which the sites complex, and irregular forms are appreciated (ibid.).

A third design strategy offered by Meyer is to regard site as a fragment in which one landscape element is used to signify the whole site. Moving beyond strategies that focus mainly on physical characteristics Meyer (2005, p. 110) offers one last strategy that she calls "site as haecceity or phenomenal, temporal experience." This last strategy expands the spatial qualities of a site to also include aspects of time as ephemeral and experiential events, hence turning site readings into process (Papers I, II, III).

Lisa Diedrich (2013) offers an interpretation tool for how to reveal and value site-specificity in contemporary harbor transformation projects. The interpretation tool consists of a set of reading filters of physical, dynamic, and immaterial conditions that combine and expand the strategies suggested by Elizabeth Meyer (2005). Suggested traits for these filters to explore are, but not limited to, structures, materials, processes, practices, memories, atmospheres and discourses (Diedrich 2013). The reading of these qualities and conditions prompts an editing of the site that is the design action of transforming something into something else (ibid.). Diedrich's reading filters provide support to overcome designers' and stakeholders' inability to 'see' the existing when drafting masterplans, a challenge noted by scholars in urban design (Giddings & Hopwood 2006; Derix 2012).

3.2 Time as a design parameter

The particular understanding of site which this dissertation takes as its point of departure, relates in manifold ways to aspects of time. The continually constructed understanding of urban sites as discussed by Kahn (2005) is one example of this, as is the changeable stages of place versus site as discussed by Beauregard (2005) and Sandin (2003). This shifting nature of site invites the question of when a site actually emerges and for how long it exists? This calls for explorations into how time is manifested in spatial disciplines in general, and in the discipline of landscape architecture and the discourse on urban transformation in particular.

It is difficult to overlook the concept of time, even delimited to the spatial disciplines or the specific discipline of landscape architecture. History shows that landscape architects have engaged differently with time in various periods. As discussed below, engaging with time often, but not only, includes aspects of visual representation and how change of space is understood and communicated. In the article *Plotting Time in Landscape Architecture,* Sonja Duempelmann and Susan Herrington (2014, p. 4) state that "one of the characteristics distinguishing

the work of landscape architects from other design professionals is their simultaneous use of different linear and cyclical notions of time." The following subchapters build to a large extent on the overview Duempelmann and Herrington (2014) present in the article.

3.2.1 Time: objective and subjective

An initial understanding in terms of concepts of time is the traditional ontological understanding of time as objective, for example geological or metrological, versus subjective, in which cultural, social or political conditions affect the experience of time passing (Duempelmann & Herrington 2014). One might ask if such a distinction will be dismissed by an emerging climate regime in which viewpoints considering the effects of the Anthropocene is gaining ground.

Mahyar Arefi and Noha Nasser (2019) explain that the sense of urgency currently present in urban design and planning as a result of sustainability and climate change emphasizes time issues. Arefi and Nasser (2019, p. 223) stress that it is "the amount of time necessary" to curb or facilitate climate change and sustainability that brings about the urgency. This is not only an understanding of time as subjective, but it also suggests that time is something finite.

The idea of 'fixing' sustainability and climate change during a certain time-frame is problematic as such mindsets sustain Modernist's grand narratives, as explained in the introductory chapter through the scholarship of Michael Gunder and Jean Hillier (2007), and Simin Davoudi (2015) respectively. Such mindsets also turn time into a measured entity that can be further compared to Davoudi's discussion on data and evidence; if the plan fails the evidence base has been too weak, e.g. if the climate action fails time has been too short (Paper IV).

Mindsets of fixed and predetermined outcomes dwell in an epistemology of urban planning. Tom Bergevoet and Maarten van Tuijl (2016) suggest that urban design and planning need to develop instruments for increased flexibility in financial, legal, organizational and spatial conditions from the point of view of use, time and place. Furthermore, Bergevoet and van Tuijl (2016, p. 33) say that "changes are not standalone events, they are emphatically part of a process of continual transition."

3.2.2 Time: divided and continuum

Another useful distinction in terms of understanding time in the context of urban transformation is whether time is divided, hence measured, or understood as a seamless continuum (Duempelmann & Herrington 2014). These do not seem to be as contradictory as the dichotomy of objective versus subjective time as one can imagine that divided time can be part of a larger continuum (Paper III).

Tracing time in the history of landscape architecture, Humphrey Repton's use of before and after images stands out as a canonical representation. The prevailing relevance of Repton's slides can be seen through the use in many contemporary design projects (Paper I). The "split" imageries suggest that time is linear and a divided entity, which probably was more of a selling point than an actual suggestion of how to understand time in landscape architecture. Interesting is that the before and after slides hide the actual process of transformation and the labor involved in the transformation (ibid.). Spatial change comes across as a quick fix.

Other canonical innovations concerning time in the discipline of landscape architecture are Ian McHarg's stacked and layered mappings and Lawrence Haprin's eco-scores from the 1960s. New technological advances influenced the understanding of time in the spatial disciplines and landscape architecture during the 1960s and 1970s (Paper III). But the new technology also caused a split in which one strand took off towards a natural scientific approach of linear time (*cf.* McHarg 1971) while another used design and the humanities to develop new time-sensitive approaches (*cf.* Halprin 1969).

In architecture, Kevin Lynch (1972) offered perhaps a third path with his canonical book *What Time is This Place*? Lynch promoted a dual existence of the present and the future and argued that urban design has the responsibility to facilitate the processes from here and now to there and then. Kevin Lynch promoted the layering of traces from successive periods in what he referred to as collages of time. These temporal collages did not aim at freezing time but rather at interweaving various time-frames and impacting how we see them (ibid.). Lynch (1972, p. 171) explains:

> "When this idea is applied, certain past transformations are retained, others destroyed. Older features are dug out to be seen. New features are located where they produce the greatest formal and associative resonance. The total organization will be complex and informal, surprising and sometimes ambiguous. The technique implies that there must be room for new layers to come and even

suggests that signs of the future, as currently interpreted, should be part of the collage".

The coexistence of different notions of time is possible through the temporal collages, but according to Lynch they are not merely a combination of new and old (ibid.). A deliberated aesthetic judgment is an inherent part of the collages which also positions the selected events or markers of divided time in a larger coherent continuum that can be understood as progression of time. Indeed, in Lynch's temporal collage time functions as a design parameter.

The idea of the temporal collages was built upon Charles Eliot's overlays in which landscape change was represented through layers of specific conditions in time. This has later been developed into various approaches of landscapes being seen as collages and palimpsests (Duempelmann & Herrington 2014). The approach is also common when representing changing post-industrial landscapes. Rebecca Krinke (2001, p. 128) explains in regards to these that "[u]sing principles of collage and juxtaposition, history is seen not as linear phenomena, but as layers or discrepancies between a past event (history) and present recall (memory)."

Furthermore, using the idea of the palimpsest adds layers of fiction to a project (ibid.). Duempelmann and Herrington (2014, p. 7) make an important statement about design works on post-industrial landscapes and aspects of time when they problematize that design work without a critical view of the site's history will inevitably render "a melancholic and nostalgic rather than critical engagement." Such a critical view can be a crucial part of the distilling process when designers and planners are turning place into site, as explained previously with reference to Beauregard (2005) (Papers I, II, III).

In the discipline of architecture, Mark Taylor (2016) claims that time is culturally determined. According to Taylor architectural traditions in the West have long favored permanence while the East has been more inclined to appreciate the ephemeral and the changeable as integrated aspects of architecture. However, Taylor traces a shift in Western thought in which temporality and flexibility are starting to be valued over permanence and timelessness(ibid.). Such a shift would according to Taylor (2016, p. 45) enable time to be "inherently bound to design, in the manner that an entity establishes dynamic associations with its environment as well as within itself."

Thinking about time as a continuum invites for considering events, matter, changes and occurrences as part of a sequence that can be narrated. Working with constructing narratives might be a means to direct agents and actants influencing a site, which has been previously identified as a challenge, because narratives can agglomerate and accumulate different aspects in a non-linear and non-hierarchical way (Papers I, II, III).

3.2.3 Time: real and represented

Computational advances and new digital media emerging during recent decades have increased the possibilities to represent change and transformation over time through narrations, animations and simulations (Girot & Truniger 2012; Dahl 2019). Prior to this, motion pictures and motion graphics have been frequently used to convey proposals, and still are (van der Horn 2018; Farsø & Petersen 2015; Petersen & Farsø 2016). There are many extensive discourses on representation in architecture and landscape architecture that this dissertation is not able to cover, but there is one aspect that is considered to be relevant to briefly state; the difference between the real and the represented. This is of interest because real and represented time share many similar challenges that are also found in questions concerning real and represented space.

Stanford Kwinter (2001) elaborates on the real and the represented with reference to the French philosopher Henri Bergson (2004). Kwinter's (2001) thesis is that time in architecture is a modernist idea that was introduced with Taylorism and related ideas about controlling labor. Time in architecture according to Kwinter is not real, but rather a representation in order to control space (ibid.). Control of space is facilitated by abstraction, as explained by Henri Lefebvre (1991). Such control can be challenged through discourses of site-specificity and the recognition of thing-power (Bennett 2010). In contrast to concerns about represented time Kwinter (2001, p. 4) state; "real time is more truly an engine […] drawing matter into a process of becoming-ever-different", which suggests a less controlling and less abstracting process. What if working with various 'real' time-frames or temporalities can usher a continual transformation of space? (Papers I, II, III)

The challenge of urban planning and design to favor a single time-frame – the future – is investigated by Gunilla Lindholm who reminds us that a narrow focus on the future in urban planning is hampering a recognition of the experienced urban landscape that is here and now. Hence, future-looking visions and visual representations are overriding actions *in situ* (Lindholm 2011). Noël

van Dooren and Anders Busse Nielsen (2019) are adding further to the challenging task of represented or real time in the discipline of landscape architecture. They suggest that the way to better understand aspects of time is to introduce a "division in temporal types and spatial types" when it comes to representations in landscape architecture (van Dooren & Nielsen 2019, p. 1011). In contrast to this suggestion of division, the next sub-chapter will discuss how space and time can be synthesized and how such synthetic understandings can be represented.

3.3 Transformation synthesizing site and time

The previous subchapters have elaborated on the introductory statement of this dissertation; that time and space are intertwined. Furthermore, the previous subchapters have revealed that site can be seen as a temporality that space exists in when undergoing change. This spurs an interest in exploring how site and time can be synthesized, e.g. theoretical lenses and concepts that can shed light on aspects of emergence and becomings.

Founded in post-structural theory, Jean Hillier (2005) offers an ontology of 'becoming', as opposed to 'being', to better grapple with transformation processes. Hillier's (2005, p. 275) hypothesis is that "there [is] a gap for new heuristic tools for exploring transformation as the immanence of movement and change and linking this with a reconfiguration of institutional fixity and the power of certain transcendent essences." (Papers I, III)

Recent scholarship within the discourse on urban transformation could be seen as responses to Hillier's call for new tools. Some key concepts are: 'transformation theory' as developed by Ellen Braae (2015), 'journey-form' as proposed by Nicholas Bourriaud (2009), and 'radical increments' as defined by Dana Cuff and Roger Sherman (2011). Digital advances in the spatial disciplines offers additional concepts and will discussed primarily through Antje Stokman's (2013) writing on topology. These concepts guide exploration into the dimension of time and duration of design actions in transformation projects and supports the understanding of the designer's role in such processes (Papers I, II, III).

3.3.1 Design approaches supporting transformation

Ellen Braae's (2015) transformation theory offers four paradigms of transformation and two approaches/codices which help to explain how spaces change over time through design actions. The two codices explain that there are

two different approaches to consider in transformation processes. In the project development approach autonomous objects are identified "and transferred one after another" to be used as constants around which future development unfolds (Braae 2015, p. 293). These objects are preserved while their context is erased, hence it is according to Braae an approach that extends back in time. The second approach is a protocol for a design process in which the whole of the site is considered throughout the process and in which elements are adapted and re-installed. This spurs speculations about the future and according to Braae consideration of "where we can obtain the greatest effect in the future with the least effort", which also motivates an economy of means (ibid.). (Paper II)

Braae's (2015) four paradigms; difference transformation, continuity transformation, cultivation transformation, and optimization transformation, take into account the designer's aesthetic intent, but also programmatic aspects and heritage value. Difference transformation utilizes contrasts as the main mode of perception in order to leverage and differentiate the new and the old. Continuity transformation is a dynamic and iterative process in which the designer instigates and evaluates change by utilizing the inherent dynamic condition of the object or situation. Cultivation transformation can be described as a prolongation of the past into the future in which the designer limits the transformations to specific aspects of the object or situation. The last paradigm is optimization transformation in which the essence of the object or situation is in focus. However, the essence is not a static quality but can be added or enhanced through the transformation (ibid.).

Braae's (2015, p. 292) work demonstrates that the transformation process "goes beyond […] static before and after illustrations." What is also promising with Braae's paradigms, in the face of Sola-Morales's resistance to normalize *terrain vague*, is that design intentions can slide on a gradient from preservation to radical reconstruction without compromising the otherness of the site (Papers I, II, IV). Braae's theory draws on thinking that is close to that of Nicolas Bourriaud (2009). Bourriaud (2009, p. 117) suggests the concept of 'journey-forms' to discuss the fluidity of contemporary society and suggests (for example) that "the work […] develops as a chain of linked elements – and no longer within the order of static geometry that would guarantee its unity." As such, journey-forms offer an intellectual agenda of how to embrace continuous change of space and how to resist the imaginaries of a fixed state of space (Papers I, III, IV).

From the discipline of architecture, Dana Cuff and Roger Sherman (2011, p. 24-25) offer the concept of radical increments, which they describe as a "design

strategy that utilizes accumulation as a means of catalysing change, while producing urban character and identity in the process." The concept holds qualities by offering tactical thinking on when to introduce new architectural typologies that transform the life and imageability of the city through entrepreneurship. Furthermore, Cuff and Sherman (2011, p. 16) argue that this entrepreneurship is best handled by the bricoleur through a governance of management and states: "Management, as politics and negotiation, is a critical topic of discussion."

3.3.2 Digital advances enhancing new understandings of change

The European Landscape Convention supports the recognition of landscape, and with-it related concepts, to be something beyond mere physical space and states that "the landscape forms a whole whose constituent parts are considered simultaneously in their interrelations" (Council of Europe, 2000). The relational aspects of landscapes in general are recently enhanced by digital advances in computer-aided design (Paper III).

Topology is a concept that have surfaced in landscape architecture due to these advances. For this dissertation a working definition of topology is that topology can be understood as the relation between a site and the processes that influence the change of that site. Topology has also been articulated by the European network *Studio Urbane Landschaften;* Antje Stokman's (2013, p. 289) topological understading relates "the appearance of space to the spatial processes that shape and continuously change it." Furthermore, Stokman makes clear that this understanding is not simply space as pure geometry or topography, which to her "reduces a site's visible spatial form to the Euclidian concept of a concrete spatial entity based on three dimensions (height, length, width)" (ibid.). To represent a landscape as Euclidian space is to enforce a censorship to aspects that are inherent to landscape, such as growth and cultivation, dynamic changes of natural and man-made processes etc (Paper III).

The interest in topology in landscape architecture coincides with developments in computer-aided design processes that allow for the processing of larger data sets and complex relationships. The relational aspect is supported by NURBS geometry.[3] In architecture the computer software supporting

[3] NURBS (Non-Uniform Rational B-Spline) geometry differs from Euclidian geometry in such a way that each point in a thought grid is to be related to any other point on that same grid. This is achieved by supplementing the usual Cartesian x,y,z coordinates with a set of u,v coordinates that transform the otherwise "stiff" grid into a dynamic mesh

parametric or NURBS geometry was developed in the early 1990s (*cf.* Lynn 2004; Kolarevic 2005; Carpo 2012). So far however, the main impacts of new parametric tools and software have mainly been formal; buildings or constructed landscapes with soft undulating surfaces or complex tessellated curtain walls. On the urban scale most applications are still not realized but advances in technology harbor the capacity for urban design to engage with more dynamic and complex situations (*cf.* Mayne 2011).

As parametric geometry is no longer absolute - it is dynamic, responding to all other parameters in that same environment - it potentially offers urban design the opportunity of employing iterative and open-ended design, and continual adaptations based on interactions with stakeholders etc. Through the lenses of a topological understanding Stokman (2013, p. 290) claims that space is "more a performative process than a form." Furthermore, Stokman explains that "the geometric concreteness of space plays a lesser role than the perception and description of the process by which it is generated and altered" (ibid.). Such an understanding of space spurs, according to Stokman (2013, p. 291), a design practice of "designing [landscape] emergence" as opposed to "forming a landscape." (Paper III)

These digital perspectives offer new opportunities for how to understand relations between site, time, and actors as well as synthesizing these relations during transformation processes. For the discipline of landscape architecture, that has several important perspectives to offer urban transformation processes, the engagement with digital design tools is critical as "digitally driven design opportunities have been slow to influence landscape architecture" (Walliss & Rahman 2016, p. vii). (Paper III)

3.3.3 The designer's role in transformation

In the canonical publication *The Reflective Practitioner,* Donald Schön (2007, p. 79) explains that the designer "shapes the situation in accordance with his initial appreciation of it, the situation 'talks back', and [the designer] responds to the situation's back-talk." This oscillation between design/designers' intent and how it is played out in the situation followed by a reformulation of actions and intents describes the iterative way design works. Design work and design actions are interconnected loops of asking questions, testing hypotheses, evaluating the application, reformulating the question etc.

Returning to the split between Ian McHarg's and Lawrence Halprin's approaches to spatial-temporal design mentioned in previous subchapter, Margot Lystra (2014) elucidates how the influence of cybernetics during the 1960s created a tension between uncertainty and control in landscape architecture. Comparing Ian McHarg's entropy to Lawrence Halprin's chance, Lystra unveils the hidden aspects of power and control in early applications of system theory in landscape architecture; power structures that are still inherent in contemporary computation but seldom discussed (ibid.). What Lystra demonstrates is how the early cybernetics of the 1960s worked through closed – exemplified by Ian McHarg's entropy – or open – exemplified by Halprin's chance – systems which were operating very differently. The difference between the open and closed systems is the system operator's position in relation to the system. In a closed system the operator exists 'outside' the system. In an open system the situation is the opposite, the operator is part of the system and able to influence feedback loops between the system's input and output processes (ibid.) (Paper I, II, III).

In the publication *Landscape Theory in Design* Susan Herrington (2017) explains the introduction of systems theory into landscape architecture through Ian McHarg's work on map overlays of systems and his canonical publication *Design with Nature* during the late 1960s. The key finding in Herrington's interpretation of McHarg's contribution is the double recognition of reductionism and totaliarianism in his work. Herrington (2017, p. 223) writes, "McHarg sought to document an exhaustive set of information in an attempt to know a site or a region in its totality." The epistemological tradition that McHarg based his work on emphasized objective, measurable and absolute data sets that controlled and reduced the multiplicity of a site and its evolution (Lystra 2014; Herrington 2017). Furthermore, the entropic tendencies – accepted as inevitable conditions but regarded as a danger – called for stability through control and it became the designer's responsibility to "facilitate order by constraining […] the dynamic system" (Lystra 2014, p. 75). Hence, "the potential for the site being drawn to evolve in ways that were unpredictable, open, or evolving was reduced" (Lystra 2014, p. 76).

Lawrence Halprin on the other hand celebrated the unpredictable. Halprin (1969) started to use his renowned "open scores", inspired by art and dance, in the early 1960s and through his canonical book *RSVP Cycles*. Margot Lystra (2014, p. 77) explains:

> "Occasionally scores referenced material conditions, but more often, they focused on instructions for action. These instructions were usually ambiguous, assuming

> – indeed inviting – uncertainty. In this way, landscape scores were intentionally unfinished representations: relying on action for completion, they were as incomplete as the conditions they engaged".

According to Lystra, Halprin's intention with the scores was not to control, but to communicate. The openness indicates that there is a space for action in the system but that it is dependent on whether the components (either people or nature) of that system choose to act or not. Hence the system is based on chance plus choice (Lystra 2014, p. 78).

The two attitudes can be seen as representing scientific versus design-driven approaches which might contribute to explaining a gap between planning and design processes and how they relate differently to data processing and aspects of time (Papers II, III, IV). The mindsets of design/designers, nowadays also enhanced by the developments in computer-aided design processes, challenge linear protocols in transformation projects (Paper II). This brings out the aspect of how site-born actions of changes are instigated and facilitated in relationship to policy-born strategic masterplanning. Recent thoughts on how to think about the interplay between these two levels in complex transformation processes of post-industrial sites come from Lebbeus Woods (1997), Chantal Mouffe (2013), Sylvia Lavin (2013), and Isabel Doucet and Hélène Frichot (2018).

Lebbeus Woods's (1997, p. 16) writing is relevant when studying stakeholders' contradictory epistemologies in urban design and planning. Woods demonstrated that "new structures can be injected." According to Woods, new structures can operate parallel to conventional structures in order to instigate "two radically different systems of spatial order and thought" (ibid.). However, this dissertation testifies to the difficulty of navigating two systems with different epistemological and ontological perspectives (Papers I, II). Chantal Mouffe's (2013) scholarship on the agonistics could offer a relief from the quest of agreeing on everything. Instead Mouffe finds it important to recognize the diversity of conflicting perspectives and to act from there (ibid.).

Isabel Doucet and Hélène Frichot (2018) introduce the occurrence of 'resistance from within'. Doucet and Frichot call for situated perspectives on architecture and the city because they see that architectural work is always "entangled with the lives of people, places, and things" (Doucet & Frichot 2018, p. 1). Resisting ready-made solutions and the "distant, autonomous, and authoritarian" their perspective is relevant to this dissertation by offering insights on the power-play between various actors and discourses that are

identified in some of the studied cases (ibid.). (Paper I, II) Sylvia Lavin's (2013) scholarship on do-it-yourself (DIY) processes theorizes the ability to interact with the situation at hand and how that ability flips protocols of power, representation and expectations. Furthermore, Lavin (2013, p. 40) states that when a component of DIY is introduced "the architectural object [transforms] from predictable form – knowable and describable in advance through drawings – to unpredictable process." These perspectives offer valuable insights into the challenges that arises in-between actors promoting site-born versus policy-born initiatives (Paper I, II).

4 Papers I-IV

This chapter introduces the four papers included in the dissertation. The papers are available in full as appendices in the printed version of the thesis and online as indicated in the list of publications.

Three papers (I, II, III) use one case respectively to explore and extrapolate specific aspects of urban transformation. Paper I explores questions of 'where' and 'when' urban transformation occurs and what are the particularities of the site. Paper II builds further upon insights about where and when, and traces questions related to 'who' the actors are, who are involved in urban transformation, and 'how' they interact? Paper III digs deeper into questions of 'how' and explores new theory, and the impact of new technology on design processes and the materialization of change. Paper IV is expanded from a conference paper, with the aim of creating an overview of the shortcomings of masterplans and masterplanning that are currently being voiced in the discipline and practice of urban design.

The three papers (I, II, III) discussing cases are conceived as design critiques, while Paper IV borrows methodology from literature review. In all papers the approach to literature reviews has been qualitative, influenced by narrative analysis in which the purpose is to understand 'why' or 'how' something works (Snilstveit et al., 2012). The research for the papers exploring cases was structured as research on, and into, design through a design critique (Lyotard 1984, Bourriaud 2009). Techniques that were used were literary research, drawing analysis, comparative analysis, and direct observations.

4.1 Paper I, Ile de Nantes 2000–2010: a method for the meantime?

Figure 17. The strategy of "economy of means" brings out an unconventional aesthetic experience of public space at the Ile de Nantes, Nantes, France. (Photo: Caroline Dahl)

4.1.1 Design critique through field study

In this design critique of the Ile de Nantes project between 2000-2010, design is considered as a means of intervening in the ever-ongoing dynamics of a site. The critique aims at evaluating change of space instead of state of space. The critique is based on a transformation analysis and offers an interpretation of site and design through micronarratives, from which an evaluation of the *plan-guide* approach is developed.

As an alternative to masterplans, that aim for static 'form' according to an urban model, the *plan-guide* method supports urban transformation beyond predefined models. After judging the *plan-guide* as particularly apt to steer the *Ile de Nantes*'s first ten years of transition from old wharf to new city – the 'meantime' – some weaknesses are also pointed out. If these can be overcome this could enable the *plan-guide* method to become a strategy for urban transformation based on an alternative framework. In addition, the *plan-guide*

method has the capacity to augment masterplans and masterplanning, because it allows for testing an action of change before confirming it.

4.1.2 Findings

In the paper it is suggested that the *plan-guide* – developed by French architect, planner and landscape architect Alexandre Chemetoff in the context of an urban redevelopment project at *Ile de Nantes* in Nantes, France – is a method for urban transformation that operates performatively towards an open-ended urban form. This claim is supported through a critique using a transformation analysis based on the concept of journey-form emphasizing the progression of form and its performativity, developed by French art theorist, critic and curator Nicholas Bourriaud. In addition to document studies and site visits, analytical micronarratives that trace materials, atmospheres and practices at and of the site are developed.

The purpose of the research is to shift transformation practices from executing generic and normative urban models such as 'the Bilbao-model' or 'the eco-city model' to practices that appreciate urban form as dynamic where site-specific qualities and conditions are transformed in collaboration across organizational and disciplinary boundaries in order to find alternatives to the masterplan and to facilitate new ideas of what is the urban.

Findings from the paper points towards:

- *Plan-guide* is a method not a model, hence operating performatively rather than normatively.
- *Plan-guide* is an iterative survey-project tool for ground-up transformation to help life emerge, and urban life helps space evolve.
- When used as method, the *plan-guide* can engage with initiative of all scales.
- The *plan-guide* fosters new ideas about the 'urban' through collaboration with people, events, memories, moments, and atmospheres.
- The openness of the *plan-guide* is both its strength and its weakness.

The research contributes to the dissertation with suggestions on how transformation can be conducted through an extraordinary site awareness that allows for on-site design actions of change beyond masterplans and masterplanning. This does not render masterplans and masterplanning obsolete, but it suggests that site-born design actions can augment, complement, or supplement, the masterplan and masterplanning. However, it suggests that masterplanning's future role can be to confirm change rather than initiate it.

4.2 Paper II, Gothenburg's Jubileumsparken 0.5 and Frihamnen: explorations into the aesthetic of DIY

Figure 18. Cantilevering structures used as a prototype for events at Frihamnen in Gothenburg, Sweden. (Photo: Caroline Dahl)

4.2.1 Design critique through field studies and a collaboration project

This design critique explores how a top-down approach of conventional planning coincides with a placemaking project that evolved from the site. The placemaking project is facilitated by designated mediators within city administration with the purpose of more closely connecting the city's disconnected departments. This project, *Jubileumsparken 0.5,* was launched in 2013 in conjunction with urban planning activities aimed at bringing about a transformation of the harbor area of *Frihamnen* in Gothenburg, Sweden.

The project's purpose was to make use of the 'meantime' to explore the site and its specific qualities and relationships, and to test these through prototypes and events before plans and protocols are fixed. Only three years into the project, at a point when this specific meantime is starting to run out and the first development plans are being drafted, this paper demonstrates – through a transformation analysis – that the abandoned site has been turned into a

particular place through people's engagement and do-it-yourself-inspired processes of building together. Furthermore, it shows that the embedded narratives of these actions are starting to challenge the planners' otherwise distant and abstract understanding of this place.

4.2.2 Findings

In the paper, the inability of conventional masterplanning to harvest insights from bottom-up processes taking place on site through DIY-initiatives is asserted. The claim is supported through a design critique of the transformation project taking place in *Frihamnen*, using an extrapolation of how two redevelopment plans intersect with the placemaking project called *Jubileumsparken 0.5*.

Grounded in Ellen Braae's theories on the contradictory mind-sets in place during transformation processes; project development versus design processes, and the difference in how these mindsets operate when transferring qualities and elements from one state to another, the study explains why the two simultaneous processes that have been at play; the top-down concept driven planning process and the bottom-up site-inspired design process fail to feed into one another.

The purpose of the research is to reveal tensions embedded in transformation projects, tensions between an actual site's qualities and conditions and between an emerging place's identity and its future plans. Once revealed it is then possible to propose an urban transformation strategy of increments and agglomeration rather than models and concepts, and to open up planning processes to the particularities of a site.

Findings from the paper point towards:

- The *Frihamnen* transformation project read through the *Jubileumsparken 0.5* placemaking project showcases that the masterplanning processes failed to recognize site-specific qualities.
- The empowerment of a strong relationship to the place through do-it-yourself actions can contribute to unlocking planning processes, allowing the plans to include the particularities of a site and thereby complementing masterplans and masterplanning.
- A facilitated and inclusive dialogue has the power to demystify transformation processes, shifting them from abstract plans to concrete actions. However, the relational qualities embedded in the process are difficult to understand and implement in conventional masterplanning.

- A shared conclusion with the case *Ile de Nantes* is the project's search for an expanded idea about the urban.

The research contributes to the dissertation with suggestions that there is a gap between site-born incremental actions of change and policy-born strategic masterplanning that is difficult to overcome. Furthermore, the research conducted in writing the paper suggests that masterplanning can be complemented through placemaking projects by supporting dialogue and participation.

4.3 Paper III, About time: becomings in the urban transformation project BayCity

Figure 19. Industrial heritage at the location of the *BayCity* project, Providence, Rhode Island, USA. (Photo: Caroline Dahl)

4.3.1 Design critique through literature studies and interview

This paper traces two contrasting approaches that can be detected in transformation processes of derelict industrial areas; design as a loose framework versus evidence-based planning. In addition, the paper discusses how recent developments in computer-aided design processes can enhance the applicability of complex and dynamic relations that enable urban design to move beyond static masterplans.

A literature study of the concept of topology offers insights into contemporary thought in landscape architecture on the relation between a site and the processes that shape that site. The paper presents a literature review that defines four key components to support urban design's increased engagement with parametric computation. The aspect of time – embedded in the discipline of landscape architecture but surprisingly overlooked in conventional urban transformation projects – emerges as one key aspect for further studies. A design critique of one pioneering project; the *BayCity* project in Providence, Rhode Island, USA concludes the paper.

4.3.2 Findings

In the paper manuscript theories on the relation between site and the processes that shape that site are studied in order to better understand how recent developments in computer-aided design processes can support the sensitivity to time and change in transformation processes of post-industrial sites.

The claim is supported through a literature review on the concept of topology in the design disciplines and the study of a transformation project, the *BayCity* project, in Providence, by Thurlow Small Architects and Muchi East. The designers suggested that the proposed design approach of simulations has the capacity to replace masterplans and masterplanning.

The literature review traces the concept's application in various disciplines and specifically recent interests in the discipline of landscape architecture. While some approaches seem to use the concept to conceive autonomous understandings, other approaches use it to inform the understanding of how change materializes over time through design actions. The study of the *BayCity* project reveals the complexity of long-term transformation processes. The study also shows that the use of parametric tools helps to communicate this complexity over time and to uncover contested power structures when it comes to prioritizing one interest over another.

The purpose of the research is to intersect new discourses in landscape architecture with advances in new technology with the aim of gaining insights that can support thoughts on time-sensitive transformation processes that are open-ended while also able to process a growing set of data complexities.

Findings from the paper point towards:

- Four topological approaches that can be identified; A geometry of qualitative place relations; Topology as a single theory; Space as process; and Topology and the computed city.
- A disclosed gap between scientific versus design-driven approaches. Inherent epistemological conflicts between open or closed systems, in which the difference between reductive and inductive processes becomes pertinent, are challenging to overcome.
- The *BayCity* project confirms that the use of parametric urbanism is able to foster open-ended and iterative transformation processes. Challenges are also identified in terms of structure and patterns of data and how to communicate and represent non-linear processes of change.

The research contributes to the dissertation with insights into concepts of change and becomings, and the interrelation between a site's spatial particularity and the processes that shape and continuously change that site. Furthermore, the research for the paper supports insights into new computational possibilities as well as challenges.

4.4 Paper IV, Beyond masterplanning: an inquiry into current criticism and initial suggestions of escape

Figure 20. Map showing the global spread of criticism aimed at masterplans and masterplanning, clustered in four categories. (Illustration: Caroline Dahl)

4.4.1 Literature review through narrative analysis

This paper takes the criticism regarding masterplans and masterplanning as subject matter of inquiry. Such criticism had already begun to surface in the mid-twentieth century but has recently gained new ground. The paper detects, analyzes and synthesizes the current criticism of the masterplan and masterplanning by means of two literature reviews which frame masterplanning's and masterplans' shortcomings as conveyed in academia between 2000-2019.

The reviews are approached as narrative analysis, hence trying to understand questions of 'why' or 'how' something works, or does not. Systematic mapping and screening processes have been conducted in order to identify relevant records.

4.4.2 Findings

The result shows a globally occurring criticism while the direction and focus of the criticism also depends on location and socio-political contexts. The criticism less disciplined than anticipated and is often used as a springboard into other topics. Clusters of criticism that can be identified are; commercialization of masterplans (China); lack of participation and shortcomings of stakeholder constellations (South America, Africa, and Australia); implementation gaps (Global); and resistance to dynamic conditions and processes (USA, Europe).

Four synthetic conclusions also emerge through the reviews; (1) masterplanning's inherent modernistic mindset causing greenwashing of urban development; (2) masterplanning's dependency on urban models resisting open-ended and incremental change; (3) masterplanning's inability to recognize existing values and resources causing overconsumption and unsustainable growth; and (4) masterplanning's inability to respond to dynamic socio-economic-ecological and political conditions.

Overall, the criticism that is highlighted the dual issue of fixities versus dynamic conditions and single urban models versus systemic approaches. Another conclusion is that participation, although on the agenda for half a century, remains an outstanding issue in masterplanning.

The purpose of the research is to understand the shortcomings and drawbacks commonly voiced in regard to masterplans and masterplanning, and to look for responses to those.

Findings from the paper point towards:

- Links between spatial planning, building regimes, citizens' participation and communication are found in the studied Papers.
- Modernistic mindsets are lingering, and a new paradigm is called for, but few suggestions are articulated. New technology and computation, as well as calls for critical practices are two widespread responses.
- Dilemmas between fixity versus dynamic conditions, and single model versus systemic understanding are a common criticism. How to conduct change of space is still ambiguous and a theory of change is called for.
- Design as a framework for change is promoted, but others call for the superiority of planning over design.
- Less common as a criticism, but still detectable, is the drawback regarding comprehending existing site conditions and understanding vernacular space

and knowledge. A relational turn in which the focus is on dynamic processes and stakeholder negotiation is called for.

This research brings insights to the dissertation regarding the challenges that masterplans and masterplanning still face. These challenges threaten the sustainable development of cities and urban areas, and also threaten attempts to counter the wasting of resources by transforming site qualities. There does appear to be an ongoing change in urban planning practice, but much depends on technical advances. A theory of change is called for, which this doctoral project partly responds to through its suggestion of building transformative capacities which would enable the transformation of post-industrial urban sites to be managed differently.

5 Discussion and conclusion

The main question that this doctoral project set out to explore is: Can design approaches support links between site-born incremental actions of change and policy-born strategic masterplans in transformation processes of post-industrial urban sites? Furthermore, the following questions are explored; how do actors involved in transformation processes recognize qualities of post-industrial sites; what design approaches are used, and at what moment of the urban transformation process; and how can design approaches add to masterplanning.

The main concern is that there is a gap between policy-born masterplanning and site-born actions of change in transformation projects of post-industrial urban sites that would be advantageous to bridge. This dissertation's main claim is that design approaches can contribute beneficially to closing this gap. The research questions stem from the dual interests to find adequate ways in which architecture and urban design can operate in a more sustainable way through approaches of thrift and reuse, while also better appreciating established practices and cultures on site. Such approaches would contribute to more sustainable practices while also contributing to the Sustainable Developments Goals (SDG) of Agenda 2030. The ability to recognize the existing, what is already there, is important in order to support such a shift. Hence, the exploration of the first sub-question; how do actors involved in transformation processes recognize qualities of post-industrial sites?

The second sub-question aims at identifying, in the transformation project under investigation, the type of design approaches that are used to inform the transformation of site qualities, as well as considerations as to when they are initiated. This sub-question draws out insights on how transformation processes can be organized and structured over time in order to facilitate a link between masterplanning and site-born actions of change while also being able to speculate about what a site quality can become.

The last sub-question aims at identifying what and how design approaches can add to masterplanning. The assumption is that when design approaches are introduced in transformation processes this might affect how masterplanning is being conducted. In order to pursue the research questions literature studies have been conducted, intertwined with studies of a set of transformation projects, as explained in Chapter 2.

The studied projects provide examples and research takeaways concerning what can be important to consider when initiating a transformation project of a post-industrial urban site. In addition, suggestions for future research arising from pursuit of the main research questions will be provided. As explained in the introduction, this dissertation relies on Judith Butler's approach to critical resistance which suggests that critical readings can be done without suggesting a 'better' solution (Hoy 2005). Hence, this concluding chapter won't consist of a manual or a complete list of instructions.

5.1 Recognizing qualities of post-industrial sites

Asking 'how' actors involved in transformation processes recognize site qualities of post-industrial sites, prompts the related question of 'what' site qualities get identified. The study of the three transformation projects of *Ile de Nantes, Frihamnen* and *Jubileumsparken 0.5,* and the *BayCity* project reveal that site qualities are differently recognized in each. The *Ile de Nantes* project works through an approach which is iterative but mystified. The site qualities in the *Frihamnen* area and the *Jubileumsparken 0.5* project are found to be temporal and non-transferable. In the *BayCity* project speculations about the future let site qualities evolve over time. But, the three projects also share commonalities, such as a higher level of awareness regarding 'how' the qualities are harvested from the sites, and a lesser awareness of 'what' qualities can be identified.

5.1.1 Ile de Nantes: iterative and mystified

The transformation project of *Ile de Nantes*, studied in Paper I, showcases many aspects of site-specificity. It recognizes a variety of site qualities. The project instigated a method, *plan-guide,* to survey the island quarterly between 2000-2010 for site qualities which could be transformed through design actions contributing to the transformation of the full territory. The site qualities identified were of various character; materials and structures were reused; existing urban practices and cultures were identified and subsequently encouraged to become stakeholders to implement various actions (Paper I).

The site's physical traits were used as 'armatures', one of four strategies for site-specific design defined by Elizabeth Meyer (2007). Riverine slopes, dry docks, and old rails were integrated into designs for new public spaces. The island's topography and landform were utilized for spatial diversities and experiences, consistent with another of Meyer's site-specific strategies, 'site as figure' (ibid.). Pockets of vegetation and fragments of maintained urban flooring further added to the variety of materials that contribute to a layered experience of memories and meanings.

Alexandre Chemetoff, chief designer at the *Ile de Nantes* project during 2000-2010, states: "What's there is there. We will engage with everything" (Gravelaine 2009, p. 11). Indeed, the *Ile de Nantes* project testifies to the validity of thing-power (Bennett 2010). Mapping the design actions that have taken place in the project, one can confirm that the designers did engage "with everything". The iterative *plan-guide* method allowed for recognizing site qualities and initiating design actions of various scales, temporalities, and levels of refinement. Furthermore, it allowed for experimentation and evaluation; a design action could be tested and later discarded or scaled up. The designers' approach of transforming the site through carefully considering what could happen where and when is, in addition to being pragmatic, an approach of economy of means. Saving resources, as practices of economy of means entails, is fundamentally a question of sustainability but also flexibility in an era of uncertainty. (Paper I)

However, the value system that guided the decision-making process of leveraging a site quality into a design action was not clearly communicated outside the design team. Hence, the transformation process came across as mysterious and difficult to predict by developers and stakeholders and was eventually replaced by a more conventional approach of strategic planning. (Paper I)

5.1.2 Frihamnen: temporal and non-transferrable

The *Frihamnen* and *Jubileumsparken 0.5 project,* studied in Paper II, used public workshops to identify site qualities. The workshops occurred as stand-alone events. The qualities identified and made operational through design actions were mainly dynamic and immaterial (Diedrich 2013), or of an haecceity approach (Meyer 2005). Elsewhere established actors, engaged in practices that could be considered to add value to the area, were invited to act on the site and thereby created a relation to it and the found site qualities. From those practices

site-specific discourses emerged. In this case, the site-specific qualities of the project increased over time, because the invited actors brought practices and discourses (Diedrich, 2013) to the area which amplified already existing site qualities. (Paper II)

Physical site qualities were also utilized in the *Frihamnen* area and the *Jubileumsparken 0.5* project, mainly through the reuse of structures and materials from the site. For constructing the sauna prototype, corrugated metal sheets found on site were reused. The prototype became an iconic structure, and the materiality of the construction became a signifying symbol for all of the area as well as the project. This validates the site-specific quality of the construction as it correlates with one of four strategies for site-specific design defined by Elizabeth Meyer (2007), 'site as fragment'. Other site-specific qualities, such as the reuse of cantilevering structures to host events, were tested over a shorter time-frame and later discarded when transformed into a permanent design, for example the transformation of the former warehouse *Magasin 113*.

The study of the *Frihamnen* area and the *Jubileumsparken 0.5* project demonstrates how site-specificity can increase and decrease over time because site-specificity in the project is tied to temporal design actions and not permanent designs. The study showcases that if site qualities are regarded as temporary, they are of lesser importance to consider in the planning process. If they, however, can be inscribed a future, permanent, value, then such values are increasingly important to mediate in the planning process. This can explain the difficulties of transferring knowledge from site to the realm of masterplanning, a finding that is also demonstrated through the study of the project. (Paper II)

Such mindsets can also explain the emergence of what city officials working with the placemaking project described as a double 'site blindness'. Site blindness is a situation in which the planners fail to harvest insights about the site derived from a placemaking project, while the facilitators and participants in a placemaking project overlook what is being decided within a planning process. This site blindness was seen as a challenge by the city officials, but impossible for them to address as it partly has to do with organizational structure and internal communication protocols, something that is beyond their reach. The site blindness diminished the ability to act through economy of means, because the site qualities that could be transformed and reused were seen to only have a temporal value, thus not transferred to the realm of urban planning to be confirmed as permanent assets. (Paper II)

5.1.3 BayCity: speculative and evolving

In the *BayCity* project, it is more difficult to identify what site qualities were considered, as the project has not been implemented. Using Miwon Kwon's (1997) scholarship on site-specificity, however, it can be argued that the project is site-specific. Kwon explains that site-specificity can be understood as a cultural framework (ibid.). In the *BayCity* project extensive mapping of actors, events and reports was conducted, related and represented over time in diagrams (Figure 21-22). (Paper III)

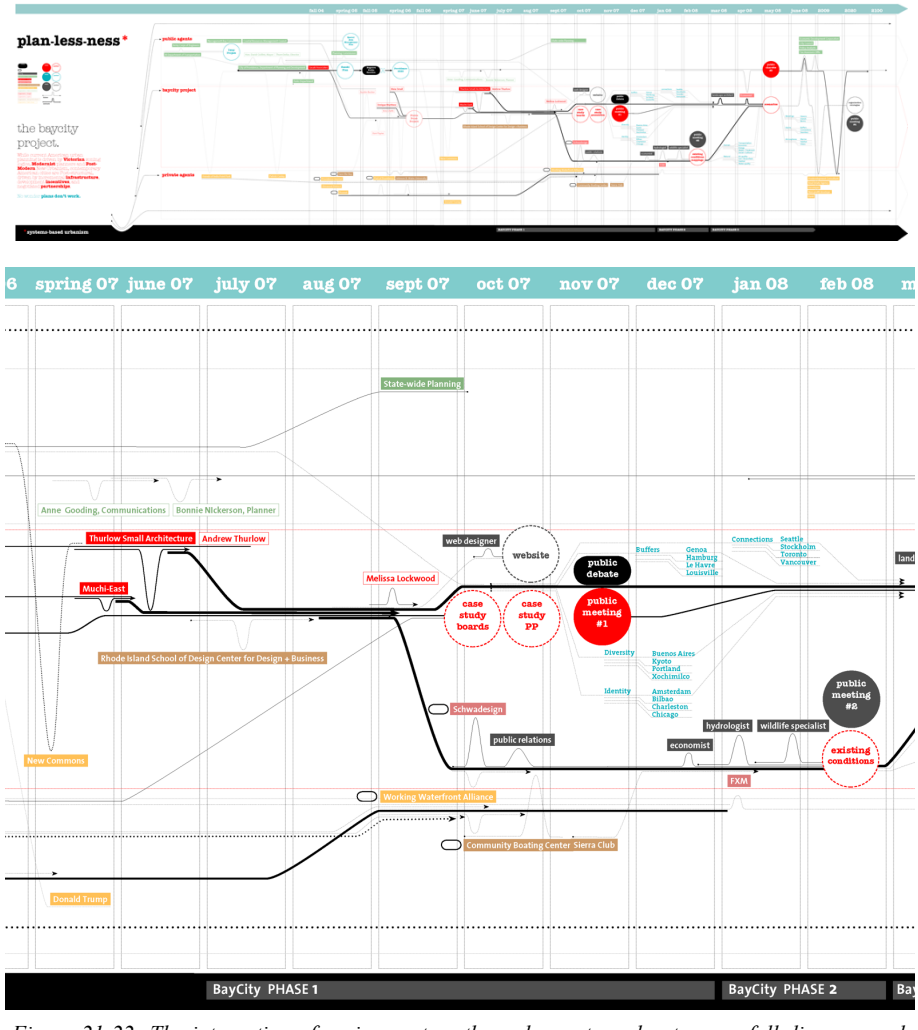


Figure 21-22: The interaction of various actors through events and outcomes, full diagram and detail. © Thurlow Small, Inc.

Different actors' and actants' relations to the site were spatially translated in a digital model that, through parametric computation, was able to continually update those relations and dynamically evolve the proposal. This kind of site-specificity is also closely related to James Meyer's (2000) concept of 'functional site specificity'. Meyer (2000) state that 'place' in functional site-specificity is temporal and changing with shifting meanings in a continual process. The computational possibilities in the *BayCity* project support such incremental processes by being able to generate time-specific scenarios and design proposals that later can be revisited and regenerated based on new relations between the site's actors and actants (Paper III).

Existing site qualities are identified through three figurative interests: harbor, housing, and recreation. These interests are conceptual, translated into scenarios. Speculation, in terms of proposed geometries and expected performances of the scenarios, is part of the project. The geometries represent an ideal condition and through computer-aided design processing these ideal conditions can seamlessly create an infinite number of geometrical hybrids. These simulations respond, on a larger scale, to land use and distribution issues and, on a more detailed scale, a reiteration generates formal and programmatic responses to site conditions. With every iteration the complexity and detailing of the proposal increases, e.g. becomes more and more site-specific. (Paper III)

5.1.4 Insight into ways of recognizing site qualities

As stated above, the question of how site qualities become recognized in the studied transformation projects reveals that site qualities are differently recognized in the three projects, both in terms of which qualities are identified and how they are being harvested from the sites.

Comparing *Ile de Nantes* and the *BayCity* project, where *Ile de Nantes* lacks transparency – in terms of what gets ascribed a certain value and by whom, in other words site-specificity as cultural framework – the *BayCity* project is utterly clear through its diagrammatic representations (Paper I and III). In the *Jubileumsparken 0.5* project the gap between the on-site interventions and the planning process creates a situation in which site-specificity is highly noticeable in the placemaking project on site, but utterly absent in the realm of planning. This brings out the challenge of how to transfer values from site to the planning realm.

Lisa Diedrich's (2013) and Elizabet Meyer's (2005) respective scholarship on site-specificity, explained in Chapter 3, would support a greater level of awareness and structure regarding what site qualities to look for in post-industrial urban sites, and to leverage such qualities into design strategies. However, their respective scholarship does not in full respond to the call from Christian Derix (2012) who states that architects and planners have lost the ability to 'see' a place and that there is a need for new stages in the workflow where the representation or abstraction of site-specific conditions and values could be communicated (Paper IV). It is the challenge of abstracting and communicating site qualities to the realm of urban planning that are lingering beyond Diedrich's and Meyer's respective scholarships. But their respective scholarship might also be in contradiction to Derix, as abstraction of space entails a commodification and control of space (Lefebvre 1991).

In terms of operational methods that could support those new stages in the workflow that Derix (2012) calls for, the *Ile de Nantes* project with the *plan-guide* method has capacity to support new practices by bridging gaps between on-site activities and masterplanning. In terms of identifying site qualities, the *Jubileumsparken 0.5* placemaking project offers some methodological learning outcomes from the conducted workshops, in particular how to engage the public in the process. However, the workshops were stand-alone events, preventing the result being agglomerated into a larger transformation process, which would be important if it were to serve as a basis for a more systematic method for transformation of post-industrial sites.

The third study, the *BayCity* project, is highly structured and transparent in terms of how site qualities are valued and by whom. This clarity is partly generated by informative diagrams and partly through computation, because the computational commands have to be explicit. However, with a parametric model and software, those values can be continually renegotiated because the NURBS geometry that is used in a parametric model is not constant, as it is in a Euclidian geometry used in non-parametric models. The commands are explicit but not pre-set or even permanent and the parametric model is able to generate an infinite number of scenarios in which different, sometimes competing, values can be blended. This allows for an openness in terms of outcomes. In addition, the computation possibilities showcased respond to challenges identified in the *Frihamnen* area and *Jubileumsparken 0.5* project, where questions of temporality and permanence became an issue when valuing site qualities. With the computational possibilities time becomes a continuum, rendering

classifications such as temporary or permanent obsolete as well as reducing the risk of overlooking site qualities that are thought of as 'only' temporal.

The clear structure of the *plan-guide* method could make it possible for actors or actants on site to apprehend and tentatively impact the transformation process. However, measures for increasing transparency, in terms of what are ascribed a certain value and by whom, have to be improved, as discussed in Paper I. Without such transparency, stakeholders' possibilities to predict what actions could and would be taken in the long-term are hampered, weakening the transformation process, also discussed in Paper I. Other arguments for increasing transparency and structure are discourses and practices of co-creation and co-production that are emerging. If constellations of stakeholders, agents, and actants become more complex, transparency and structure are valuable in facilitating productive navigation and collaboration.

The findings from these studies point to a number of questions meriting further research:

- How to restructure the workflow in transformation processes to include actions of site-reading?
- How to transfer accumulated site knowledge to the realm of planning?
- How to bring transparency, with the potential of increased participation, in terms of what site quality to ascribe value? In addition, how to lever those qualities into design actions?

5.2 Design approaches linking site and plan

The second sub-question of what design approaches are used, and at what moment of the urban transformation process, invites for explorations of how site qualities are changed over time in the three transformation projects. This further raises questions on the pace of transformation in the projects and if the spatial changes that drive transformation are of equal temporalities. The design approaches in *Ile de Nantes, Frihamnen* and *Jubileumsparken 0.5,* and *BayCity,* are site-specific but also share commonalities. The design approaches that are used in the projects are site-born but still highly speculative about the future. In addition, they are all facilitated through city administrations but remain at the same time porous enough to engage with other stakeholders in various ways. The design approaches are also all time-based but work through various temporalities.

5.2.1 Iterating: transforming the Ile de Nantes through increments

In the Ile de Nantes project 'iterations' of design activities are made operational through the *plan-guide* method. The method, studied in Paper I and discussed above, builds on reoccurring quarterly surveys of the full territory. The insights gained through each survey help build and execute projects and actions incrementally in dynamic stakeholder constellations. The method is pragmatic, opportunistic, yet strategic; transforming the site through various degrees of temporality. (Paper I)

The *plan-guide* method makes the important distinction between phasing – understood as transformation of one parcel after another – and increments. In the *Ile de Nantes* project, the full territory of the island is being surveyed quarterly and from this comprehensive understanding of the site, design interventions are suggested, implemented and evaluated. Hence, the whole of the island is subject to urban transformation. Transformative design actions are selected from this whole to be subsequently reintroduced in the whole through design processes (Braae 2015).

The relation between defined design interventions – parts – and the full expanse of the island – the whole – can also be understood through Bennett's scholarship on assemblage as it rejects a predefined and fixed relation. Bennett's reading of assemblage with micro-and microactants acting in a non-directional system is also useful reference to shed light on the challenging messiness of the transformation process, which eventually made the public developer abandoning the *plan-guide* method. (Paper I)

It is through the quarterly survey *iterations* that relations between the parts and the whole of the site are defined and re-defined. The *plan-guide* method suggests a mindset of circular time in which design actions are aggregated into an assemblage. The reoccurring surveys allow for an iterative process in which particular design actions can be initiated, implemented, and evaluated. Indeed, the *plan-guide* method allows for the co-existence of divided time and time as a continuum. However, the process of transformation and the labor involved in the transformation is still hidden from view – something that Sonja Duempelmann and Susan Herrington (2014) identify as common in representations of change – but something that also adheres to the importance of structure and transparency in each method, as discussed in the previous sub-chapter.

One of several conclusions from the *Ile de Nantes* study is that the project highlights the difference between a transformation process of incremental versus

phased action, the latter being conventionally applied in masterplanning. If the approach of incrementalism were to be expanded to a collective learning cycle possible to direct the *plan-guide* method, it could allow for evaluation and optimization throughout a transformation process. (Paper I)

5.2.2 Prototyping: overlaying various temporalities in Frihamnen

In the *Frihamnen* case, 'prototyping' is the main mode of operating on site. The prototypes were constructed within the context of a placemaking project *Jubileumsparken 0.5* with the aim of testing new programs for a future park to be located in the transformation area of *Frihamnen.* (Paper II)

The implemented design interventions – prototypes – were intended as temporary constructions, designed to last approximately 3-5 years, adhering to strategies of placemaking. Interestingly, several of the temporary constructions were later inscribed a significant value as landmarks for the area, which flipped them from being seen as temporary to being regarded as permanent structures. This recognition rendered them into what Dana Cuff and Roger Sherman (2011) defines as radical increments which is a design strategy that uses accumulation in order to drive change and establish identity. (Paper II)

Only through this change in mindset were the selected prototypes recognized, in the planning processes, as site assets. As temporary constructions they were overlooked by the planners when surveying the site. However, this change in mindset did not change the fact that the prototypes were regarded as constant artefacts, or fixed objects, in the planning process. As artefacts the prototypes were proposed to be implemented in a future urban design proposal without consideration given to their capacities to influence the overall urban design. This way of acting corresponds to what Ellen Braae (2015) describes as a "project development" in which objects are transferred to a new scheme without considering the effect they might have on the overall proposal. The opposite to such an approach, would according to Braae, be transformation as "design process" (ibid.). (Paper II) This can also be discussed as a matter of overlooking the prototypes' thing-power and agency, which became a challenge when the prototypes were transferred to the abstract realm of planning but did not 'fit' the intended urban design (Bennett 2010).

In addition to the prototypes intended to last 3-5-years, temporary housing and parks designed to last for 15 years were added to the development scheme – which otherwise consisted of permanent constructions (Figure 23). Three

distinctive time-frames could be identified, not necessarily as a continuum of time but rather as divided time. The various, and sometimes changing, time-frames created complicated relations and dependencies in the transformation process. Without a clear method to structure and make these time-frames operational, the direction of the transformation started to become increasingly ambiguous and eventually slowed down. (Dahl et al., 2019)

The challenging nature of design actions and prototypes is recognized by several scholars, as described in Chapter 3. In addition, Kevin Lynch elaborated, as far back as 1972, the delicate situation of prototypes: "[t]here are many problems associated with such prototype centers […] not the least is the need to protect the experiments from external disapproval when they threaten existing institutions […] some kind of institutional shield will be needed" (Lynch, 1972).

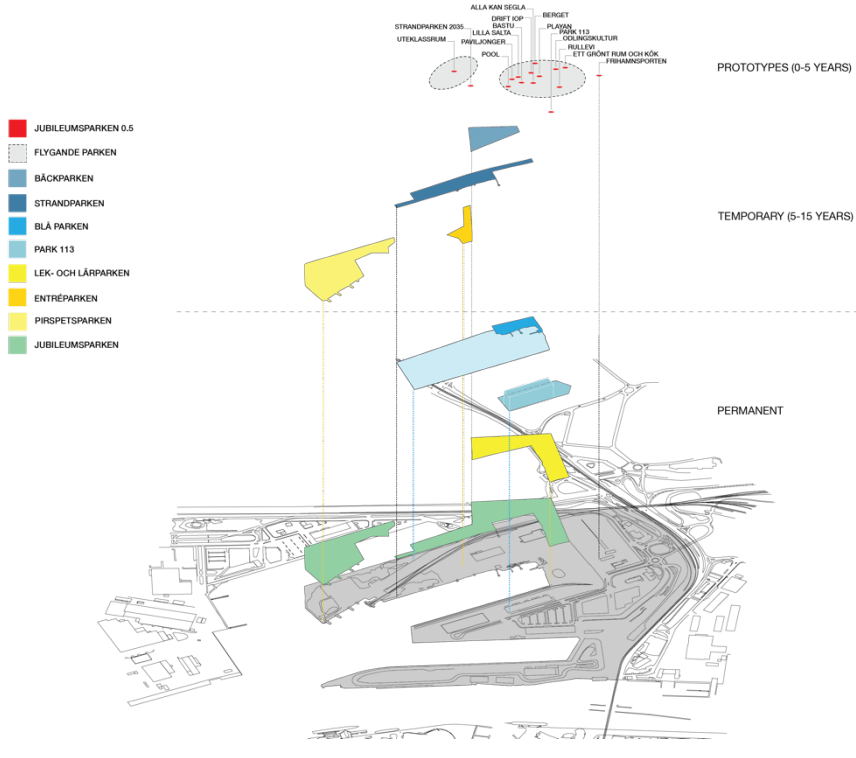


Figure 23. Prototypes, temporary parks and permanent parks in the *Frihamnen* area in Gothenburg, Sweden. (Illustration: Dahl, Dahl, Nilsson)

In summary, the study of the *Frihamnen* transformation area and the *Jubileumsparken 0.5* project offers insights on working with multiple simultaneous temporalities in transformation projects. Furthermore, prototyping as a transformative design action, requires/offers the capacity to not only transform the site, but also protocols and organizations. This underlines the fact that even though design actions can link site-born and policy-born initiative in terms of spatial transformations, attention must also be paid to preparing organizations and protocols so that they can benefit from the linking (Paper II).

5.2.3 Simulating: the speculative future of the BayCity

The *BayCity* project rejects the formation of a masterplan, and instead maps dynamic relations between identified agents. Those relations are translated into a parametric model in which future scenarios can be simulated. The project emphasizes the idea that the unfinished is preferable over the finite, implying time as a continuum. The study of the project reveals that structure and patterns of data need to be evident in order to reveal norms and predominant hierarchies that might constrain the outcome (Paper III).

In the *BayCity* project, the idea of emergence is inscribed in the parametric model, and the geometry of space evolves by intersecting predefined ideal conditions. The relational quality of the blending maneuver, used to simulate various spatial hybrids, has no stipulated end scenario, thereby making up a resistance towards finite outcomes. Hence, the project on a theoretical level encompasses a multitude of solutions both in terms of spatial form and in terms of temporalities as the model can 'freeze' a specific formal design at any given time. The 'smoothness' of the geometry that is generated through the computational possibilities suggests that space has already been negotiated. This prompts the questions of how qualities of macro- and microactants (Bennett, 2010) can be preserve beyond streamlined geometry?

In the project time is understood as a continuum. The parametric possibilities would also suggest time to be circular, but it also comes across as linear, due to the fact that the computation command does not re-visit or compute earlier designs and the "ideal" condition that forms the basis for the geometric speculations is never re-written. (Paper III)

Australian landscape architects and scholars Jillian Walliss and Heike Rahmann argue that "parametric modelling and simulation offers valuable techniques for working across design, planning, GIS and real-time data"

(Walliss and Rahmann, 2016, 95). Findings from the *BayCity* study point towards a similar conclusion; that the parametric model's ability to continually absorb data could relieve masterplanning of one key challenge, the habit of 'front-loading' projects with data before engaging in speculations about the future, as presented in Chapter 1 and discussed in Paper IV.

One of the prerequisites for this is a shift from Cartesian geometry to a topological understanding of space through parametric computation, which is used in the *BayCity* project. Antje Stokman (2013) and Susan Herrington (2017) stress that a topological understanding of space needs to focus on process rather than form, and that such a process needs to be performative. The *BayCity* project emphasizes process over form, even though formal expressions are inscribed in the parametric model too, as discussed above. The performative aspects in the project can be traced through the geometry's increased complexity when running the command. The assumption is that increased complexity would be able to respond to additional programs or interests (Paper III).

Recent advances in computer-aided design processes are crucial in order to facilitate shifting relations between parameters but also to be able to backtrack on prior design solutions as well as simulate future ones. In order for these simulations to successfully be related to each other and be related over time, the structure and patterns of data need to be explored. (Paper III)

5.2.4 Insight into design approaches and temporalities

The design approaches of iterating, prototyping and simulating, found in the three studied transformation projects, all drive spatial change by transforming recognized site qualities into design actions. The design actions are not to be understood as design artefacts but rather as ways of operating. Jonathan Hill describes design in architecture as "both the drawing of a line and the drawing forth of an idea" (Hill, 2013). Expanding on Hill's statement, design is intentional; the drawing of the line and drawing forth of the idea each has a direction, a purpose. That purpose may be open-ended and experimental, but it is never random; this is shown through the studied projects, discussed above and in Papers I, II, III. Furthermore, design is not limited to a certain scale, or to a particular outcome. Project, product, process – these are all design works. (Papers I, II, III)

All the studied design approaches are time-based. In the *Ile de Nantes* project, the iterative approach of the *plan-guide* method easily includes various

temporalities. Also, the *BayCity* project's application of computer processed simulations easily accommodates various temporalities. In the *Frihamnen* project the *Jubileumsparken 0.5* prototypes are clearly time-related as they initially have fixed temporalities. However, the prototypes' changing temporalities and the simultaneous occurrence of various temporalities actually halted the process when the situation became too complicated in terms of what was to be considered as temporal or permanent. (Papers I, II, III)

Time, while inherent in all works of landscape architecture, architecture, and urban design and planning, is comprehended very differently in the different disciplines. In landscape architecture, time is embedded through the biotic subject matter of the discipline, which brings out integrated perspectives of management with design and planning. This has traditionally distinguished the discipline of landscape architecture from other spatial disciplines. However, advances in computer-aided design processes through parametric computation are opening up the other disciplines to a more dynamic understanding of time which might render the difference less obvious (Mayne, 2011). Indeed, the technological advances have also pushed the discipline of landscape architecture to further elaborate on the aspect of time (Stokman, 2013, Girot, 2013). (Paper III)

In the discipline of urban planning and design, the emerging interest in aspects of time is generating a struggle to leave behind a linear understanding of time – one with a singular focus on the future (Lindholm, 2011) – and to move instead to a practice that supports a circular understanding of time, through adaptive, generative and evolving masterplanning (Bullivant, 2017). According to Mark Taylor, as discussed in Chapter 3, the discipline of architecture is also shifting its relationship with time from a celebration of permanence and timelessness to instead ascribing value to aspects of temporality and flexibility (Taylor, 2016). According to Taylor, such a shift would enable time to be "inherently bound to design" (45). This explains the interest in understanding the design approaches in the three studied projects from the specific aspect of time. (Papers III, IV)

Contradictory approaches to temporalities in design and planning are still a challenge, as discussed in all of the projects. However, changing mindsets in the disciplines of architecture and urban planning, as well as increased computation possibilities, might rapidly change this. Such a change could also bring forward an interest in greater awareness of how time is understood and made operational

in transformation processes, an aspect that is communicated in a limited way in the studied projects.

To navigate various temporalities raises questions of understanding layers of change, what speed they operate at, and how they can come together in larger transformation processes. Furthermore, that structure and patterns of data are important in order to successfully iterate design approaches over time.

The findings from these studies point to a number of questions meriting further research/exploration:

- How can time become a strategic tool in transformation processes?
- How can complexities of temporalities be navigated in transformation processes?
- How can design actions support transformation processes in agglomerating spatial change over time?

5.3 Expanding masterplanning

Most conventional urban renewal projects guide transformation through the creation of masterplans in which a visionary urban model is proposed, even though planning protocols and procedures are ill-equipped to navigate contemporary complexities, as discussed in Paper IV. Transformation of existing urban areas encompasses higher degrees of complexity than urban expansion on rural land which masterplans were instated to address (Paper IV). Some contemporary complexities generally found on post-industrial urban sites and seen on the three studied project sites are: fragmented and complicated stakeholder constellations; contaminated soil and derelict structures; vastness of space and an industrial rationality of scale. In addition, there are unpredictable effects of climate change, which influence urban sites as they do all others.

The studied projects, *Ile de Nantes, Frihamnen* and *Jubileumsparken 0.5,* and *BayCity,* instigate transformation through design approaches, as discussed above and in Papers I, II, and III. In addition to those design approaches masterplanning is also conducted on the studied sites. This prompts the question of how these design approaches relate to the masterplanning process and what design approaches might add to masterplanning in order to overcome some of the shortcomings identified in Paper IV. The third sub-question, how can design approaches add to masterplanning, is explored below.

5.3.1 Augmenting masterplans

The design team at *Ile de Nantes* responsible for the transformation of the island between 2000-2010, refused to formulate a vision that could have been applied as an urban model through masterplans and masterplanning. Instead the transformation process was guided by the *plan-guide* method (Paper I). As the method worked by using reoccurring site surveys and by executing the site-born change actions incrementally – often in collaboration with actors already established on the island – the transformation process played out differently than it would have in conventional top-down masterplanning (Paper I). (Figure 24)

The study of the transformation process of *Ile de Nantes* between 2000-2010, provides incentives for how design approaches can add to masterplanning. Making use of site qualities fosters an approach of saving resources which contributes, overall, to sustainability. Such an approach is also pragmatic in terms of what is actually possible to execute on a site. In comparison, utopian urban models often have very little in common with the sites they are applied to. Furthermore, testing the design interventions on site before confirming them through masterplans allows for evaluation and adaptation of the intended design. This addresses one of the shortcomings identified through Paper IV, that masterplans seldom deliver what they promise.

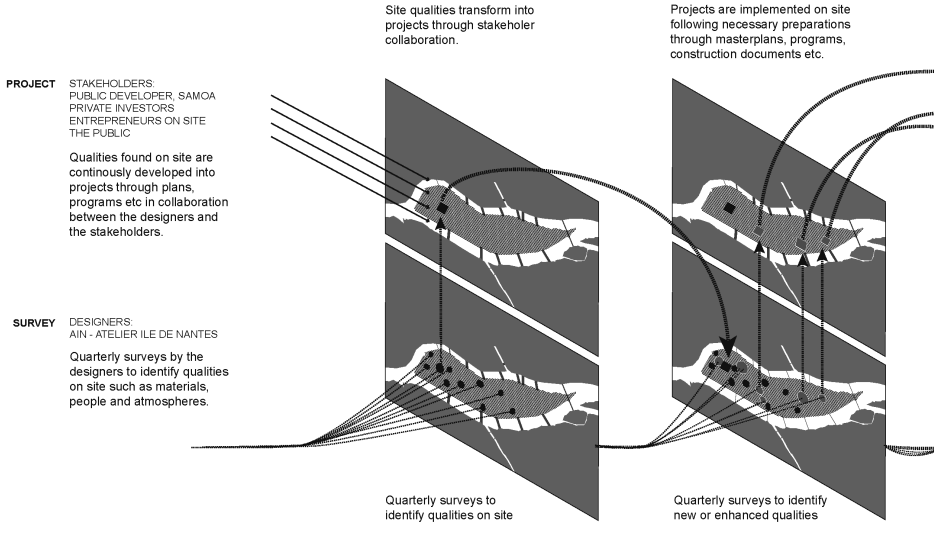


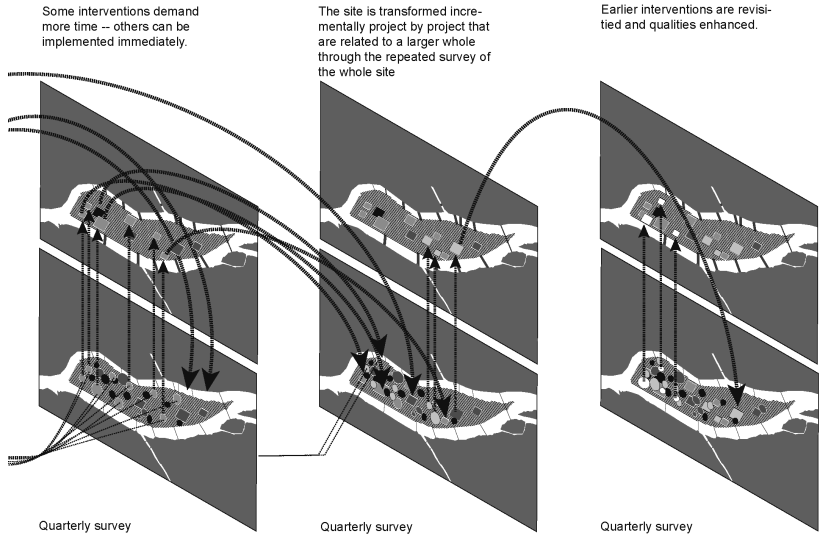
Figure 24. The iterative process of the *plan-guide* included in Paper I. (Illustration: Caroline Dahl)

Working with site-born initiatives also allow for actors already established in the area to engage in the transformation by forming stakeholder constellations that can execute and manage the change actions. This can ensure community involvement, addressing another identified shortcoming of masterplans and masterplanning discussed in Paper IV, the challenge of masterplans being commercialized and only prioritizing the financial interest of the real estate industry.

In summary, the study of the *Ile de Nantes* project showcases the benefits of drafting masterplans following tested and implemented change actions. Through the *plan-guide* method masterplanning is augmented to operate in a more site-specific and resilient manner.

5.3.2 Complementing masterplans

In the *Frihamnen* transformation area masterplans and masterplanning were played out as an autonomous and parallel process to the establishment of the prototypes, which were initiated by the *Jubileumsparken 0.5* placemaking project. Ellen Braae's theories, applied in the study of the transformation process in Paper II, supported the finding that two simultaneous processes were at play; a top-down 'concept driven' planning process and a bottom-up, 'site-inspired' placemaking design process.



The tension that arose from these simultaneous processes can be associated with Sola-Morales's early writing in which he described architecture's relentless intentions to erase the otherness of post-industrial sites and replace it with "citizenship" and proper planning (Sola-Morales, 1995). Lisa Diedrich (2013) discusses the difference between domestication and foreignization in site-specific transformation processes, which is a similar observation as Sola-Morales's. The study showcases that the two simultaneous processes in *Frihamnen* were effectively competing on how and what to transform the area into, even though a larger vision, The RiverCity, was formulated and adopted by the city council for the *Frihamnen* area and its adjacent areas also intended for transformation. This competition eventually caused the masterplanning process to come to a halt. So far, the masterplanning process have not been able to leverage the prototypes as radical increment, coined by Dana Cuff and Roger Sherman (Cuff and Sherman, 2011). Hence, the transformation project is missing out on innovation opportunities. (Paper II)

Further studies of the transformation process in *Frihamnen*, in conjunction with the doctoral project, reveal additional aspects, discussed briefly here. The *Jubileumsparken 0.5* project worked through management when initiating and facilitating the execution of the prototypes. This management approach prioritized the concrete and the pragmatic, while also including speculation about the future, which happened through conversations with the actors commissioned to run the prototypes. These conversations opened up for critical reflections about the future with actors not usually present in the conventional masterplanning hearings. The importance of such critical reflections can be understood through Isabelle Doucet and Hélène Frichot writing on situated perspectives (2018). Doucet and Frichot suggest "reclaiming other (forgotten, inconvenient, odd…) versions of such situations" (ibid). The designers in the *Jubileumsparken 0.5* create site narratives that were contradictory to the visions being put forth by the planning process (Paper II). The difficulty of working bottom-up is recognized as one shortcoming of masterplanning in Paper IV.

Interviews with the city officials reveal that no preparations were made in the organization to handle what happened on site, because no one expected contradictory perspectives to surface. Hence the gap between the policy-born masterplanning process and the site-born change actions grew wide, becoming what Isabelle Doucet and Hélène Frichot call "resistance from within" (2018). The challenge can also be understood through Jane Bennett's theories on assemblage (2010). However, in contrast to the *plan-guide* method – previous discussed as creating a messiness that eventually made the developer abandon

this way of working – the findings in *Frihamnen* is rather that the design actions created through the prototypes were not possible to accumulate into an assemblage that could be integrated in the planning process. This emphasizes the need to further explore how design approaches can productively complement masterplanning processes (Dahl et al., 2019).

5.3.3 Supplementing masterplans

In the *BayCity* project, the designers rejected plans altogether and instead proposed what they call a "system-based urbanism". As the project is not implemented it is not possible to evaluate what such a position would amount to compared to conventional masterplanning. However, of interest is how the proposed process and the computational capabilities offer a way to supplement masterplanning and the drafting of masterplans.

As discussed above and in Paper III, the *BayCity* project is based on a parametric digital model that is able to generate multiple outcomes in terms of spatial geometry and stakeholder constellations. This brings out an ambiguity in terms of what the final result will be, something that a masterplan usually relies on to be able to define, as it most often also entails legal ramifications. Hence, it is less likely that masterplans can be supplemented by a system-based urbanism, if the task is to generate an outcome. However, the situation would be different if the final design were kept open through a system-based urbanism until the scenario that is chosen to be implemented has been generated. Then a masterplan could confirm that outcome. Such protocols would be similar to what is discussed above about the *Ile de Nantes* project.

In summary it is less likely that the actual masterplan can be supplemented by system-based urbanism, but is more likely that masterplanning as a process would benefit from the openness and adaptability that are inherent in such systems, as parametric computation offers tools for mediating conflicting stakeholders' interests and spatial configurations.

5.3.4 Insight into additions to masterplanning

The three studied projects *Ile de Nantes, Frihamnen* and *Jubileumsparken 0.5,* and *BayCity* offer three different ways of relating design approaches to masterplanning: *augmenting* masterplans, *complementing* masterplans, and *supplementing* masterplans. The different ways that masterplans and masterplanning are applied prompts the conclusion that design approaches can

add value to masterplanning, but that it is important to facilitate the linking so that the effect is not contradictory or conflicting. Hence, it is important to continually define what added value design approaches can offer masterplanning in transformation processes.

The findings from these studies point to a number of questions meriting further research:

- If masterplans are augmented or complemented by site-born change actions does that restructure how and when masterplans are drafted?
- How can design approaches productively complement masterplans by inviting contradictory perspectives?
- Are there situations in which it is beneficial to supplement masterplans and masterplanning, and if so with what?

5.4 Concluding and next questions

This doctoral project's main research question has been to explore whether design approaches can support linking site-born incremental actions of change with policy-born strategic masterplans. The outcome of the doctoral project suggests that design approaches are able to do so if actors involved in transformation processes build up an increased site- and time awareness.

Knowledge on site and time is available in the discipline of landscape architecture, a composite discipline ranging from natural science to the humanities and also encompassing landscape architectural design with its agency to coordinate and communicate. This is why this thesis concludes on suggesting that a landscape perspective can support design approaches aimed at linking site-born incremental actions of change with policy-born strategic masterplanning in order to make transformation processes more site-, time- and situation specific.

Three sub-questions have guided this doctoral project: How do actors recognize qualities of post-industrial sites? What design approaches are used, and at what stage of the transformation process? How can design approaches add to masterplanning? Each of the sub-questions has previously been discussed in relation to each of the three studied projects. An overview of the found characteristics is below (Table 1).

Ile de Nantes	*Plan-guide* method Site surveys	Iterating	Augmenting masterplans
Frihamnen & *Jubileumsparken 0.5*	Building together Workshops	Prototyping	Complementing masterplanning
BayCity	Parametric computation Systems	Simulating	Supplementing masterplanning

Table 1: Characteristics of the three studied projects.

The sub-questions merited further exploration. Taken together they point towards restructuring and expanding transformation processes to enable additional bodies of knowledge to be included. Such bodies of knowledge can be, for example, about ascribed site qualities or contradictory perspectives about the site. This in turn calls for transformation processes to be open, yet resilient, so that it is possible to continually agglomerate this knowledge, even though it might not immediately 'fit' with the intended transformation process. To make this happen, actors and stakeholders driving the transformation have to share a mindset that supports collaborative work.

5.4.1 A landscape perspective supporting capacity building

As proposed in the introductory chapter of this dissertation, a landscape perspective on urban transformation invites us to consider both space and time as dynamic and relational processes. The increased complexity that such a perspective involve calls for expanded coordination and communication in transformation processes.

One purpose of the conducted research is to influence practices of urban design and planning to better coordinate and communicate during transformation processes, and to enrich established protocols of urban transformation to mediate competing processes occurring on different levels simultaneously. As transformation processes can be made up of several concurrent processes, in which various actions of change are being agglomerated, sharing knowledge is of essence in order to link those actions. The studies of the three projects point towards a conclusion that the issue is not how to share knowledge 'horizontally'

from one stage of the transformation project to another, neither is it how to 'vertically' inform processes from one hierarchical level, or scale, to a subordinated level. The issue is how to collaborate 'relationally' in a networked system. Such collaborations suggest building certain capacities for navigating transformation processes.

As a result of this doctoral project it can be concluded that an imagined capacity-building project, designed to navigate transformation processes, should be aimed at the practices of urban design and planning. Such a project would use the found design approaches to mobilize and harvest site-specific resources, and be driven from a landscape perspective to build the following transformative capacities:

Transformation as management; understanding change and succession through management is inherent in a landscape perspective, as the subject matter of the discipline historically has been biotic. What if we would transfer this mindset to urban design and start developments, transformations or changes of post-industrial sites with the intention of managing, rather than fixing it? That would call for an operational mode that emphasizes accumulation of knowledge about the site's existing qualities and conditions as a continuous process. Furthermore, the mindset is pragmatic and entails the capacity to act without knowing "everything", which would require agile stakeholders who could act incrementally as opportunities and needs emerged. Transformation as management is the ability to start from the site and to comprehend what can be done here and now.

Navigating fixity and flexibility; masterplanning is criticized for not being open enough to new circumstances, challenges and ideas. Site thinking and site reading contribute to comprehensive understanding of a site's qualities and conditions and will thereby support comprehensive planning. Paradoxically, this can backfire as being *less* site-sensitive, if the extended knowledge is interpreted as 'evidence' and the purpose of the plan is to bring certainty to a fixed development scheme. Temporary activities, citizens' engagement and inclusive transformation schemes, on the other hand, often have problems with legitimization and are being treated cautiously by authorities. How to structure site transformation in a way that is more open to opportunities? A landscape perspective invites for understanding its parts as relational, working across scales and traversing multiplanar perspectives, which does not necessarily "fit" a comprehensive whole. Navigating fixity and flexibility is the ability to merge design actions that are apprehended as contradictory.

Synchronizing of multiple temporalities: time perspectives and temporalities in site transformation and planning processes are different and not linked. While the transformation of a site is ongoing and endless, in constant change – by use and by nature – with shorter intensive interventions and activities, a planning process is encapsulated in a shorter time-frame while aiming at a future state of space. Can planning processes be seen as part of a larger transformation process instead of the other way around? A landscape perspective entails the simultaneous existence of various time-frames, which counteracts processes as linear and successive. Synchronizing multiple temporalities is the ability to navigate various design actions' durations and transformation speeds.

Creation of new urban imaginaries; while models of idealized urban form dwell in urban planning and design transition of society is called for in order to meet sustainability goals. What if the urban fabric as it is currently organized can't keep up with updated lifestyles and goals? A landscape perspective proposes that the urban landscape is what people perceive, and which evolves through time as practices and processes act upon it, allowing for the coexistence of the undeveloped, matured and decayed. Idealized space is not people's everyday space. Creating new urban imaginaries is the ability to speculate about what can be done with what we have while still enriching the ideas to include both practices and material effects.

As demonstrated by the doctoral project, design approaches framed by a landscape perspective have the ability to mediate site-born incremental actions of change and policy-born strategic masterplanning, by increased site- and time awareness and the building of transformative capacities. By using such design approaches masterplanning is invited to operate differently, as shown through the three studied projects. In these projects conventional masterplanning has been augmented, complemented, or supplemented by design approaches, but the added value to masterplans and masterplanning can of course be of other kinds as well. Yet, to productively relate site-born actions with policy-born masterplanning through landscape-oriented design approaches, still poses difficulties. Concluding above with four suggested capacity building abilities, this dissertation points to important trajectories that can and should open up for continued and future research.

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Popular science summary

Since the late 1990s, areas previously used for industrial or harbor purposes have been transformed into districts where housing, workplaces and green areas are mixed. The building density in these areas is often high, and in many transformation projects there are also high ambitions in terms of sustainability. However, in recent times both the process and the built result have been criticized. The criticism deals with the fact that many areas become highly exclusive and segregated, and that the architecture is very generic – making them similar no matter where in the world they are located. And, most sustainability initiatives have mainly become technological eco gadgets, while totally overlooking the lifestyles of those moving in. In this dissertation, another criticism is addressed, namely that the character of the areas is rarely preserved.

Landscape architecture - both the field of knowledge itself and the practice - has for a long time been engaged in abandoned industrial and mining areas with the purpose of transforming them into large park landscapes and recreation areas. Landscape architecture's approach of redesigning these environments differs from how urban design and planning usually go about a renewal. In landscape architecture's approach these parks and green areas also celebrate decay and residual use. Hence, landscape architecture has broadened the view of what is aesthetically interesting. In urban design and planning, one often does the opposite, i.e. all traces of buildings, facilities and vegetation in the area are erased. This way of approaching an area is referred to as 'tabula rasa' in architecture and urban design and entails clearing out the existing and starting from scratch with a 'blank canvas'.

When urban design and planning uses tabula rasa and the area is perceived as empty, it is common to use so-called urban models. These urban models rarely take into account the specific conditions of the site, as they are rather ideals or abstract visions of a suitable urban form, i.e. how streets, buildings and other building elements should be organized and formed. This is problematic for two reasons; the area's cultural heritage is erased, and that resource management of existing materials and structures is made more difficult.

What makes this even more challenging is that the urban planning which often precedes the transformation of these industrial areas is based on an approach that gives

an advantage to tabula rasa and urban models. The urban planning systems and frameworks that guide most of today's urban design were instigated during a time when the task of urban design and planning was primarily to expand cities outwards. Today, urban planning and design's task is rather to re-build cities, which imposes other and new demands on urban form, planning systems and frameworks.

Today's aspirations for sustainable urban development require increased resource management and updated ideals about urban form. In order to offer alternatives to tabula rasa and abstract urban models, this doctoral project has devoted itself to studying alternative ways of converting older industrial areas. The alternative ways identified through the dissertation are all based on approaches of site-specificity and transformation through various design-inspired initiatives that in some cases take place in parallel with conventional urban planning and in some cases are interwoven with it.

Unlike 'planning', which is largely based on abstract policy and a strong focus on the future, 'design' seems to work here and now through an action-driven approach. The question the dissertation asks is: How can approaches influenced by design support linking site-specific transformation actions with policy-driven planning efforts? To explore this, approaches from landscape architecture have been used, including the ability to drive dynamic processes, to use the undeveloped as potential, and to activate site-specific knowledge. Theories that the research relies on come mainly from architecture and landscape architecture, for example site and site-specificity. Theoretical frameworks around time and transformation are also included as well as considerations of the designer's role in the transformation process. Advances in digital tools and computer-aided design processes are also discussed in the thesis.

The research conducted for the dissertation has been qualitative with elements of case studies and design research. After an initial scan of several transformation projects around the world, three areas were selected for in-depth study: *Ile de Nantes*, Nantes, France; *Frihamnen*, Gothenburg, Sweden; and *BayCity*, Providence, Rhode Island, USA. These three projects are described in one article each. The fourth article is a compilation of criticism that has been directed at masterplanning and masterplans since 2000. Literature searches form the basis of that article.

The result of the dissertation shows that methods for working in a more site-specific way exist and have been successfully applied in transformations of older industrial areas into new urban districts, but the dissertation also shows that these methods need to be developed in terms of transparency and collaboration. In addition, the methods also need to be developed in terms of how to integrate the result into the planning processes. The identified methods use design-inspired approaches that are found to be able to help bridge strategic and policy-driven planning initiatives with incremental and site-initiated changes. Three approaches identified are 'iteration', 'prototype' and 'simulation'.

The results of the dissertation indicate that these approaches can 'strengthen', 'supplement' or 'replace' planning tools by building transformative capabilities where

increased attention is paid to both the site-specific conditions and temporalities of the transformation process. These capabilities deal for example with; the ability of being able to use perspectives of management to drive transformation, to navigate different temporalities, to understand what needs to be fixed and what should remain open to future changes, and to operate on different scales and to understand how scales can interact, as well as speculating on alternative urban imaginaries.

The dissertation ends by listing a number of dilemmas regarding which new knowledge is needed if the development of our cities is to become more sustainable. These dilemmas concern for example; questions about how planning can become more flexible at the same time as there is a growing requirement for evidence and certification of predetermined solutions. Another dilemma is whether it is possible to consider the planning process as part of a larger transformation process that is able to accumulate change actions of different speeds, scope, and initiator. The purpose of the dissertation is to influence urban design and planning by broadening the prevailing approach and to support a sustainable development of our cities that is more resource-efficient and adaptable.

Populärvetenskaplig sammanfattning

Områden som tidigare använts för industri, hamn eller liknande funktioner har sedan slutet av 1990-talet omvandlats till stadsdelar där bostäder, arbetsplatser och grönområden blandas. Ofta uppförs områdena med hög bebyggelsetäthet och inom många omvandlingsprojekt finns också höga ambitioner kring hållbarhet. Hur dessa områden omvandlas och vad slutresultatet har blivit har dock kritiserats under senare tid. Exempelvis har åsikter kring att områdena blir exklusiva förts fram. Annan kritik har handlat om att områden har kommit att se väldigt lika ut, oavsett var i världen de är belägna. Att hållbarhetssatsningar mest har blivit miljöteknik, och inte alls handlar om livsstil hos dem som flyttar in, är också en vanlig kritik. I denna avhandling behandlas ytterligare en annan kritik, nämligen att områdenas karaktär sällan bevaras.

Inom landskapsarkitektur – både själva kunskapsfältet och inom den praktiserande landskapsarkitekturen – har man länge arbetat med nedlagda industri- och gruvområden och omvandlat dem till stora parklandskap och rekreationsområden. Landskapsarkitekturens sätt att omgestalta miljöerna skiljer sig från hur stadsbyggandet brukar ta sig an liknande områden. Landskapsarkitekturen har vidgat synen på vad som är estetiskt intressant på dessa platser, eftersom gestaltningen av dessa parker och grönområden kan visa själva förfallet, liksom rester av tidigare användning. Inom stadsbyggandet gör man ofta det motsatta, dvs man raderar bort alla spår av byggnader, anläggningar och vegetation. Det sättet att ta sig an ett område benämns inom arkitektur och stadsbyggande för *tabula rasa* – latin, som ordagrant betyder *en tom tavla*, i vanligt tal *ett oskrivet blad* – vilket innebär att man rensar bort det befintliga och börjar om från början med en *blank canvas* – man tar helt enkelt fram en tom duk som man börjar måla en ny tavla på.

När stadsbyggandet utgår från tabula rasa och betraktar området som om det vore tomt och innehållslöst så är det vanligt att man använder så kallade stadsbyggnadsmodeller. Dessa stadsbyggnadsmodeller tar sällan hänsyn till platsens förutsättningar utan är ideal eller abstrakta visioner om en lämplig urban form, dvs hur gator, byggnader och andra stadsbyggnadselement ska placeras och gestaltas. Detta är problematiskt av två skäl, dels för att områdens kulturhistoria raderas ut, dels för att resurshushållning av befintliga material och strukturer försvåras.

Vad som gör detta än mer utmanande är att den fysiska planeringen, som ofta föregår en omvandling av gamla industriområden, är baserad på ett synsätt som ger fördel till just tabula rasa och stadsbyggnadsmodeller. Planeringssystemen och -instrumenten som guidar merparten av dagens stadsbyggande är konstruerade under en tid när stadsbyggandets uppgift främst var att ”bygga ut” städer. Idag är stadsbyggandets uppgift snarare att ”bygga om” städer – detta ställer andra och nya krav på urban form, planeringssystem och -instrument.

Samtidens strävanden efter hållbar stadsutveckling kräver en ökad resurshushållning och att förlegade ideal kring stadens form omprövas. För att erbjuda alternativ till tabula rasa och abstrakta stadsbyggnadsmodeller har doktorandprojektet ägnat sig åt att studera alternativa sätt för att omvandla äldre industriområden. De alternativa sätt som identifierats genom avhandlingsarbetet bygger på att man arbetar platsspecifikt och driver omgestaltningen via olika designinspirerade initiativ som ibland sker parallellt med den gängse planeringen – och ibland sammanvävt med den.

Till skillnad från *planering* som till stor del bygger på abstrakt policy och stort fokus på framtiden så verkar *design* snarare här och nu genom ett aktionsdrivet arbetssätt. Frågan som avhandlingen kretsar kring är: Hur kan angreppsätt influerade av design bidra till att länka samman platsspecifika transformationsåtgärder med policy-drivna planeringsinsatser? För att utforska detta har synsätt från landskapsarkitekturen använts, däribland förmågan att driva dynamiska processer, att använda det outnyttjade som potential samt att aktivera platsspecifik kunskap. Teorier som forskningen stöttar sig på kommer främst från arkitektur och landskapsarkitektur, exempelvis *site* och *site-specificitet*. Teoretiska ramverk kring tid och transformation ingår också liksom överväganden kring designerns roll i omvandlingsprocessen. Innovation inom digitala verktyg och hur datorgenererad design påverkat omvandlingsprocesser diskuteras också i avhandlingen.

Forskningen som ligger till grund för avhandlingen har varit kvalitativ med inslag av fallstudier och designresearch. Efter en inledande skanning av flera omvandlingsprojekt runt om i världen valdes tre områden ut för att studeras särskilt noga: *Ile de Nantes*, Nantes, Frankrike; *Frihamnen,* Göteborg, Sverige; och *BayCity*, Providence, Rhode Island, USA. Dessa tre projekt finns beskrivna i varsin artikel. Den fjärde artikeln är en sammanställning av kritik som riktats mot just planering och planinstrument sedan det senaste millennieskiftet. Litteratursökningar ligger till grund för den artikeln.

Resultatet av avhandlingen visar att metoder för att arbeta mer platsspecifikt finns och har tillämpats framgångsrikt för att transformera äldre industriområden till nya stadsområden. Men avhandlingsarbetet visar också att dessa metoder behöver utvecklas i fråga om transparens och samverkan samt hur resultatet av metoderna kan integreras i planeringen. De identifierade metoderna använder designinspirerade angreppssätt som bedöms kunna bidra till att överbrygga strategiska och policystyrda planeringsinitiativ

med inkrementella, dvs stegvisa, och platsinitierade förändringar. Tre angreppsätt som identifierats är *iteration, prototyp* och *simulering*.

Resultat av avhandlingen pekar på att dessa angreppsätt kan *förstärka*, *komplettera* eller *ersätta* planeringsinstrument genom att bygga transformativ kapacitet där ökad uppmärksamhet ges till både platsens specifika förutsättningar och tidsdjup i transformationsprocessen. Denna kapacitet handlar om att kunna använda förvaltningsperspektiv för att driva transformation, att navigera förändringar med olika tidsdjup, att förstå vad som ska slås fast och vad som ska vara fortsatt öppet för framtida förändringar, att verka i olika skalor och förstå hur dessa kan samverka samt att spekulera kring alternativa urbana framtidsbilder.

Avhandlingen avslutas med ett antal dilemman kring vilka ny kunskap är av stor betydelse för att utvecklingen av våra städer ska bli mer hållbar. Dessa dilemma berör exempelvis frågor kring hur planeringen ska kunna bli mer förändringsbenägen samtidigt som krav på evidens och certifiering av förutbestämda lösningar ställs; är det möjligt att betrakta planeringsprocessen som en delmängd i en större samlande transformationsprocess som förmår att ackumulera förändringsinitiativ med olika hastigheter, omfattningar och avsändare? Syftet med avhandlingsarbetet är att inspirera och påverka stadsbyggandet genom att bredda rådande tillvägagångssätt så att det är möjligt att stötta en hållbar utveckling som är mer resurshushållande och förändringsbenägen.

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This thesis explores how design approaches can link site-born incremental actions of change with policy-born strategic masterplans in transformation processes of post-industrial urban landscapes. Through design research and in-depth qualitative case studies of transformation projects in Sweden, France, and the USA the dissertation investigates how such design approaches can support incremental and iterative change actions as well as future oriented speculations to foster strategic yet pragmatic transformations of shifting scales and temporalities. The result of the dissertation shows how design approaches can augment, complement or supplement masterplanning in the transformation of post-industrial urban landscapes, by building transformative capacities through increased site and time awareness.

Caroline Dahl received her master of architecture from the Southern California Institute of Architecture, USA and her master of science in spatial planning from the Blekinge Institute of Technology, Sweden.

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