Socio-spatiality – intended by designers, realised by users
The case of shared space

Det sosialt-romlige – formgivernes intensjoner og brukernes virkeliggjøring
Sambruksarealideen som eksempel

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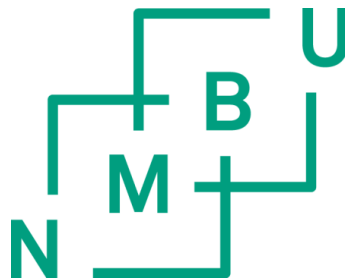
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Philosophiae Doctor (PhD) Thesis

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Summary

Urban design contributes significantly to the production of public urban space. Socio-spatiality, the dialectic relationship between the social and the spatial, sits at the heart of the field and at the heart of this thesis. Both practice and academia permanently strive to gain more knowledge about and alter this relationship. Accordingly, new urban design ideas focus on mobilising new ways of understanding and influencing socio-spatiality. Yet, the implementation of these ideas depends on making compromises; they have to resonate with prevailing ways of thinking. In the process of adapting them to prevailing thought, their justification gets articulated and their content reframed. The outcome rather reflects pressing policy issues need for practical solutions than innovative thinking about socio-spatiality. Along the way, the intention to mobilise new ways of understanding socio-spatiality is left unattended. Consequently, knowledge about socio-spatiality remains general and elusive.

Therefore, this thesis aims to contribute to more nuanced and firm understanding of socio-spatiality in the context of such innovative urban design ideas. The thesis, consisting of three scientific papers and a synthesising chapter, approaches the problem on two levels. The first is the level of professional discourse about new design ideas: How do professionals adapt ideas that challenge prevailing thought and practice about socio-spatiality to design practice? The second is the level focuses on exploring new ways of understanding the phenomenon of socio-spatiality in built space: How does socio-spatiality unfold in built space designed to produce sociality?

To investigate these questions this thesis explores the case of shared space, framing it as a design idea intending to alter socio-spatiality in urban streets. Shared space is a particularly suitable case for such an investigation because it clearly exemplifies the challenges urban design meets intending to influence socio-spatiality.

The shared space idea gets translated and adjusted in order to adapt it to dominant discourses. Based on the Level One investigation of professional discourse this thesis (Paper One) suggests the concept of domestication to describe and explain this process. I argue that domestication weakens the influence of such ideas, as shared space, that try to mobilise new ways of thinking about urban socio-spatiality. The domestication of shared space is characterised by an overemphasis on technical concerns of implementation and performance, while losing sight of a critical engagement with socio-spatiality.

This is why the second level investigation in this thesis focuses on finding ways to make socio-spatiality of built shared space more clearly conceived and researchable. It explores socio-spatiality in a real life shared space scheme, in Norway, Oslo, St. Olavs plass, where I conducted fieldwork and collected data through street observations, interviews and a survey.

Papers two and three present the findings of using two alternative but compatible approaches to examine socio-spatiality at St Olavs plass, Amin's situated multiplicity and the Scollon and Scollon's geosemiotics. Distinct to what professional literature implies, I found socio-spatiality of the investigated shared space to be unstable and lacking homogeneity. Rather, it was characterised by constant change, friction and unpredictability. The main reason is that multiple users constantly change in their composition and in their multiple, often contradictory, interpretations of an ambiguous environment. From these findings, it is plausible that interaction order is more dynamic in shared space than in more strictly regulated and less ambivalent environments. Most shared space design literature does not acknowledge this. Further, the research indicates that people on St Olavs plass try to minimise direct social interaction. This raises doubts regarding claims about shared space as a design means to produce sociality.

The scientific contribution of these findings lies in a more nuanced understanding of socio-spatiality, of particular interest for the urban design field, but also relevant across several other fields of inquiry into the nature of the social in urban space. I hope to offer this nuanced understanding by applying alternative, novel and complementary approaches to understand socio-spatiality. Amin's situated multiplicity approach has not been used to analyse socio-spatiality in a real world setting before. Geosemiotics do not only complement this operationalisation of Amin's theoretical concepts. They present a more straightforward way of empirically engaging with socio-spatiality, making it more researchable. In addition, the geosemiotic investigation of St Olavs plass is a contribution to the scientific field of social semiotics. It adds a particularly clear case to the existing corpus of semiotic studies, of a design that explicitly aims to influence how people make meaning of and react to urban space.

For urban designers, particularly those working with concepts like shared space, there is much to learn from St Olavs plass. The square allows for socio-spatiality to change and adjust to the prevailing needs of different users, who become active participants in this process. This puts a new perspective on shared space, contrasting with existing accounts but not necessarily in a negative sense. It offers a new kind of knowledge for professionals who work with shared space, and may encourage them to attend stronger to socio-spatiality in debates, about shared space in particular, but also more generally in the urban design field.

The production of urban space continues, and urban design plays a key role in this enterprise, as a profession and as an academic field. Yet an elusive understanding of socio-spatiality leaves practice poorly equipped for its interventions into socio-spatiality and ideas that aim to mobilise a more nuanced understanding get domesticated and simplified by dominant discourses. The elusiveness of urban design's knowledge of socio-spatiality may itself be one of the reasons for this domestication. Therefor it matters that both scholars and practitioners pay attention to this dialectical relationship, in the context of implementing innovative ideas. This is where this thesis makes its overall contribution: exploring different theoretical and methodological approaches to learn about and suggest new ways of investigating and working with socio-spatiality.

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   Peters Sebastian (2017): "*The domestication of planning ideas – the case of shared space*".

   Journal: Form Akademisk.

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   Peters, Sebastian. "*Designing for sociality in urban public space - The example of shared space*".
   Journal: Space and Culture.

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Paper Three

   Peters, Sebastian. "*Sharing space or meaning - a geosemiotic perspective on shared space design*".
   Journal: Applied Mobilities.

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1. Introduction

The topic at the centre of this thesis is the dialectical relationship between the social and the spatial in the context of urban design. Critical engagement with this relationship is probably one of the main drivers by which the urban design field is emerging and developing, both as an academic discipline in its own right and as a profession outside academia (Birch, 2011; Madanipour, 2014). From that perspective, urban designers are often considered experts in socio-spatiality. This thesis is critical towards this understanding and argues that much urban design practice is based on an overly simplified understanding of how design influences social action in space. While design in the form of built space may represent the intentions of urban designers to create good public space, users agency plays in important role in how these intentions are realised.

Urban designers constantly face competing discourses about the spatial and the social, and how these phenomena interact with and condition each other (Carmona, Tiesdell, Heath, & Oc, 2010; Madanipour, 2014). Simplified models of sociality in support of dominant discourses, constrain urban designs opportunities to experiment and introduce challenging ideas to planning. Practitioners do thus not simply plan and design cities, they have to adapt their practice to wider social, economic, geographic and environmental developments (Knox, 2003). Their nuanced understanding of socio-spatiality is constrained by simplified and normative policy understandings of this relationship. Viewed as professionals who are trained to transform policy visions about sociality into built form, they are expected to deliver design that enables these visions. Their work becomes policy driven.

In this context of daily practice, urban designers are seen less as critical thinkers, and more as professionals who know what to do (Moudon, 1992) to produce certain idealised versions of socio-spatiality. These expectations are based on the assumption that design can *produce* sociality, for example labelled as livability, sociability, social capital or community feeling. As a result, practitioners struggle, because they have to compromise their more nuanced understanding in favour of what is expected of them. They are "dialectically positioned between science and design" (Verma, 2011, p. 58). The societal problem is that the genuine and nuanced knowledge that urban designers have of socio-spatiality is not in line with dominant discourses in the field of practice. This leads to a distortion and simplification of their knowledge through those discourses. As a result, new urban design ideas are implemented in built space *after* they have been adapted to dominant thought and practice, and constrained by business-as-usual concerns rather than enabling change.

This struggle is not new to the field. Some of the most well-known work associated with the urban design discipline recognises the importance and the complexity of the relationship between the spatial and the social, and emphasises a need for research into this relationship (Alexander, 1987; Appleyard, Gerson, & Lintell, 1981; Jacobs, 1965; Lynch, 1960). Despite continuous research and debate, however, about how urban design influences the social, and vice versa, the field plays a part in perpetuating the problematic of competing discourses. There is a strong tendency in the field to overemphasise a solution-oriented approach, and it promotes itself as a field that primarily strives to create knowledge about *what to do,* rather than about *what is going on and why* (Moudon, 1992). The problematic scientific implication of this is that this striving leads to a failure to make a clear distinction between researching a scientific phenomenon in order to understand it, and researching a societal problem in order to derive technical solutions (ibid.). In the latter case, the social and the spatial are treated as separate phenomena standing in a mere unidirectional functional relationship that can be influenced technically through design. Based

on a simplified instrumental understanding of socio-spatiality, design is presented as a technical solution to fix the sociality function of public space. Knowledge about socio-spatiality thus remains elusive, and is in need of critical examination in research. Numerous scholars have addressed this simplified view on sociality and contributed with a more nuanced understanding through theory. While I do not claim that this theory lacks empirical evidence I see, in the case that I am investigating, opportunities to strengthen this theory through empirical research in a case in which the nuances these scholars highlight surface in a very clear way.

The above societal and scientific problems are interwoven. A limited understanding of socio-spatiality (the scientific problem) makes new urban design ideas about changing this relationship prone to being adjusted to and perpetuating dominant discourses (the societal problem). This generates a two-sided research need. On the one hand, it generates a need to examine the way in which design ideas intending to alter socio-spatiality are simplified and adjusted to dominant discourses. On the other, there is a need to research the mechanisms and dynamics of socio-spatiality in built space with new approaches. I have structured the PhD project around this two-sided research need.

Accordingly, the aim of this thesis is twofold: first, to reveal how design ideas intending to produce sociality are influenced by dominant discourses about socio-spatiality; and second, to develop new knowledge about socio-spatiality in built urban space. This leads to two closely interlinked research questions. Both address the socio-spatiality phenomenon, but on two different research levels, the level of professional discourse and the level of built space. The first question is concerned with how professionals think about socio-spatiality and how they adapt innovative ideas to existing discourses:

- **How are design ideas, intending to produce sociality, influenced by dominant discourses about socio-spatiality, in the process of their adoption to the professional field?**

The second question is concerned with designers' intentions to enable sociality. It focuses on how design changes socio-spatiality in built space and, thereby creates the preconditions for the envisioned sociality:

- **How does socio-spatiality unfold in built space designed to produce sociality?**

Research strategy

My departure point for this project was a general investigation of controversies around an urban design idea called shared space. The main technical principles of the idea are to minimise standard means of traffic regulation, such as signs, markings or signals, in central urban spaces. Supported by levelling the surface and avoiding a clear separation between sidewalk and road all different travel modes are offered to use the same area (See Chapter 5 explaining shared space in more detail). Based on my diverse disciplinary background (social anthropology, environmental sciences and civil engineering) I saw shared space from the start as a particularly clear case in which different fields of knowledges converge.

Reading and discussing the idea with planners and designers, I discovered that shared space is a case through which the above double-sided socio-spatiality problem surfaces in a particularly clear way. On

the one hand, the idea becomes the carrier of dominant discourses (discussed in my first paper) about design and sociality. On the other hand, little is known about how this design influences the socio-spatial relationship in built space (see Chapter 5 for existing related research). I therefore chose to research shared space in more depth, seen as a particular attempt to influence socio-spatiality, on the above-mentioned levels of investigation, the discursive level and the level of built space. Identifying shared space as a case to investigate the above research questions meant narrowing them down and relating them more explicitly to shared space (Figure 1).

Planning

How are design ideas, intending to produce sociality, influenced by dominant discourses about socio-spatiality, in the process of their adoption to the professional field?

Paper One

Level One:
Professional discourse

Investigating how discourses translate urban design ideas

Shared space as an urban design idea intending to alter socio-spatiality

Level Two:
Built space

Investigating socio-spatiality in built space

How does socio-spatiality unfold in built space designed to produce sociality?

Interaction studies, mobilities studies, geosemiotics

Paper Three

Critical human geography, critical urbanism, urban sociology

Paper Two

Figure 1. Research design

Figure 1 illustrates how the case of shared space relates to the two different research levels and the different disciplinary perspectives I use to theoretically frame the thesis. The figure appears in different versions throughout the thesis, helping to map out different elements of the research. Even though the content of these versions of the figure differ, they are all based on this research design, of two (non-hierarchical) levels of investigation and three different disciplinary perspectives brought to the investigation of shared space as an urban design idea particularly aiming to alter socio-spatiality.

The professional discourse (Level One) is investigated from a planning perspective. This is necessary to understand how practitioners understand socio-spatiality in shared space. The first paper in this thesis is a result of this investigation. The findings from this paper encouraged me to investigate the relationship between the design intentions and its social implications in a built shared space. To do this I introduce a critical urban studies perspective from the field of urban geography, focusing on the influence of designed space on sociality (Paper Two), and a semiotic perspective (Paper Three) focusing on how users make meaning of the different socio-spatial dimensions of shared space. The theoretical framework presented

in the next chapter explains how these three perspectives relate and contribute to urban design, particularly regarding the above two-sided problem statement.

My choice of the different disciplinary perspectives was based on having read state of the art literature about shared space and noticing the narrow technical understanding of the socio-spatial relationship. Most shared space literature addresses the societal issues typically dominating public debate related to street design and management, such as accessibility, functionality, perception of traffic safety and various other traffic management issues. These are legitimate concerns related to societal debates of how streets work and they are typically dealt with by transport engineering, transport geography and related disciplines.

In contrast, even though the shared space idea sits directly in the interface of multiple disciplines, there is little reference to the literature within urban studies on social life. Most surprising is the weak connection made by shared space literature to link the idea to relevant debates in urban studies and in urban design itself. The shared space debate and research about it seem to be disconnected from these fields' contributions. In particular, one misses those contributions that are fundamentally addressing socio-spatiality, as urban anthropology, urban sociology, social geography, or environmental psychology. This thesis cannot give an encompassing and exhaustive account of all these fields contributions to understand socio-spatiality, but tries to highlight some key work which is particularly relevant in the context of design ideas like shared space. The three perspectives I apply in this study may not be exhaustive of all relevant disciplines, but they do introduces several that are of key importance.

Contribution

The societal contribution of this thesis to the urban design field lies in creating a greater awareness of the discursive processes compromising innovative knowledge about socio-spatiality in the urban design field. This awareness is an important precondition for being a critical practitioner, reflective and conscious of how ideas and their rationales may be changed through implementation. The first paper of this thesis illustrates this process using the example of shared space as an urban design idea.

Further, this thesis in itself, and through all three papers, offers a new understanding of shared space, because it approaches the idea alternatively to existing debates. It brings shared space to urban design as a case to learn from, but, conversely, it also brings urban design knowledge and knowledge from three other related fields to the shared space debate.

The scientific contribution of this work relates to the double-sided nature of the research, on the one hand focusing on discourses about socio-spatiality and, on the other, investigating this as a real life phenomenon. The Level One part of the thesis is thus a contribution to the scholarly debates and theorisation about how planning and design ideas are passed on and translated in the professional realm. These debates take place largely in the planning field rather than in urban design where this thesis wishes to make a contribution. Regarding the Level Two investigation, the scientific contribution of the thesis is that it supports scholars' theorisation about the relationship between design and sociality. It does so by applying this theorisation to a real world case in which the arguments of these scholars become particularly clear. This scientific contribution is of both a general and a particular nature. In general, for scholars focusing on socio-spatiality it offers a better understanding of this phenomenon through investigating shared space. In particular, it offers a better understanding of shared space as a special case of socio-spatiality.

Overview of the main elements of the thesis

The following table shows how the different elements of the thesis are connected

Main Topic	The relationship between the social and the spatial in the context of urban design.		
Societal problem	Urban designers work in the face of contesting discourses about socio-spatiality and how it is influenced by design		
Scientific problem	The socio-spatial relationship is still not fully understood within the urban design field. There is a lack of interdisciplinary exchange with other fields investigating the same phenomenon.		
Research need	Need to reveal in what way design ideas intending to alter socio-spatiality are simplified and adjusted to dominant discourses	Need to research the mechanisms and dynamics of socio-spatiality in built space with new approaches.	
Aims	To reveal how design ideas intending to produce sociality are influenced by dominant discourses about socio-spatiality.	To develop new knowledge about socio-spatiality in built urban space.	
Research strategy	To investigate shared space, as a case of a design idea to alter socio-spatiality, on two levels, the level of professional discourse and the level of built space.		
Research levels	Level One – professional discourse	Level Two – built space	
Research questions	How are design ideas, intending to produce sociality, influenced by dominant discourses about socio-spatiality, in the process of their adoption to the professional field?	How does socio-spatiality unfold in built space designed to produce sociality?	
Disciplinary perspective in each paper	Planning. Theorisation about traveling ideas. (Paper One)	Critical urban studies. Theorisation of the urban social. (Paper Two)	Geosemiotics. Meaning-making of socio-spatial dynamics. (Paper Three)
Societal contributions of thesis	Creating a greater awareness among practitioners of the discursive processes compromising innovative knowledge about socio-spatiality in the urban design field. Bringing shared space to urban design as a case to learn from; and bringing new interdisciplinary perspectives about socio-spatiality to the shared space debate.		
Scientific contributions of thesis	Contributing to scholars debates about the discursive processes of planning and design ideas being passed on, translated and negotiated. Applies existing theorisation about socio-spatiality to a clear real world case, shared space design. Better understanding of socio-spatiality through investigating shared space. Better understanding of shared space as a special case of socio-spatiality.		

Table 1. Thesis' main elements

The structure of the thesis is as follows. At first, I shall present the theoretical frame of the thesis. The beginning of this chapter outlines the most important concepts, followed by a more detailed account of the above three different theoretical perspectives I introduce. The next chapter on research strategy and methods presents the diverse methods I used and links them to the different theoretical perspectives introduced in the chapter before. Subsequently I follow up both my theoretical and methodological approaches by reflecting on the general epistemological underpinnings of this work. The chapter after that presents an in-depth account of the shared space idea, its origins, most recent debates and research. The following chapter presents a built shared space in detail, St Olavs plass in Oslo, where I investigates how socio-spatiality unfolds in the built environment. The second-last chapter summarises each of the papers I have written and synthetises them. Finally, I concentrate on the most important findings to conclude the thesis.

2. Theoretical framework

In this PhD project I explored three different theoretical perspectives, all opening for important understanding related to the overall research interest in the relationship between design and sociality in urban public space. The first perspective theorises about the discursive framing of design ideas as they are passed on among professionals. The second and the third offer two distinct ways of theorizing about the relation between design and sociality. The former investigates how design should influence sociality, the latter puts more weight on explaining how the relationship works in itself.

Exploring each of these perspectives impelled me to engage with the next one. The theoretical framework of this PhD developed thus along the way rather than being developed as a theoretical base, in the sense of a theoretical hypothesis, to be tested through research. This chapter presents and discusses these main theoretical threads, how they relate to existing relevant theory and to each other. In my view, making connections between different fields of theorisation means also sacrificing some depth of theorisation in each of the different directions one wishes to link together. The aim is on showing the links between them and thereby to mobilise them and strengthen them, rather than adding to what I would call their theoretical intensity. For interdisciplinary thinkers this is a benefit of interdisciplinarity (see chapter 4 on epistemology); while many others see in this scientific shallowness and weakness.

Since I am not trained as an urban designer this thesis presents an outsider's view on the urban design field. I hope, nevertheless, to make a contribution to the urban design field, by bringing the above perspectives from other fields to the investigation of a particular urban design idea, shared space.

Due to their centrality in this thesis it is, however, necessary to elaborate on how I understand the terms 'urban design' and the concept of 'socio-spatiality'. The former term will be explained in two ways, first as an analytical concept in this thesis, putting key emphasis on intentionality as one particular dimension linked to design. Secondly, urban design is explained as a discipline, in terms of its historical emergence, its disciplinary orientation and the difference between academia and practice. This is followed by introducing my understanding of the term 'socio-spatiality', in which I will draw on three key aspects in particular: relationality, dialectics and intentionality.

After this conceptual groundwork, I shall go into more detail regarding the above-mentioned theoretical perspectives, of which all will be related to the previous conceptualisations. After having presented each perspective separately, I try to synthesise them by combining them based on their theoretical interlinkages.

Urban Design

Etymologically, the term 'urban' is derived from the Latin word 'urbs', meaning a "place occupied by a community" (De Jong, 2014, p.5). Historically, the term refers thus to a spatial dimension, distinct from the term 'city' which is derived from the Latin 'civis', referring to the body of citizens, the community itself (ibidem). Later, however, both terms came to cover the meaning of each other, conflating the meaning of community and place (Madanipour, 2014). Both scholars and practitioners of urban design employ the term in vast contexts meaning many things that have much in common but are also quite different from each other. In most cases, however, 'urban' is used in relation to the idea of a 'city'. 'City' in turn is just an ambiguous term as 'urban', equally heavily debated by scholars due to its multiple ways of conceptualisation. 'Urban' is used as an adjective, primarily to refer to a city context, but also in a context

where an actual city as a place is literally absent. For example, phenomena like atmosphere, a person's attitude, music, a street and fashion may be described as 'urban'. This thesis does not employ a clear cut definition to the term either. A simple working clarification can, however, be made: I use the term 'urban' in this thesis to refer to public streets and squares in a city ('public' in narrow terms of accessibility, not property), including the buildings along them.

‚Design' is also an ambiguous term having many meanings both in academic debates and daily language. It is not only both a noun and a verb which makes the term a challenge for communication. Each of these two (nouns and verbs) can also have multiple meanings. The noun 'design' refers to a range of things, for example design in the form of drawings, or 'design' in built form based on such drawings. The verb refers to the activities involved in the process of making a "bridge between creativity and innovation, between idea and practice, between art and utility" (Madanipour 2014, p.13). In this thesis, I do not refer to the verb when I use the term design. I refer to design as a noun: design in built form, the outcome of "the purposeful process of transforming a human settlement, in full or in part" (Madanipour 2014, p.14), such as in shared space design.

This purpose may be directed towards a range of aspects of different social, cultural, economic, environmental, ethical or aesthetic dimensions. Of all those, the focus in this thesis is on the social dimension, on the intention to influence the sociality people experience in urban space through design, such as with shared space design (even though this may not be its only intention). This intention is also closely related to the particular interest of urban designer, practitioners and academics, in the concept of the 'public domain' in urban spaces (see further below, pp.19-20). Intentionality represented through design is an essential element in scholars' writings trying to delineate the concept of urban design, but it is often only addressed indirectly or implicitly. Built form is the physical manifestation of designers' intentions. This is important to have in mind when I write about 'design'. Design refers to built form constituted by objects (such as their dimensions, material properties, colour and form) and the space between them. But design also relates to how and why these objects have been chosen, formed and arranged in concert, by urban designers based on certain design intentions. This is why this thesis (on Level Two) explores how shared space design in built form influences the relationship between design and sociality. I will come back to intentionality further below, linking it to the certain strand of what has been labelled "normative-prescriptive" theorisation and research within the urban design field (Moudon, 1992).

Summarizing this then means that I employ the term 'urban design' referring to streets and squares in a city which was built based on the intensions of designers to influence sociality in a certain way.

Historical roots of the academic and the practicing urban design field

Demarcating the urban design field is a tricky task, especially because it is, as an academic discipline, so young that one might argue it is still in the becoming (Banerjee & Loukaitou-Sideris, 2011; Madanipour, 2014). According to scholars reviewing the field, it is so to speak in the earlier stages of finding its academic identity and establishing itself in the disciplinary landscape of the scientific community (Birch, 2011; Cuthbert, 2003; P. Hall, 2014; Lang, 1994; Madanipour, 2014). This is one reason why I think that the field can benefit from inputs presenting new perspectives, as I am trying to offer through this work.

Looking back, it is difficult to identify a historical point in the past when urban design came into existence. Organizing a community of people in a comprehensive way carefully considering both spatial and social

dimensions of this organisation is as old as human settlements (Sennett, 1992). In line with this Lang (1994) states that:

> "The focus of activity of what we now call urban design has been with age-old activities of consciously shaping and reshaping (or forming and reforming) human settlements directly through physical design or indirectly through the establishment of rules that others must follow." (p. 453).

Hall (2014) also recognises this age-old way of thinking, but distinguished this clearly from contemporary city planning: "twentieth-century city planning, as an intellectual and professional movement, essentially represents a reaction to the evils of the nineteenth-century city." (2014, p.7). Hall's 'city planning' may not be the same thing as urban design but I regard it as one of its disciplinary closest neighbours.

Many sources delineating what urban design is and where it comes from elegantly skip the tricky (probably impossible) task to trace the historical roots to a fixed point in time and establish the middle of the 20th century as a point in time when urban design appears as an independent academic discipline (Carmona & Tiesdell, 2007; Cuthbert, 2003; P. Hall, 2014; Lang, 1994; Madanipour, 2014). I think it is worth highlighting that the formulation of urban design as an independent academic and professional field at this time coincides with the beginning of a presently still persisting critique "of post-1945 modernism" (Carmona & Tiesdell, 2007).

Madanipour approaches the difficult question of what urban design is in a plausible way, framing urban design as "orderly" approaches of socio-spatial organisation of human settlements at different times in history (2014, p. 37). While recognizing that this activity is as old as human settlements, he offers chronological identification of periods that are distinguishable through large societal turnovers in terms of large political, economic, cultural and technological transitions. These periods are the same that characterise the history of other design disciplines, well described in books on the history of architecture. Madanipour identifies the renaissance as the first period in time when a holistic thinking in an urban design scale evolved, and subsequently shows how this thinking transforms and solidifies through the epochs of baroque (2nd period), Victorian thinking and modernism (3rd period) and into the final, ongoing 4th period, which he labels 'global urbanism' in all its variations. This last period overlaps with what scholars identify as the time in which urban design as an independent academic discipline emerged.

According to the above contributions, a disciplinary distinction between different design and planning disciplines was unclear up to the middle of the 20th century. Urban design had thus no distinct disciplinary identity, probably rather regarded as largescale architecture or small scale city planning. Then, in parallel to the emergence and gradually growing appreciation of scientific specialisation in multiple scientific fields, urban design started to consolidate as an academic discipline in its own right (Biddulph, 2012c; Madanipour, 2014).

This process is still ongoing and urban design "overlaps with several disciplines and professions, all of which are searching for clarity of scope and status" (Madanipour, 2014, p. 10). I think this status should be regarded as a strength even though it also brings many challenges to the scholars and practitioners of the field.

If merely looking at scale urban design may sit somewhere between its close neighbours architecture and city planning. It is, however, not the scale in itself, which makes urban design filling a niche, but the distinct perspective and understanding that surfaces through focusing on diverse phenomena of inquiry on that

scale. The boundaries between these fields are, however, not neat and clear, not in terms of scale, not in terms of the academia-practice interface, and neither in terms of time periods or paradigms emerging at different times. In all these categories of order it is easy to criticise and falsify attempts to create a plausible demarcation of the urban design field, just as it is the case with its neighbouring disciplines (Hall, 2014).

Bridging knowledge

What characterises the research agenda of urban design is that it integrates research methods and theorisation from related fields and applies this knowledge to its own interdisciplinary research questions: "relevant research findings [in urban design] come from many different disciplines – urban design, architecture, landscape architecture, geography, sociology, the cognitive sciences, and art, to name a few" (Larice & Macdonald, 2013, p. 438). Drawing on interdisciplinary richness from its beginnings, urban design has brought a more human and context-oriented understanding to the previously more geometrically and technically-oriented design professions. This included addressing important issues such as spatial justice (Soja, 2010), cultural and social diversity in cities (Sandercock, 2000), spatial democracy (Francis, 1987), and local identity (Relph, 1976). Among others, this has resulted in a stronger integration of local needs in planning and an emphasis on what factors generate social activity in public space (Jacobs & Appleyard, 1987; A. B. Jacobs, 1993; Jacobs, 1965; Lynch, 1960; Oldenburg, 1999).

Many urban design scholars highlight interdisciplinarity as a quality of the contemporary urban design field. Moudon for example, highlights that "urban design is familiar to both architects and urban planners. […] most recognise it as an interdisciplinary approach to designing our built environment. Urban design seeks not to eliminate the planning and design professions but to integrate them and in so doing, to go beyond each one's charter." (1987, p. 331). From architecture, urban design integrates a more spatial emphasis about space and human perception of the environment. It links this to large scale social, economic, political and cultural processes which are treated more thoroughly by planning, which offers understanding of those on a meta-level. This is surely a simplification of the different fields, but it is a plausible attempt to demarcate the field of urban design and relate it to its neighbouring fields. The disciplinary in-between status of urban design is also reflected In terms of the nature of knowledge typically labelling architecture as a field belonging to 'arts' and humanities as opposed to planning being closer associated with 'scientific' fields of inquiry (Biddulph,2012c). Again, urban design helps to bridge these, maybe implying that both have some of art and science and raising doubts about whether these are opposable at all in such a dichotomist way.

Academia and practice

Interdisciplinarity characterises both professional practice as well academia of urban design. Practitioners as well as researchers come from a broad spectrum of educations, including architecture, landscape architecture, planning, diverse engineering disciplines, sociology, geography, anthropology, political sciences and economy. It is, however, important to make a clear distinction between the field as a profession focusing on solutions and as a scientific discipline asking research questions related to these solutions (Biddulph, 2012c; Lang, 1994). Peter Hall (2014) also highlights the importance of making this distinction, especially since the mid 20th century when the design fields started to establish themselves as academic disciplines. Note that Hall revises the field of city planning. I think, however, that his view counts as well for urban design:

> "Since the 1950s, as planning has become more and more a craft learned through formal education, so it has progressively acquired a more abstract and more formal body of pure theory.

Some of this theory, so its own jargon goes, is theory *in* planning: an understanding of the practical techniques and methodologies that planners always needed even if they once picked them up on the job. But the other, the theory *of* planning, is a horse of different colour: under its rubric, planners try to understand the very nature of the activity they practice, including the reasons for its existence." (ibid, p.10)

The distinction between practice-oriented approaches and research approaches is linked to the problem this thesis addresses: The translation and implementation of planning ideas often does not deliver research-based insight about the very concepts those ideas try to forefront. This problem is not only driven through politics and policy processes. It starts already within the academic field itself, where Moudon (1992) identifies a need to make a clear distinction between the "normative-prescriptive" urban design approach and the "substantive-descriptive" approach. "Many normative theories use research to justify or substantiate a priori beliefs when, in fact, the reverse should take place, and research results should be interpreted to *develop* theories." (ibid, p.364). Moudon goes so far in her criticism against approaches that blurry this distinction as to doubt that urban design can be regarded as science.

This relates to what I wrote about the intentionality of design, which makes urban design, along with the other planning and design disciplines, probably unavoidably a normative undertaking. Thinking beyond design and in terms of research in general this also relates to the classical philosophical dilemmas science in general struggles with: questions about the possibility of a neutral standpoint towards the research topic and objectivity. The reason why I emphasise the topic here is that it relates so closely to my research focus on the intentionality of shared space design to produce sociality, asking critically to what extend the translation of the idea into practice attends to existing academic insight into the nature of socio-spatiality.

Socio-spatiality

The concept of socio-spatiality sits at the core of this thesis. I did not, however, employ it as an analytical tool from the start. The significance of the concept grew gradually and iteratively alongside my empirical and theoretical research work. It thus became both part of framing a theory and a result of my investigation. The clearer the concept became (through fieldwork and continuous literature review), the more significance it gained.

Even though the term 'socio-spatiality' is widely used in theorisation of how urban space relates to the social realm, explicit deeper critical engagement with the concept is rare. Socio-spatiality is by many used as a term whose meaning is assumed to go without saying. There is, however, a vast body of literature that addresses this relationship or important aspects of it, implicitly and/or under a different label. Madanipour (2014) also regards the term to be of central importance in urban design thinking, primarily because of his appreciation of the field's ambition to link together approaches that are either overemphasising the spatial or the social dimensions in their analyses of public urban space (ibid. p. 8-9). To position myself towards this work I will highlight particularly those contributions that I consider to be fundamental with respect to my research questions.

In the following paragraphs I briefly clarify three key aspects of socio-spatiality as I have come to understand it: relationality, dialectics and intentionality.

Relationality means that I use the term socio-spatiality to refer to the relationship between the social and the spatial, two entities that should not be treated in isolation from each other. I argue that, in the analysis

of urban public space, the social and the spatial can only be understood in relation to each other, hence relationally. Such an analysis should neither prioritise the social nor the spatial in terms of research focus, meaning that one of the two dimensions should not just be regarded as a mere background for the other. Both play an equally important role for understanding this relationship. In my analysis of socio-spatiality people experience, interpret spatial elements and other people in relation to each other. Further they adjust to how they *relate* themselves to this context of many interwoven relations. Objects and persons are thus only meaningful in relation to others. This understanding is closely related to the concept of geosemiotic (see below, p. 27).[1]

Dialectical means that, following Madanipour (2014), I regard socio-spatiality as a two-directional dynamic relationship. A socio-spatial setting is perceived by a person who interprets and responds to it by adjusting her behaviour. This adjustment, however neat it may be, brings a change to the socio-spatial setting itself. Socio-spatiality affects people, but is also affected by the people it affects. It is thus not passive like a physical fixed object. It responds to the involvement of the person that engages with it; and is therefore continuously taking new forms along with persons entering and exiting this relationship. This highlights a dynamic and hence temporal dimension of socio-spatiality.

Richardson's and Jensen's (2003) theorisation of socio-spatiality's dialectics links well to my understanding. It is more explicitly relatable to people's practices in and experiences of urban space in every-day settings. Socio-spatiality is dialectical, for Richardson and Jensen, in so far as it "*works* by means of its coercive or enabling capacities for spatial practices. Furthermore the socio-spatial relation conveys *meaning* to social agents via multiple re-presentations, symbols and discourses" (Richardson and Jensen, 2003, p.15). Socio-spatiality is here dialectical in the sense that it has a coercive dimension simultaneously to being influenced by the practices of meaning making social agents. Richardson and Jensen (2003) theorise socio-spatiality in an unscaled way, rightly pointing out that it can exist on any level, from the body to the global (ibid. p. 20). I relate to socio-spatiality in the more particular context of an urban street, perceived by the people that are its present users.[2]

As mentioned before, *intentionality* is the aspect that is most helpful for me in explaining my understanding of socio-spatiality. However, I do not theorise the intentionality concept deeply. As Feng and Feenberg (2008) explain, the concept is heavily debated by philosophy of design scholars. They make a distinction between two camps of scholars: those acknowledging the autonomy designers have and those acknowledging how constrained they are. The latter camp questions designers' autonomy based on a) their entanglement in wider discourses and b) their limits to control how users act on design (ibid p.106-110).[3] The view presented in this theses adheres more closely to the latter of the two camps. This thesis

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[1] To prevent confusion, I do not refer to the theoretical concept of 'relational space', even though there are conceptual overlaps. 'Relational space' is of concern in large conceptual debates in the fields of philosophy and human geography, which are again rooted in wider debates in physics and philosophy. See for example Jones (2009) for a light overview drawing on relational thinking in geography.

[2] This understanding of socio-spatiality should not be mistaken with Soja's "socio-spatial dialectic" (1980) in his reflections about urban and regional political economy, which again is rooted in his readings of David Harvey's, Henri Lefebvre's and Manuel Castells' work (ibid, p. 208).

[3] Feng and Feenberg do not address urban design in particular but design of technology in general and in relation to engineering and architecture (see also: Kroes, Vermaas, & SpringerLink, 2008). Framing urban design as technology seems plausible to me but for practical reasons I do not follow this path of theorisation.

highlights how important it is to critically attend to this analytical distinction when theorising about how users' experience and actions relate to designers' intentions in a built space setting.

Socio-spatiality is dialectic because users experience both its coercive side and their own opportunity to contest and change socio-spatiality. The users are thus actively involved in reproducing socio-spatiality. This is distinct from the socio-spatiality thought of by designers that produce a spatial setting based on their *intention* to produce sociality (Madanipour, 2014). From their design perspective, I would rather speak of an assumed relationship between design and sociality, which is also related to socio-spatiality, but it expresses the designer's *intentionality,* which is represented by design. Recognizing intentionality as a major dimension of the design term, I make an analytical distinction between the nexus of designers' intentions and sociality on the one hand and the socio-spatiality nexus on the other. I regard both as being about the relationship between the social and the spatial but also as fundamentally distinct from each other. The former highlights the intentional dimension of design. The latter highlights an understanding one gains by learning from how the design, in its built form, is used by people. This theoretical distinction is illustrated in figure 2 below.

Figure 2. Users' and designers' different relationship with socio-spatiality

The figure also relates to my view in this thesis, that urban design needs to develop firm knowledge about the relationship to the left (red arrow), while its perspective and knowledge in terms of the design-sociality relationship (blue arrow) is what urban designer are assumed to be experts in (Lang, 1994; Moudon, 1987). Their thinking is intentional, which lies in the nature of design. Designers have a key role in producing built space. They have large influence on the coercive aspect of socio-spatiality. The enabling aspect is known as well, but plays a subordinated role in how design ideas are communicated among professionals. This issue is discussed in my first paper arguing that users' role in influencing sociality is not, or only partially, explained in shared space literature.

It is therefore important to highlight that I do not use the terms *design* and *sociality* as synonyms for *the spatial* and *the social.* Rather, I mean to use these terms as particular cases referring to the intentionality to influence sociality through design: I see *design* as a particular case of the *spatial;* and *sociality* as a particular case of *the social*. Distinct from that, the terms *the spatial* and *the social* do not carry this element of intentionality.

This is not to argue that users have no intentions when they engage with a socio-spatial setting. Rather, they do not have the planning intention of a designer who is responsible for creating urban space. The main reason for making this distinction between these two perspectives is that this thesis takes a critical standpoint to how shared space literature articulates socio-spatiality in a way that leaves the user perspective unattended theoretically and empirically (see chapter 3 for the methodological implications this had). [4]

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[4] This is not a reference to Donald Schön's (1983) concept of "reflection-in-action" referring to the different ways of knowing of professionals and lay people. Schön's concept is related to my distinction of designers' and users' understandings of socio-spatiality but this thesis does not have design practice itself as its focus. Therefor I do not follow Schön's conceptualisation.

In summary this means that 'socio-spatiality' in this thesis refers to the ever changing relationship between the spatial and the social from a user perspective having the following conceptual characteristics

- Relationality
- Dialectic
- Realised by users

This relationship is experienced by street users. They encounter a spatial setting, such as the square I investigate in Oslo, and experience its spatial dimensions and its social dimension in relation to each other. The experience is of both material and social nature. It is sensed by users with their bodily senses and it is interpreted by them in the semiotic process of meaning-making (see below, p. 27). It is coercive in a material sense (you cannot walk through stone wall) but simultaneously in a cultural sense, such as through informal norms and regulations. At the same time it is subjected to users' practices who may challenge its coerciveness. They change socio-spatiality by participating in it, both in passive and in active ways.

Finally, I want to mention that I relate to a certain scale when I use the term socio-spatiality in this thesis. Architecture or city planning are about socio-spatiality too, but on different scales. Urban design can draw on these disciplines to investigate socio-spatiality but it has to apply this knowledge to the spatial scale it is dealing with. Since my case of investigation is shared space design, I limit my focus to the scale of a street. I refer to the scale a street user relates to with their bodily senses. 'Street scale' is also a vague term but it holds for the purpose of understanding socio-spatiality in a shared space context.

The above conceptualisation of socio-spatiality served in this thesis as an analytical entrance for the investigation of how users experience shared space design. Yet, the concept was not equally clear from the beginning. It developed along the way and is, in this sense, also one of the results of this research. In this chapter, however, the concept serves as a basis for the following discussion of different perspectives regarding the role of design in influencing socio-spatiality.

Socio-spatiality from different theoretical perspectives

Beyond the above conceptualisation, my understanding of socio-spatiality is based on investigating it from three different perspectives. At some cost to the theoretical depth of each, I chose to engage with all of them for two reasons. Firstly, because findings in each of them pointed to a need to engage with the next one; they motivated each other. Secondly, these different perspectives contribute only in their combination to understanding the problem this thesis addresses with its research questions.

This thesis argues that, despite urban design's interdisciplinary orientation, there is not enough dialogue between urban design and other fields engaging with socio-spatiality. I therefore suggest that urban design, entangled between competing discourses about public space, can strengthen its epistemological and "theoretically precarious" (Verma, 2011, p.57) position by drawing even more on theoretical and empirical input from related fields also having the socio-spatial as a core interest. The remainder of this chapter establishes therefore the theoretical link between urban design and three perspectives of different, but related disciplinary fields. The aim of this is not to exhaustively elaborate on these theoretical perspectives, but to show how they link to, and may supplement, knowledge already established in urban design. I do this for each perspective in a general way that is not yet linking them to shared space design in particular. The three different papers that are part of this thesis establish this link.

Figure 3 illustrates how the different theoretical perspectives link to the thesis' main topic of investigation, socio-spatiality in urban design.
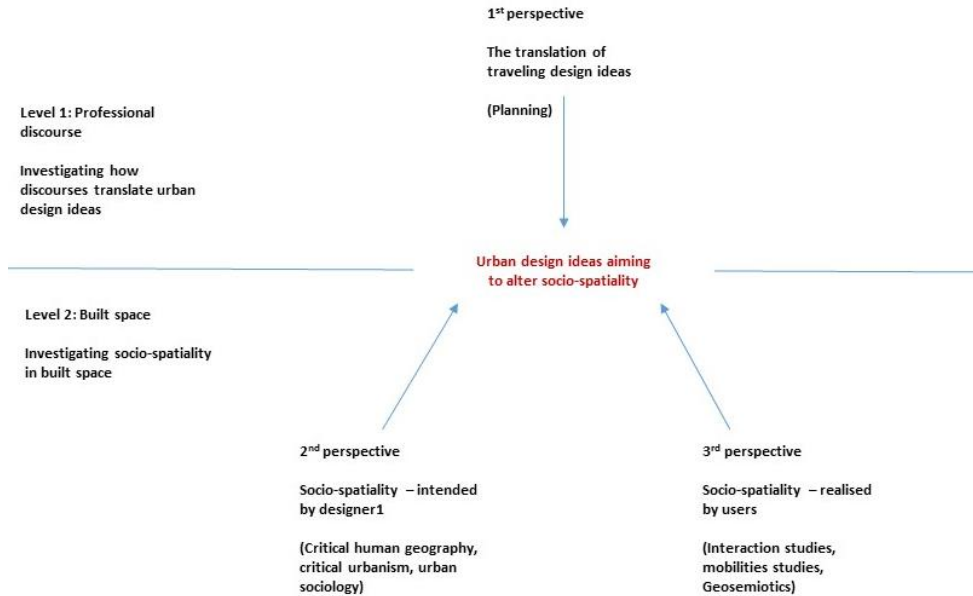
Figure 3. Framing socio-spatiality related to urban design on two levels – three theoretical perspectives and their disciplinary roots.

The first perspective investigates how the shared space design is translated and passed on among professionals. The focus of this investigation was on the design-sociality narrative about shared space. It is grounded in theorisation from the planning field, about how planning ideas are passed on, translated and negotiated in the process of formalisation and implementation (see Paper One).

The second and the third stand closer to each other since both investigate socio-spatiality on the built space level. They are, however, different in their theoretical grounding regarding socio-spatiality.

The second perspective relates to a debate about normative theorisation of public space, in urban design and related disciplines. It investigate socio-spatiality in the context of critique against much normative theorisation and explores an alternative approach, not neutral either, but less policy-oriented. This perspective was motivated by the findings related to the first perspective, that discursive processes reframe the shared space idea as a neutral design concept to solve functional and technical issues rather than as an idea challenging prevailing understandings of socio-spatiality.

Thirdly, I explore a perspective that is grounded in attempts to avoid normativity and offer a more descriptive theorisation of socio-spatiality. Such perspectives are often driven by a motivation to offer a non-biased, neutral understanding of socio-spatiality. I chose to explore this perspective due to its promise of revealing how socio-spatiality works, as distinct to how it *should* work. It has a stronger focus on the particular mechanisms through which socio-spatiality becomes visible and researchable on a scale

of daily interactions in mundane everyday life. This perspective focuses on how socio-spatiality is practiced in everyday life and has thus a stronger empirical orientation than the above second one, which is more concerned with critical judgement of the quality of everyday life. These two perspectives do however overlap in many scholars' writings, implying to be engaged in both.

In summary, I thus investigate socio-spatiality both on the discourse level (perspective one) and on the built space level (perspective two and three) (see Figure 3). On the discourse level, I ask for how ideas about socio-spatiality are translated and passed on in professional circles. On the built space level I ask critically for how socio-spatiality, intended by designers (Level One), unfolds in built space where users start to have a direct influence (Level Two). The theoretical weight of this thesis is equally distributed on all three perspectives. They are each presented in more detail in the below sub-chapters.

The translation of challenging design ideas (perspective one)

This thesis frames shared space as an urban design idea challenging traditional approaches to street design (see more detail in chapter 6 about shared space). In more wide-ranging debates about how the spatial influences the social and vice-versa, ideas like shared space are contested because they challenge hegemonic understandings and ways to work with this relationship.

This contest results among others in the adjustment of such challenging ideas to prevailing thought and practice. I argue that this process can reframe ideas so much that they lose their critical momentum of bringing change. While this process has not explicitly been theorised in urban design, it is not new to the field. Peter Hall (2014) for example, notes this process and its implications in his historical account about thought in city planning. He laments on distortion of creative thought in planning and design due to regulatory adjustment processes: " […] in half a century or more of bureaucratic practice, planning had degenerated into a negative regulatory machine, designed to stifle all initiative, all creativity." (ibid p.10) Hall emphasises the distortion of planning ideas as a permanent dilemma characterizing the field. Part of this dilemma, as Hall emphasises, is the challenge of the design and planning disciplines trying to bridge the gap between theory and practice. He recognises that these disciplines have the unavoidable task of translating and adjusting ideas to a "technological-economic motor that drives the socio-economic system" (ibid p.4) which they do not only challenge but from which they also emerge. Fishman (2011), reviewing major paradigms of urban design in the past century, also addresses this phenomenon and realises that the outcome of ideas never reaches their ideals, but is always compromised to some degree by prevailing approaches.

I think that the problem of ideas being distorted in adjustment processes is related to the field's efforts mentioned above, of finding its disciplinary identity and independence. Urban design for example develops ideas that are often critical towards approaches in the more established neighbour disciplines, architecture and planning. Scholars explain thus that the urban design field emerged partly from a critique against the dominant discourses of modernist spatial planning and functionalist architecture (Birch, 2011, Hall 2014, Madanipour 2014). Being critical and introducing challenging ideas to prevailing thought and practice can thus be considered as an important part of establishing urban design as a field that wishes to fill a gap between the approaches of its disciplinary neighbours (Birch, 2011; Mehta, 2013; Madanipour 2014). I would though not claim that the more established fields of planning or architecture are developing fewer or less challenging ideas than urban design.

Translation as discursive process

Urban design scholars have, without explicitly using the concept of discourse, recognised and written much about the profession being situated among competing discourses about the social and how it relates to the spatial. They raise the issue that the field is situated in an environment of political, social, cultural, economic and demographic transformation (Knox, 2003, Hall 2014), framing understandings of socio-spatiality and thereby conditions the work of urban designers. I thus regard a discursive perspective for theorisation to be helpful for the investigation of the above-mentioned translation process.[5]

This is in line with theorisation, mainly from the field of planning, about how planning ideas are transformed as they are passed on within the profession and struggle for recognition (Biddulph, Franklin, & Tait, 2003; Healey, 2011; Lennon, 2015; Tait & Jensen, 2007; van Duinen, 2015). Healey (2012) warns that the motivation in planning to offer universally applicable solutions may cause ideas to lose their critical edge. Van Duinen also theorises along these lines, arguing that ideas get "encased" by hegemonic discourses in policy (Van Duinen, 2015). Lennon (2015) argues that this process may also be understood as a necessary strategy to give ideas the necessary "currency" in the face of prevailing thought and practice. Tait & Jensen (2007) focus more on explaining the translation process itself, rather than its consequences, describing how ideas get transformed during their travel between contexts, being "disembedded" and "reembedded". Their work highlights how strongly ideas get reformulated and transformed on this process.

Investigating how planning and design ideas are negotiated and translated highlights that discourses about space can 'socially construct' spaces both in terms of meaning and practices (Flyvbjerg & Richardson, 2002; Richardson & Jensen, 2003). This thesis pays most attention to the critical consequences this process may have related to the challenging momentum of those ideas and their potential to bring change to dominant thought and practice. Referring to this effect I call this process the *domestication* of innovative planning ideas in Paper One (see Paper One for more theorisation).

I regard such an approach as useful for urban design because it helps explaining the consequences of ideas being passed on, situated in real-world contexts, and exposed to wider discourses. Urban design ideas like shared space are exposed to such processes but while awareness of this problematic exists in the urban design field, it has been undertheorised. I believe that such an investigation helps to uncover the way in which ideas are distorted and what is at stake in such processes. This is why the field needs to raise awareness that its critical thinking about socio-spatiality is *domesticated* in professional knowledge exchange. To base this claim on empirically firm ground, this thesis illustrates domestication in the case of shared space.

The focus on identifying the challenging momentum of shared space (which I call the *sociality challenge* in Paper One, p. 9) was the trigger to closer investigate the socio-spatiality relationship. This relationship appeared to be under-attended in professional shared space literature. The understanding of socio-spatiality of shared space seemed to be weakly grounded, theoretically and empirically. Relating the following theorisation to shared space was meant to fill this gap.

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[5] I discuss the discourse term and related key terms in more depth based on Fairclough's and Wodak's work in chapter 3 – 'methods on Level One'.

Socio-spatiality – intended by designers (perspective two)

It is not only policy, politics or economy that exert this pressure on urban designers and force them frame their ideas in order to legitimise them. The urban design field itself also plays its part in building up these expectations (Moudon, 1992). Urban design has thus given plenty of signals that it can meet policy expectations, for example in the design of sociability or vibrant and liveable streets (Appleyard et al., 1981; Gehl & Rogers, 2010), implying that good urban spaces are "perfectly" designable (Montgomery, 1998, p. 109).

The second theoretical perspective I use to address socio-spatiality regards the debates about the designability of sociality in public space. The designability claim relates to the urban design concern of creating urban space that meets certain normatively theorised dimensions of *public space*. I will not go into the vast theorisation of public space[6] here, but need to highlight that normative urban design often promotes its influence on the experience of public space in terms of collectiveness and togetherness. For example, much shared space literature suggests that the design will result in a growing general awareness of social responsibility and strengthen the experience of belonging to a collective, with all the implications this may have on behaviour.

The intention to plan and design spaces that meet these criteria are strongly underscored by scholars, such as Jane Jacobs (1965), Kevin Lynch (1960), Willian H. Whyte (1980), Jan Gehl (1987), Richard Sennet (2006) and Robert Putnam (1995), who point to the significance of social interaction in public space as a basis for sociality. These scholars warn in their work against the planning and design of urban spaces that do not meet these social needs. Highlighting the societal responsibility of planning and urban design, they (and many others) have influenced urban designers to create public spaces that enable social interaction (Hajer & Reijndorp, 2001).

The problem is how this work is translated into practice. It is mainly understood as a mere prescription for creating the physical conditions which will then produce sociality. There is an emphasis on design as a tool to produce sociality while under-acknowledging human agency and the complexity of socio-spatiality. This has led to an overemphasis in urban design practice on how a good city should look like rather than on understanding how it works, both in research and practice (Lang, 1994; Moudon, 1992; Verma, 2011).

One main critique against such "normative-prescriptive" (Moudon 1992) approaches of urban design is a lack of consideration of human agency in the production of socio-spatial relations in public space (Lynch, 1966). Much of this critique is based on contributions from the fields of social anthropology, such as Edward Hall's (1959, 1966) studies on social interaction or W.H. Whyte's (1980) known study of people's uses of public urban spaces, or sociology, such as Erving Goffman (1971a), who was heavily influenced by Hall. These scholars highlight the active role of users in producing and reproducing socio-spatial relations through interaction. I will return to these contributions below, when turning to the third theoretical perspective focusing closer on how socio-spatiality works.

It is precisely this concern, about the role of human agency in the production of socio-spatiality, which was my main reason for thinking critically about the sociality assumptions expressed in the majority of

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[6] I use the term in a simple way, referring to the accessibility of urban space. I consciously do not refer to the normative understanding of *public* space, as many normatively oriented theorists do.

shared space literature. Many of such ideas present social interaction as a natural cause of social order, collective consensus and civic behaviour. Hajer and Reijndorp (2001) also warn against an oversimplification of social interaction through which 'social cohesion' is simply assumed to happen (ibid. p.8 and 10) in places where people meet. They are critical towards approaches that merely underscore the design of locations where physical meetings occur, because "the nature of these meetings remains unclear" (p.12). They suggest giving more weight to agency in the theorisation of public space, in particular to the questions about what it is in social interaction that creates the assumed social qualities of such spaces.

The central concept in Hajer's and Reijndorp's theorisation is what they call the "public Domain" which they define as "those places where an exchange between different social groups is possible and also actually occurs." (ibidem p.11) and argue that "it is in fact that very exchange – often intense – that creates public domain." (ibidem p.41).

Furthermore, Hajer and Reijndorp criticise existing theorisation and practice for an overemphasis on public space as a fixed physical entity. They identify a lack of consideration of the temporality and flux as key characteristics of the public domain, related to its nature of steady change through ongoing contestation and friction. What characterises their public domain is negotiation and exchange of different understandings among users, rather than homogeneity and uniform social conduct. Related to my critique about how shared space literature presents its sociality promise, it is important to note that Hajer and Reijndorp refer to friction, conflict and confrontation as a positive aspect of public space. In fact, they emphasise this as the main aspect which gives public space its public domain quality. In this they follow theorists like Sennett who is also critical of modern tendency to design frictionless and neutral spaces, which rather prevent than enable what he calls "exposure" (Sennett, 1992, p. 121), a necessary and positive aspect enabling the exchange Hajer and Reijndrop (2001) call for.

Hence, they conceptualise public domain as a "sphere of exchange and confrontation" (ibid p.89). Conflict, in the sense of having different understandings of socio-spatiality, is in their theorisation essential to make any (positive or negative) judgement about public space. Their public domain is thus framed as an experience (rather than as a location), which is

> "based on becoming aware of one's own values and the decision to uphold these, or indeed to adapt them. We also assume that the concrete, physical experience of the presence of others, of cultural manifestations, and of the confrontation with different meanings associated with the same physical space, is important for developing social intelligence and forming a judgement." (ibid p. 12-13)

The friction aspect is thus desirable in everyday life and should be seen as a quality of public space because it makes judgements about people's experiences of public spaces possible. Hajer & Reijndorp go in fact so far as to argue that "the production of new places is to a large degree unpredictable and uncontrollable" (ibid p. 40) due to the complexity of contesting understandings, and recommend urban design not to follow the deceptive idea of "friction-free space" (ibid p. 89) as a design principle. They rather suggest to support the existence of spaces that do not only accommodate physical meeting of people but that enable the necessary friction and exchange that characterise good public space.

They call such spaces 'liminal spaces' (ibid p. 128), referring to public space in-between socially more homogeneous entities, a sort of borderland where people with different backgrounds and different understandings come in touch and learn through difference. In this they follow other public space

theorists, like Jacobs (1965) Zukin (1995), Sennett (1990) or Shields (1991) who also highlight the need to create spaces that afford the experience of difference rather than preventing is. Sennett for example argues that differences are "necessary for us to learn how to navigate life with balance, both individually and collectively" (1990, p xiii).

In summary, there are two main aspects in the above critique of prescriptive approaches in urban design that influenced the theoretical framing of this thesis: First, there is an overemphasis on the notion of sociality as a product of design. Urban design's potential to materialise and stabilise a certain sociality are limited. The social is not fixed through design but steadily contested and re-negotiated by interacting social subjects. Of course, many urban designers will agree on this. However, much planning and design practice, especially when it relates to transport space, understates this aspect. Second, the social is strongly influenced by our physical environment but not in a homogeneous way. Rather, this environment is sensed and made sense of in multiple ways. The implication for urban design is that it should be sensible to and actually enable multiple interpretations and variety in behaviour rather than over-emphasising social models that promote sameness.

'Situated multiplicity' as an attempt to understand socio-spatiality

In my second paper of this thesis I explore a theoretical attempt by Ash Amin to reformulate the relationship between urban space and social life. His work (2007, 2008, 2012) relates to a theoretical thread within critical social geography and sociology (see for example: Amin & Thrift, 2002; Crang & Thrift, 2000; Cresswell, 2013; Merriman & Cresswell, 2011; Urry 2000). He offers a frame to make those dimensions of socio-spatiality explicit that are left silent by those dominant discourses about public space that Hajer and Reijndorp also criticise (2001, p. 16).

In my understanding, Amin's theorisation is thus in line with the above criticism of prescriptive approaches to urban space. Amin offers his concept of "situated multiplicity" (Amin, 2008 and 2012) and its various dimensions called "resonances of situated multiplicity" (Amin, 2008), as an alternative theorisation about the relationship of the social and the spatial. In line with Hajer and Reijndorp, Amin emphasises the importance of early scholars work such as Lefebvre, Jacobs and Sennett, in recognizing a) the variation in meaning-making by multiple users and b) friction as a fundamental element of socio-spatiality and driving force of its dynamics. He sees that these scholars offer different approaches but also sees their connectedness and attempts to pull their different perspectives together and combine them. Each of his five resonances has thus theoretical roots in different scholars' theorisation, (even though he does not make this clear and explicit for every resonance): 'Surplus' in Simmel's (1903) theorisation of strangers' social encounters, 'territorialisation' and 'emplacement' in Lefebvre's work on spatial practices (1991), 'emergence' in Jacobs' observation of the role of minor conflicts in public space (1961), and 'symbolic projection' in his own work on public culture (Amin and Thrift, 2002). See Paper Two and table 3 (p.50) in this thesis for my suggestions of how to use these concepts for the analysis of real world data.

The attempt to interconnect these works in a conceptual framework is in line with my own way of engaging with different theories and methods. It seeks to integrate approaches that differ, *because* they offer insight from different perspectives (see also chapter 4 on epistemological pluralism). This is one reason why I decided to explore Amin's approach by operationalising it; searching for his 'resonances of multiplicity' in my real world data from St Olavs plass. What I saw in Amin's 'situated mulitiplicity' was a theoretically diverse, yet compact and focused, way of a critical investigation of socio-spatiality.

In line with the critical approaches presented above, Amin engages critically with the idea of public space as a locus for the generation of the social through mere social interaction (2008, p.8). He does though not intend to undermine the importance of social interaction, but rather questions an over-emphasis on social interaction in public space as a taken for granted generator of a homogeneous sociality – a conception that in his view seems to dominate theorisation of the social in urban studies. In line with the pragmatist approaches he owes to, Amin suggests to pay more attention to the multiple co-existing ways and the material dimensions of how the social is experienced in urban space.

Amin seems to avoid singling out the thinkers he criticises and does not either direct his critique explicitly towards urban design. Instead, he writes about the conceptualisation of social life in urban space in general, probably referring to mainstream conceptualisations in public space policy. I regard his contribution though as an important perspective for urban design to consider, because he tries to line out physical characteristics that can be influenced through urban design. Pointing to the work of known scholars such Jacobs (1965) and Sennett (1992), he sees a quality in "public spaces that are open, crowded, diverse, incomplete, improvised, and disorderly or lightly regulated" (Amin, 2008, p. 8). In my view, this description resonates quite well with how I would describe St Olavs plass in design terms. Furthermore, this is in line with Hajer's and Reijndorp's concept of 'liminal spaces'. In this sense, Amin's work can also be regarded as normative, even though he presents his arguments as a critique against existing simplifying normative accounts.

In line with the above theoretical arguments, Amin sees no loss in including notions as complexity and friction in the theorisation of social life in public space. Following Sennett, he rather concludes that these notions help to reformulate the positive dimensions of public space. Attempting to articulate this positive dimension he highlights the interesting notion of *trust*, which has also been identified by other scholars, such as Jacobs, Goffman and Simmel (Jensen, 2006)[7] as a product of everyday encounters in urban public spaces. This trust can be understood as one aspect of the 'social responsibility' shared space user's are assumed to become aware of when experiencing shared space (Gerlach, Methorst, et al., 2008; Hamilton-Baillie, 2008a; Havik et al., 2012). However, the shared space literature highlighting these positive effects of the design does not mention this work that users have to do in order to enable that trust. Light conflict and friction are thus not only an everyday reality, but fundamentally needed for the (re)production of socio-spatiality. This is another reason why I decided to apply Amin's approach. I saw multiplicity as an approach open for a nuanced understanding of socio-spatiality, particularly open for highlighting phenomena like friction, change and unpredictability. It promised an alternative view to the majority of shared space accounts emphasising smooth harmony of hegemonic conduct as a product of social interaction.

Amin argues further that people compensate complex and demanding dynamics of situated multiplicity with passive pragmatic behaviour or what I call 'strategies of avoidance' (see Paper Two). User's of public space often seem to act as if they do not see others, or as if they are occupied with other things and therefor excused for their social passiveness. The concept is closely related to Simmel's concept of the mental life of strangers (Simmel, 1903), and Goffman's (1971) strategies people apply to control socio-spatial settings. Jensen (2013), drawing extemsively these works, reemphaises that these strategies are

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[7] The notion of trust opens the door to a large debate in urban studies closely related to the concept of social capital, see for example Putnam (2001), Bourdieu (1977) and Siisiäinen (2003) for a comparison including the notion of trust. Even though related to my work, I am not following up any theorisation of the term trust, but simply wish to highlight Amin's motivation to identify the positive sides of friction in social interaction.

not just a cumbersome byproduct of social interaction but that they are key elements of cultural reproduction. Instead of viewing these 'strategies of avoidance' as a weakness of urban socio-spatiality it can, in Amin's view, be seen as a necessary property of making urban space complexity possible. He also calls this "reflexes of studied trust"[8] and sees it as the "civic virtue" of the "urban commons" (Amin, 2008, p.8). Many others have recognised this property as the double-sidedness of social interaction in a street context (see for example: Jacobs, 1993; Mehta, 2013; Sankalia, 2014). However, the above mentioned critical writings suggest that the prescriptive approach to urban design is still dominant and silencing more nuanced and critical approaches, such as those presented here. The following, third theoretical perspective, engages closer approaches that focus on the workings of socio-spatiality and are, in most cases, less concerned with the direction these workings should follow.

Socio-spatiality - realised by users (perspective three)

The third theoretical perspective I explore in this thesis has a "substantive-descriptive" (Moudon,1992) focus. It draws on research that seeks to understand the mechanisms and dynamics of how socio-spatiality actually plays out in built space in everyday life. In other words, it gives primacy to understanding how socio-spatiality works rather than how it should work. Substantive-descriptive approaches overlap with normative-prescriptive approaches in the previous chapter in the sense that they are investigating the same research object, the relationship of the spatial and the social. The difference between them is the questions they ask about it. In my view, this does not mean that they are exclusive to each other but complementary. A substantive-descriptive approach seeks to establish the necessary understanding to, subsequently, be able to develop normative theories about how design may influence sociality.

The focus on social interaction in everyday life highlights the empirical nature of this perspective. It focuses on understanding what goes on in real world settings where users take their part in forming socio-spatiality. It attempts to make socio-spatiality more researchable and tangible. Contributions come from across diverse academic fields, including the design fields design, anthropology, human geography, sociology, environmental psychology and semiotics.

What interaction studies have in common is that they put the human body at central stage, as a medium in a two-directional way. On one hand, to sense and interpret the socio-spatial environment, on the other, to actively influence it through bodily practice. This double role of the human body highlights the constantly present symbolic dimensions of body practices. According to John Dewey (2005 [1934]), frequently referred to by pragmatists, the body senses make the connections through which humans experience the world (C. Shilling, 2016). The term *embodiment* refers to this process, which accounts for both the body as a sensing object *and* a meaning making subject (C. Shilling, 2016). According to the pragmatic approach of symbolic interactionism presented by Dennis Waskul and Phillip Vannini "The term embodiment refers quite precisely to the process by which the object-body is actively experienced, produced, sustained, and/or transformed as a subject-body" (2006, p.3). This definition connects what classical theorisation has distinguishes strictly as two phenomena that should be researched with different methods and analytical perspectives, 'object-body' and the 'subject-body'.

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[8] Note again the trust concept. Unfortunately, Amin lacks to establish a relation of his 'studied trust' with the work of scholars that explicitly engage with it (see previous footnote).

Studies on embodiment are typically critical against classical ontological dualisms often labelled as 'Cartesian' (ibid p.183) (See also: C. P. Shilling, 2003). They try to overcome the classical ontological separation of the mind and the body, which implies disciplinary sovereignty and disconnects them as two separated fields of research: the mind and its relation to society being the domain of the social sciences and humanities, and the body and its relation to the environment being the domain of the natural sciences.

The body is, according to the pragmatic interactionist perspective my view relates too, not merely an object or tool inhabited by a human mind and conditioned by a physical environment. It is actively acted upon and given meaning to:

> "people do not merely have a body – people actively do a body. The body is fashioned, crafted, negotiated, manipulated and largely in ritualized social and cultural conventions" […] "if the body is something that people do then it is in the doings of people – not in their flesh – that the body is embod*ied*; an *active* process by which the body is literally real(ized) and made meaningful" (Vannini & Waskul, 2006, p.6-7).

Existing contributions investigating how and by what means embodment is practiced are vast and built on multiple different disciplinary approaches (Shilling). Vanini and Waskul offer an interactionist exploration of Embodiment and its role in social interaction. In this thesis I do, however, not go into any in-depth theorizing of embodiment. Instead, I seeks to relate important implications of this theorisation to my understanding of socio-spatiality. The two most relevant interrelated theoretical aspects are summarised in the following two sub-chapters. They resonate well with the theoretical arguments in the previous chapter: that socio-spatiality is, even though often carefully thought through by designers, constantly subjected to change and re-negotiations by actively engaged users interpreting it and acting on it using their bodies and body extensions (clothes, vehicles or other artefacts).

User's agency

The first important aspect is the agency of users in managing a socio-spatial setting. Users do not merely react to social and environmental constrains or the biological limitations of their bodies, but actively manage and negotiate their relation to a given socio-spatial setting.

Prominent examples of scholars that have tried to identify the particularities of this negotiation process Edward T. Hall (1959, 1966) and Erving Goffman (1959, 1971b). I chose to highlight the work of these two scholars here because they provide the key theoretical foundation for the theoretical and methodological perspective I use for researching socio-spatiality in the third paper of the thesis. Both gave rich insight into how understandings of space are socially and culturally constructed by user's through symbolic interaction. Both have developed a fundamental knowledgebase for the above mentioned interactionist understanding of embodiment.

One of Hall's main arguments was that culture materialises in non-verbal mundane bodily practices of communication in everyday life. His main interest, as an anthropologist, was to show how cultural patterns of everyday life are manifest in body language and in how people position themselves towards others in space, in line with socially learned codes of behaviour. Hall labelled his studies 'proxemics' and suggested a categorisation of interpersonal distances, *intimate, personal, social* and *public*, that could vary between cultures (E. T. Hall, 1966). The study of these distances, how people position themselves to each

other and the body language they used, could give valuable insight for understanding cultural differences or similarities. According to Hall, these bodily ways of cultural reproduction also had implications for spatial design of public space.

Goffman, influenced by Hall, developed a dramaturgical analogy in his work to make explicit how people perform with body language and different means of body display to participate in the "theatre" of social interaction (Goffman, 1959, 1971b). His interest was in discovering the vast techniques people use to negotiate their social relationships with others in situ. The dramaturgical analogy allowed Goffman to stress the active role people have in adapting to a vast variety of socio-spatial settings, for example using gestures, posture, gaze and body movements and also through staging their physical appearance through artificial body extensions, for example with clothing, carrying and using artifacts or using different modes of transport.

One of the probably most often cited examples Goffman used to illustrate people's abilities to perform in accordance with a given socio-spatial situation is the 'front-stage – back-stage' episode of a servant working in a hotel restaurant. The servant would apply different ways of behaviour and communication depending on whether she or he is acting in the public space of the restaurant or behind the closed kitchen doors. The episode can be used as an analogy to illustrate how people in public space perform as if acting on a stage, being aware of their spectators judging their behaviour. In contrast, back-stage behaviour is more relaxed, often interpreted as private body postures unsuitable for the front-stage. The main point here is that people do not only make this difference in professional contexts, such as the servant, a flight attendant, a philharmonic musician or a priest at work. Rather the front-stage back-stage body practices also apply in many every-day settings where people perform for and with others to participate in what Goffman called 'interaction order'.

The most common way of bodily agency in public space observed by Goffman was what he called 'civil inattention', a body technic typical for the encounters of strangers. Shilling (2003) summarised:

> "Civil inattention involves not simply the use of the face but the careful positioning of the entire body on the street, in large gatherings or on ceremonial occasions to signify a non-threatening presence. For example, when passing each other on the street strangers will usually glance at each other before looking away, indicating recognition of each other's presence but avoiding any gesture that might be taken as implying a threat" (ibid p. 74).

Hall and Goffman were social scientists, but their work continues to be applied by the fields that are concerned with influencing the socio-spatial relationship in practice, such as the design fields and applied environmental psychology. Key works owing to Hall and Goffman in these fields are contributions from architect Bryan Lawson (2001) with his book "The Language of Space" and psychologist Robert Sommer (2007 [1969]) with his book "Personal Space". Having their main interest in design they try to make explicit what implication Hall's and Goffman's knowledges has for design practice. Both recognise the role of the human body both in making sense of and simultaneously influencing socio-spatiality. Sommer for instance departs in his work from the basic statement that "we are all space managers to a degree" (ibid p.2). Subsequently, his book is rich in examples of how people actively create and communicate their social relations to other through body language, managing distances and spatial arrangements in different kinds of spaces. Lawson takes a somewhat more prescriptive position, not surprising for a designer, focusing on "how architecture mediates our relationship with each other" (ibid p.5). He departs from conceptualizing space as a universal language, in the sense that it mediates meaning in similar ways around the world,

where cultural context only make slight differences to how people read this language of space. For him, space "allows", "permits", "enables", "facilitates" and "provides" (ibid p.11). However, Lawson also recognises that architects' power to prescribe behaviour through design is limited, for example referring to Goffman's restaurant episode he recognises that architects can only "facilitate the acting out of identities we use in our lives. Much of this must be done not by architects but by the actors themselves, since the space is effectively an extension of their own behavioural mask." (ibid. p31).

Important for the theorisation of socio-spatiality in the thesis is that both Lawson and Sommer recognise the central role of the routines the human body acquires in order to 'manage' space as a basis for understanding socio-spatiality. These routines are, however, not merely understood as a necessary mechanical optimisation of an instrumental task, such as transporting oneself from A to B. They are rooted in and reproduce cultural norms and codes of conduct.

I would argue that contributions like Lawson's or Sommer's underpin design experiments that recognise the above outlined interrelated aspects (negotiating agency and continuous change) of socio-spatiality. I see shared space as just one such experiment through which it is possible to explore socio-spatiality. Furthermore, I believe that shared space is a particularly good case to do this because the design explicitly challenges users' embodiment routines; it provides an unconventional socio-spatiality and urges users to reconsider these routines (see paper three). My project is thus in need of concepts like embodiment in order to understand the phenomenon of socio-spatiality, but it does not aim at deepening existing theorisation about the body and embodiment.

In my view, the pragmatic embodiment concept therefore supports the argument that shared space is an idea through which designers should highlight the continuous and conflictual production of socio-spatiality by users. One may of course argue that this is the very intention behind shared space. In that case however, shared space accounts should highlight unpredictability, friction and constantly changing character as key aspects of the emergent socio-spatiality. The work of scholars like Amin, Jacobs, Hajer and Reijndorp, or Sennet offer rich support in articulating the benefits of this.

Most relevant, for my framing of shared space as a case of socio-spatiality, in the above contributions is how explicit they make the aspect of negotiation in bodily practices of everyday encounters in public space. This negotiation is necessary to manage conflictual interpretations. To make a connection to the former (second) main theoretical perspective presented above it is possible to phrase this in Reijndorp's and Hajer's manner: the simple term 'meeting' does not do justice to the act of actively exchanging, negotiating and sharing different understandings, which they see as the essence of social interaction in the public domain. Difference, not sameness, is what drives social interaction.

This leads to the next significant theoretical implication I draw from the interaction studies in which the human body plays such a central role: If mundane every-day interaction in public space is frictional and based on difference, socio-spatiality must be a *continuously changing* phenomenon. It is dynamic and largely unpredictable. I elaborate on this aspect in the following sub-chapter.

Socio-spatiality is mobile

The above presented understanding of embodiment as a process implicates that an analysis of social interaction in public space should give equal weight to movement as to structure and stasis. Brian Massumi (2002) highlights this point in his work on embodiment. He argues that the body experiences

the world as it *happens* rather than as it *is*. For Massumi, embodiment can only happen through change. In his account bodies experience the world through movement, as an 'event' rather than as a 'frozen' moment (ibid p.5). This also entails that we perceive of socio-spatiality as a potential, something that is about to happen, rather than as a fixed situation or a product. Massumi's critique also counts for contemporary ideas of sociality, as a result of social interaction in a given spatial setting. He highlights the problem that such an approach implicates that sociality is an *outcome* of social interaction while it should be understood as a *process* of continuous renegotiation, as "interaction-in-the-making" (pibid p.9). This is in line with my critical view on urban design intentions to produce simplified models of sociality characterised by consensus and shared understanding (see chapter 5). As I illustrate through my case study of shared space, socio-spatiality is constantly changing due to a continuously transforming interaction order (see paper three).

Many other social scientists have addresses both of the above aspects - humans' agency in negotiating socio-spatiality *and* its dynamic ever-changing nature - in their analysis and description of the social, often in the context of cities and urban spaces (see for example Walter Benjamin (1999), Georg Simmel (1903; Simmel & Wolff, 1950) or Jane Jacobs (1965)). The field of Mobilities studies, an inter-disciplinary sub-filed of the social sciences and humanities, collects and connects these contributions to build a theoretical foundation for a 'mobile' understanding of culture, society, social processes and every-day interaction. From this point of departure, the field seeks to formulate a social theory that seeks to counterbalance contemporary approaches assuming a structural and rigid nature of the social.

Urry (2000), one of the pioneers of the 'new Mobilities turn' (Cresswell, 2011), claims that the social can better be understood as a phenomenon in motion. This has strong empirical implications for social enquiry. It shifts the focus of investigation towards looking at movement and change, not only of people and objects but also of ideas and images. Mobilities studies are probably the subfield within the social sciences that focuses most explicitly on change and movement as important "social facts" rather than mere by-products of social reality (Cresswell, 2011). It is therefore that transport and travel are a key field of Mobilities investigation. Biking, walking, using the car or public transport are called transport modes in transport geography and engineering. In mobilities they are called "mobile practices" (Ole B. Jensen, 2013) which encompasses the instrumental understanding of getting from A to B, but expands it to integrate important elements of the embodiment process, emotions, affect and sensation**.**

This is the contribution of the mobilitities approach. It develops a social theory with a vocabulary that emphasis peoples' agency in the ever ongoing production of culture and identity (Jensen, 2013). The field seeks to "uncover the meaning of movement to social interaction and cultural production" (Jensen, 2010, p.389). Here, mobility does not merely refer to instrumental motion of objects and bodies as in a technical transport understanding but is recognised as an "important mundane cultural manifestation" (ibid p.391).

Urban mobility, in terms of travel practices, is thus more than movement from A to B (Jensen, 2009). It is part of producing and shaping peoples identity which is also conceptualised as continuously being negotiated and in the making. "Mobility practices are part of the daily identity construction of the mobile urbanites" (Jensen, 2013).

Further, mobilities studies emphasise a relational understanding of urban space, which is not merely a physical constellation but is of social nature too. Cities' infrastructure are not only physical and mechanical constructs exerting constraint over behaviour and creating order; they are *constituted* by interactions in which not only matter is mobilised and transported but also meaning (Jensen, 2009). Due to these

processes urban space should be investigated with a "dynamic gaze" (Jensen 2009, p.147). A Mobilities viewpoint supports a perspective that sees socio-spatiality as mobile.

One important dimension of the Mobilities approach is the recognition of users as having the role of influencing socio-spatiality actively. Users act upon socio-spatiality through movement practices (including slowing down and standing still) which involve social interaction, in turn leading to negotiating both material space and the multiple ways of making meaning of it. While urban design may often intend to fix socio-spatiality through design, users mobilise this socio-spatiality through the above-mentioned embodiment process. Jensen argues that urban designers aware of that may realise that design can support, or "afford", mobile practices. He calls this "mobility affordances", making a connection to environmental psychologist James Gibson's (1986) known theorisation about the human perception of the environment. Far from seeing in this environmental reductionism of behaviour Jensen highlights that such affordances in designed space may afford "behaviour that affords behaviour" (Jensen, 2013, p.95). This relates closely to my understanding of socio-spatiality as *realised by users*, meaning that a design depends on users activity so that socio-spatiality can unfold.

Thus, owing among others to Mobilities studies, this thesis highlights already in its title that socio-spatiality is *realised by users*. They are the ones who translate designers' intentions to produce sociality into what I call socio-spatiality. Even though this argument has, both explicitly and more vague, been around for long in urban studies, Mobilities see a need to forefront it through stronger articulation and the development of a vocabulary that makes it more explicit and visible in debates about urban life and design.

Jensen (2013) contributes to this work by exploring and expanding Goffman's dramaturgical approach from a Mobilities viewpoint. He does this by showing how mobile practices in public urban space are both "staged from above", for example by planners and designers and regulative frameworks, and "staged from below" by the "urbanites" that live in cities (Jensen 2013). Both sides, above and below, participate in the production and re-production of norms and conventions, also constantly changing them. The concept of "staging" refers to a dramaturgical approach, but Jensen explains and shows throughout his work that this approach resonates well with approaches of earlier urban analysts even though they did not call it Mobilities (for example: Benjamin & Tiedemann, 1999; De Certeau, 1984; Lefebvre, 1991; Lynch, Banerjee, & Southworth, 1990; Simmel & Wolff, 1950).

This connects directly to my critical view, not on shared space design per se, but on how the idea has been translated into a policy and design tool which leaves the sociality challenge of the design unattended (see Paper One). It thus finds a theoretical underpinning in mobility studies, where "people not only observe the city whilst moving through it, rather they constitutes the city by practicing mobility [and] all mobility practices are producing meaning, identity and cultural signification" (Jensen 2009, p.140 and 141).

According to Cresswell (2014), the concept of friction is vital to a Mobilities approach. Friction is a physical phenomenon often used in analogy to describe social interaction where different and often conflictual understandings and interpretations of the world meet and force the involved ones to negotiate. For Cresswell, the social becomes visible in research when friction emerges, in analogy to potential energy in physics, which becomes measurable when it is transformed into heat through friction. In my view, this analogy is helpful for describing the dynamics and the effects of conflict and negotiation. Friction "can make what is often the smooth, hidden, workings of the space of flows suddenly visible" (ibid p. 114). Cresswell highlights that friction may hinder things from happening but at the same time enables

alternative trajectories. The concept of friction is thus a key aspect in mobility research of high empirical significance: Friction is what makes a phenomenon *researchable*.

This understanding had strong influence on the methodological focus in my fieldwork. The sociality of St Olavs plass as a frictionless space, in which people shared the same understanding, would not reveal how socio-spatiality works. Rather, looking for friction, appearing as conflictual incidents in which people would experience difference in and negotiate their understandings, would make socio-spatiality visible. It is important to note that this understanding of friction did not imply that smooth movement and agreement where left aside, but rather considered one end of a continuum of friction. I saw friction not as the exceptional, or opposite, to otherwise harmonious everyday encounters, but as what makes these encounters visible. While most observed incidents where mundane and only slightly conflictual a few approximated discomfort for the involved. However, friction was what I assumed to make socio-spatiality at StOp both happen and visible. Conflict and friction are integral parts of everyday life and important elements in reproducing and changing social order. This again is also in line with Jensen underlining the significance of this friction taking place in "fields of contestation" where "practices and movements are placing and displacing actors, making connections and disconnects, constructing experiences or dispensing with experience all dependent on how and where we move" (Jensen, 2009, p.148).

This is probably the most important understanding in support of my critical perspective towards how shared space is framed by professional planners and designers. The professional representation of shared space sees good urban space as inhabited by a harmonious and frictionless collective (see Paper One and chapter 5 in this thesis on sociality explanations in shared space literature). I rather see shared space, in contrast to more segregated and regulated street designs, as a place enabling and increasing users' ability and need to behave in contesting ways, among each other and regarding designer's intention's behind design.

How users handle ambiguity and negotiate different interpretations of socio-spatiality can be investigated from a semiotic perspective. I do this in my third paper in in which I use a so-called geosemiotic perspective to better understand the socio-spatiality of shared space.

Exploring socio-spatiality through geosemiotics

Throughout the above theorisation, it is assumed that people make meaning of socio-spatiality and that this meaning-making entails an interpretative engagement with difference and friction. This dynamic understanding is well represented in the geosemiotic approach, because it pays prime attention to the dynamic and conflictual nature of how users experience and make meaning of socio-spatiality. This is why Scollon and Scollon (2003) present it as an approach to understand what they call 'discourses in place'. This term refers to a multiplicity of discourses, represented by different signs that people are confronted with in public space. In the Scollon's account, a sign is a material object that "indicates or refers to something other than itself" (ibid p.216). Strictly speaking this also includes sensible phenomena which can signalise meaning to people, like sounds and smell.

Geosemiotics see their roots in the semiotics of Charles Sanders Peirce (1955) who many refer to as one of the founders of semiotics. Peirce lived at the same time as Ferdinand de Saussure but had a more holistic approach to the study of signs, which may be applied for the study of any sign system while de Saussure focused primarily on language. Peirce developed a triadic theory to describe the process of how signs work. This process would consist of three main elements standing in an interdependent relationship

to each other: the *representamen* (the sign itself), the *object* it refers to and the *interpretant*, which is the result of the relational working of *representamen* and the *object* (Cobley & Jansz, 2010).

A simplified example of this process is a roundabout sign: The circular arranged arrows on a signage plate *(representamen)*, refers to the the physical structure itself (*object*), a constructed circle surrounded by a street with multiple exits. Looking at the *representamen* and relating it to the *object* results in the *interpretant*: recognizing the circular structure surrounded by streets as a roundabout, which entails an understanding of its various affordances in terms of traffic.

The relationship between the representant and the object has also three explanatory dimensions. Those take the form of *icons*, *indexes* or *symbols* (Ronald Scollon & Scollon, 2003). Icons are explanatory because they resemble the objects they refer to. Indexes are explanatory because they *point to* the object through their location and their positioning in space. Symbols are "completely arbitrary or conventional signs that do not resemble their meaning and do not point to it" (ibid, p. 27), such as the written word *roundabout:* it does not resemble a roundabout nor does its location in this thesis indicate that you are close to an actual roundabout, yet you know what the written letters mean. A roundabout sign (the plate with the circular drawing) is both an icon and an index, because the drawing resembles a circle and it is normally located and positioned in such a way that an approaching person becomes aware that there is a roundabout ahead. Moreover, a carefully designed roundabout can be both, without needing a signage plate to give meaning to it: an icon because it resembles itself and an index because it indexes itself as we see it when we approach.

The Scollons identify three major principles of geosemiotics (ibid, p.205) and thereby try to expand traditional semiotic approaches. The first principle is *indexicality*. It refers to the meaning signs have because of "how [where and in what position] they are placed in the world" (ibidem), that is to say in relation to other signs. The placement of signs is "authorised" by the discourses it refers too. For example, traffic signage refers to a traffic regulation and safety discourse while a church indicates a religious discourse. The second principle is *dialogicality*. It is closely related to indexicality and refers to the ever-present dynamic relationship sign have with other signs. Signs do not operate in isolation but always in dynamic orchestration, or what the Scollons coin "in aggregate" (ibidem). The third principle is called *selection*. It refers to the choices people make when they make meaning of all signs in a selective way, so to speak by creating their individual combination of meanings.

This resonates with other social semiotic understanding that users of city space are exposed to multiple discourses generated and mediated by city signs, rather than merely perceiving and reacting to spatial functionality (See for example: Barthes, 1986; Eco, 1986; Gottdiener, 1986; Jaworski & Thurlow, 2010). This relates closely to my understanding that all socio-spatial settings are interpreted in as many ways as there are people to make meaning of them. This is not to deny that meaning-making may often (probably in most cases) be harmonious and based on collectively shared understandings, but that an element of conflict is necessary for social interaction to have any positive affect on the experience of public space (Amin, 2008; Hajer & Reijndorp, 2001; Jacobs, 1965; Sennett, 1992).

Geosemiotics highlight thus that any analysis of meaning-making should pay special attention to the social action being continuously subjected to change and re-interpretation, not at least because the meaning-making actors are moving people. This is why a geosemiotic approach is of particular interest for mobilities studies (Jensen, 2013). The approach attends to the above-mentioned 'social fact of movement' (Cresswell, 2010). Jensen highlights the usefulness of geosemiotic to help understand and theorise

Mobilities, in particular because sign systems influence people's movement and behaviour. Of special interest to a mobility study is that signs, for example in the form of infrastructure, signage or buildings, are located in a city to be perceived by moving bodies and to confront these moving bodies with certain discourses (Jensen, 2013; 2014).

Most important in the context of this thesis is an additional aspect of geosemiotics, which is in line with a Mobilities interest, but not quite the same: Geosemiotics help to describe socio-spatiality as a dynamic phenomenon in which all different semiotic systems are at play and interdependent of each other (see paper three). Geosemiotics employ an analytical classification of three sign systems which are always interrelated through a dynamic interplay. The first one is called *interaction order* (referring to Goffman's concept focusing on social interaction patterns). The second one is called *visual semiotics* "focusing on all of the ways in which pictures (signs, images, graphics, texts, photographs, paintings and all of the other combinations of these and others) are produced as meaningful wholes for visual interpretation" (Scollon & Scollon, 2003, p.8). Finally *spatial semiotics* contains a "huge agglomeration" (ibidem) of all other signs that are not presented by people or visual semiotics. This includes all other material objects one encounters in a socio-spatial setting, such as art pieces, street design, a fence, building architecture or a flower bed (see paper three).

Geosemiotics is an interdisciplinary approach connecting a variety of fields, "from linguistics to cultural geography and from communication to sociology" (ibid p.2). It is particularly useful for the exploration of socio-spatiality because it focuses on the link between how people make meaning *of* and make meaning *for* socio-spatial settings. Making meaning *of* refers to the way people perceive and interpret socio-spatiality and making meaning *for* refers to the way they themselves actively influence socio-spatiality. A user's agency is thus significant in influencing socio-spatiality. This is also in line with the above critical perspectives of socio-spatiality as a dynamic and constantly changing phenomenon. While not disregarding the role of the physical environment, this approach underlines that human action is not just a reaction to the semiotic qualities of a city's built environment, but a (particularly dynamic) semiotic system in itself. People not only perceive the environment and interact with other people. They are signs in themselves, creating meaning through their bodily appearance and through what they do.

Geosemiotics underline thus the role of people's physical presence in urban space, with the human body and its artefactual extensions (such as clothes, vehicles or artefacts carried on the body) as the interface of the social and the spatial. This understanding is based on the above mentioned work of Hall (1966) and Goffman (1971). Here, the geosemiotic perspective resonates with much contemporary theorisation of socio-spatiality (See for example: Degen & Rose, 2012; Low, 2014; Middleton, 2010; Sheller, 2004; Urry, 2006; Vergunst, 2010, Massumi 2002, Jensen 2013). It draws attention to how design influences the sensory experience of urban space and how this influences social identity. Embodiment is thus an important theoretical element, although the Scollons do not conceptualise this term explicitly or relate it to the above theorisation. In their account, embodiment is somatic expression. It refers to the human body as a sign carrying meaning and indexing the world. This is different to the above conceptualisation presented by Vanini and Waskul (2006) where embodiment is rather somatic impression, a process by which people learn to make meaning of the world which they are part of. The Scollon's Geosemiotics treat the human body rather as a sign that people mobilise in their socio-spatial negotiations.

Another term the Scollons give a key position in their work is the concept of discourse. Ron Scollon theorises this concept only loosely in the work on geosemiotics, but goes in depth elsewhere (Scollon 2001). He presents a similar understanding as many theorists have presented, such as the Foucauldian

idea of multiple competing discourses or his thoughts on how space and architecture may mediate power relations discussed and deepened by many discourse scholars. Scollon's interest is, however, rather in understanding how discourses are mediated in everyday life (through what he terms Mediated Discourse Analysis) rather than investigating questions about social order and deeper power structures (Scollon, 2001), (see also pp. 59-60 in this thesis). The material world, including human bodies, which the Scollons are investigating through their geosemiotic perspective, seem to both carry and represent meaning and discourses. What makes these two phenomena distinct from each other is not discussed in the context of geosemiotics.

I think, however, that the simplification of key concepts like 'embodiment' or 'discourse' is not as severe as it may seem at first sight. While the Scollon's may bypass complex theorisation of these terms it still makes sense how they employ them to explain their view on social action in space. Simplification in such account is sometimes necessary to keep focus on the actual topic of investigation. As I argued for my own case above, making connections between different fields of theorisation means also sacrificing some depth of theorisation in each of the different directions one wishes to link together.

Turning to the urban design field, meaning-making is a central concept. In fact, to a certain extent, most urban design research and practice can be understood as a semiotic undertaking because it involves a consideration of how people perceive and make meaning of their environment (Cuthbert, 2008; Madanipour, 1996; Mehta, 2013; Nasar, 2011). Many known urban design scholars directly investigate this process of meaning-making in studies focusing on the person-environment relationship (Appleyard, 1979; Lynch, 1960; Rapoport, 1977; Whyte, 1980), without explicitly labelling this as, or linking it to, semiotics. Given the intention of urban designers to shape physical spaces (and not the people who interpret them), semiotic approaches in urban analysis are though typically more limited to the analysis of the built environment or parts of it. Some emphasise that users interpret built space as social symbols, and that this interpretation may deviate from the meaning that its designers intended (Appleyard, 1979).

The study of "place" and the urban design intention of place-making (Castello, 2010; Madden, 2011; Tuan, 1977) represent a recent attempt to highlight meaning-making as an essential consideration for urban design practice, although without giving much weight to semiotics as a way to explain the detailed mechanisms of this meaning-making. It employs the "place" concept to express a design that is developed based on user perceptions and activities. Such places are conceptualised in opposition to *spaces,* lacking meaning as mere physical settings (Madden, 2011). Spaces deserving the 'place' label are thus "qualified spaces" (Castello, 2010). Madden calls spaces 'places', "when they begin to develop a multitude of reasons for people to go there" (Madden, 2011, p. 656).

In my critical perspective, the place-making understanding of socio-spatiality is somewhat problematic. It seems to imply that some places have less meaning than others because they are not attracting many people or because they do not offer a plurality of activities. In a place-making approach, this concept of place does not seem to recognise the geosemiotic understanding that any sign, and therefore any environment perceived by humans, carries meaning. Strictly speaking, this means that no space perceived by humans can be void of meaning even though some places may be subjected more than others to intentional semiotic intrusion (Scollon & Scollon, 2003, p 111). Further, the mere fact that many people perceive of and use a space does not mean that this space has more meaning than spaces void of people.

However, even though such approaches recognise users' meaning-making as an important part of understanding socio-spatiality, they are often limited to framing meaning in prescriptive terms of

producing functionality of urban space. They emphasise meaning-making as a collective process and symbolic meaning as a collective interpretation. In such a view it is an abstract public, that collectively sees symbolic meaning in the built environment. This preoccupation with either symbolic or instrumental functionality tends to under-address the complexity of semiotic processes (Gottdiener, 1986). It over-focuses on *what* people should do, rather than trying to understand *how* and *why* spaces work as they do in their larger spatial and historical context (ibid). Social semiologists warn against the oversimplification of semiotic multiplicity and the disregard of the tense nature of meaning-making processes (See for example: Choay, 1986; Gottdiener, 1986). Based on the work of earlier theorists of semiotics (Barthes, 1967; Hjelmslev, 1953) they highlight that semiotic urban analysis should not privilege the denotations that are physically codified in the built environment over the non-codified connotations users think of when they sense urban settings. Such an oversimplification would run the risk of equating the frictional meaning-making of "polysemic" environments with the mere negotiation of social interests about what type of functions places should serve (Gottdiener, 1986, p. 214).

Synthesis of theoretical concepts and perspectives

This final chapter summarises the above theorisation and aims to synthesise the different concepts and perspectives presented. In the beginning, I presented the concept of socio-spatiality and highlighted three conceptual aspects, relationality, dialectics and intentionality. These three aspects play and important role when investigating and explaining how urban design ideas about influencing sociality unfold in built space. Related to this, I also clarified my understanding and use of the term 'urban design' in this thesis, specifically emphasising the aspect of intentionality and thereby establishing a close conceptual link to the socio-spatiality concept.

Subsequently, I introduced three important perspectives when critically investigating the link between ideas and discourses around them on the one hand and on the other hand how they work in built space. Together, the theoretical perspectives try to open an interdisciplinary theoretical view on how the two levels of investigation influence each other.

The perspectives thus do not stand parallel and isolated from each other. They are interconnected in highlighting two important dimensions that are typically unattended in shared space design literature. These dimensions are i) users' agency in influencing socio-spatiality and ii) the role of friction and conflict for understanding of the dynamic nature of socio-spatiality. Both dimensions surfaced frequently and repeatedly throughout this work not only in the literature I draw upon but also in my fieldwork, and thus became gradually more significant over time. I believe that understanding the nature and the role of these two dimensions regarding how design influences sociality in built space, is crucial when being concerned with why ideas are debated when socio-spatiality is at stake.

Figure 4 illustrates how I see Levels One and Two being mutually interrelated in a circular process. A translation process takes place from Level One to Level Two and vice versa. Discourses influence thought and practice, which again results in particular design. Socio-spatiality unfolds in designed spaces through how users realise it. Researching this socio-spatiality in turn contributes to a designer's understanding of socio-spatiality. This understanding in turn, along with other socio-economic and political forces, influences discourses about socio-spatiality. The different theoretical perspectives enter this process at different sections on the circle. This circle is certainly a simplification of a much more complex and non-

linear process, which a graphic can only capture to a limited degree. However, the figure serves to illustrate the theoretical grounding of this thesis.
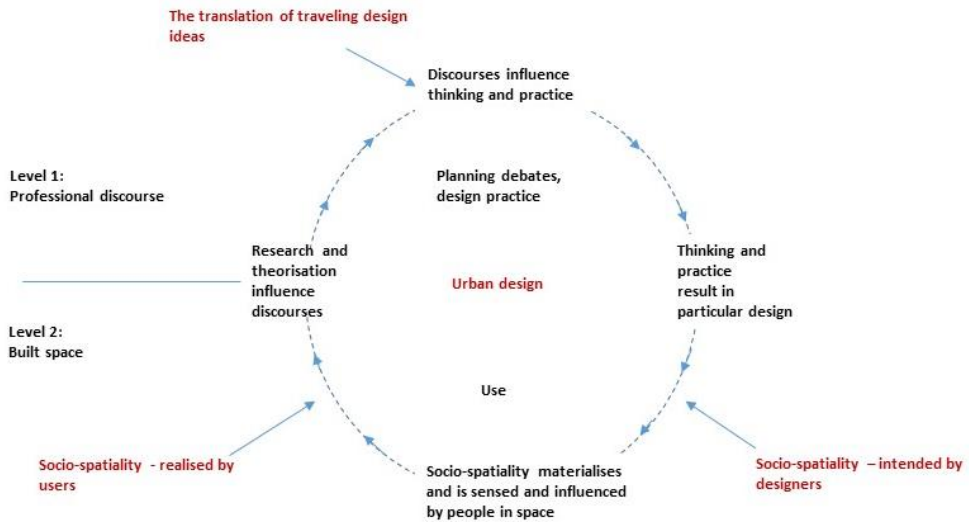
Figure 4. Interrelatedness of main theoretical perspectives framing the investigation of socio-spatiality in this thesis

Apart from this circular process there is one important theoretical element that interconnects all three perspectives in their relationship to urban design as a discipline that is "caught between two competing influences of the social sciences and design" (Verma, 2011, p.57). This element is a certain openness towards new ways of thinking about socio-spatiality. Scholars representing these perspectives are not free of normativity, but they engage with urban space in an open way, try to be reflective and to guard against prescriptive normativity. This openness makes it possible for these scholars to critically consider and rethink conceptualisations of socio-spatiality. In turn, critical thought encourages researchers to unpack taken for granted concepts and practices, and consider alternative ways of thinking about the social and the spatial. This is why they are introduced here as input to urban design, to contribute to its scientific grounding, the lack of which is also bemoaned by some scholars from within the field (Moudon, 1992; Verma, 2011).

3. Research strategy and methods

This thesis began as an exploration of the shared space design idea, motivated by general curiosity about why it is so debated when it comes to its application. This exploration quickly led to the realisation that the idea reflected wider debates connected with the position of urban design in relation to other disciplines working with public space, such as transport planning or engineering. Talking with professionals and reading about the idea made it clear that the main reason for debate was not a lack of technical knowledge. Rather it seemed that debate about the idea is based on widespread disagreement and multiple competing understandings about the complex, but often extremely simplified, relationship of the social and the spatial in public space. The story of shared space reflected urban design's general dilemma in trying to change how cities think of and work with socio-spatiality.

Realising this lack of knowledge about socio-spatiality and its influence on urban design practice was the starting point of a more focused investigation of shared space. I decided to frame shared space as the case of an urban design idea challenging prevailing ways of thinking about socio-spatiality in urban public space. To me, shared space was a case offering insight into urban design's intention to influence socio-spatiality in certain ways. Such an investigation had to take place on the two levels of investigation, which naturally also structured the previously introduced theoretical framework. The strategy behind organising the research between these two levels was to compare what was written about socio-spatiality in the shared space literature to how it worked in built form. This would help to identify possible differences between what this design is expected to do (Level One) and what it actually does, and how (Level Two).

Research design

To realise this strategy it was necessary to investigate shared space both on a discursive level (see Level One in Figure 6) and in built space (Level Two in Figure 6).

The first level investigation consisted of a critical interrogation of shared space literature regarding how it addresses socio-spatiality, and an exploration of the mechanisms of socio-spatiality in a built shared space. The empirical material of the first level was thus professional literature explicitly presenting and explaining the shared space idea (see overview in the appendix of Paper One). This literature had an international scope because the investigation was about how the shared space idea is passed on in the professional realms of urban design and transport planning. The vivid professional knowledge exchange in these fields, including the passing on of innovative design ideas, has international dimensions.

The second level investigation consisted of exploring different approaches to reveal new knowledge about how the shared space design influences socio-spatiality. The main criteria for choosing a scheme for such an

Figure 5. St. Olavs plass 2009, Photo: Arne

investigation was that the scheme fulfilled the most important physical design properties for shared space

according to the shared space literature. A subordinate criterion was that the scheme should be located in Norway. This was an advantage as it would enable a stronger contribution to the Norwegian debate about a wider application of shared space principles in the country. After the consideration of diverse existing streetscapes that have been listed as having shared space similarities, and talking to various professionals familiar with the Norwegian shared space debate, my choice fell on St. Olavs plass Square (Figure 5) (**throughout this thesis abbreviated as StOp**).

Figure 6 illustrates the research design with the main methodological approaches (grey boxes) used to operationalise it. The methods for identifying and selecting the literature examined on Level One are described in the first paper. The specific methods used for *data collection* at StOp (Level Two) are presented below the figure. The theoretical perspectives used as an *analytical* basis for each paper are indicated in blue text in the figure, and are explained in more detail in the respective papers**.**
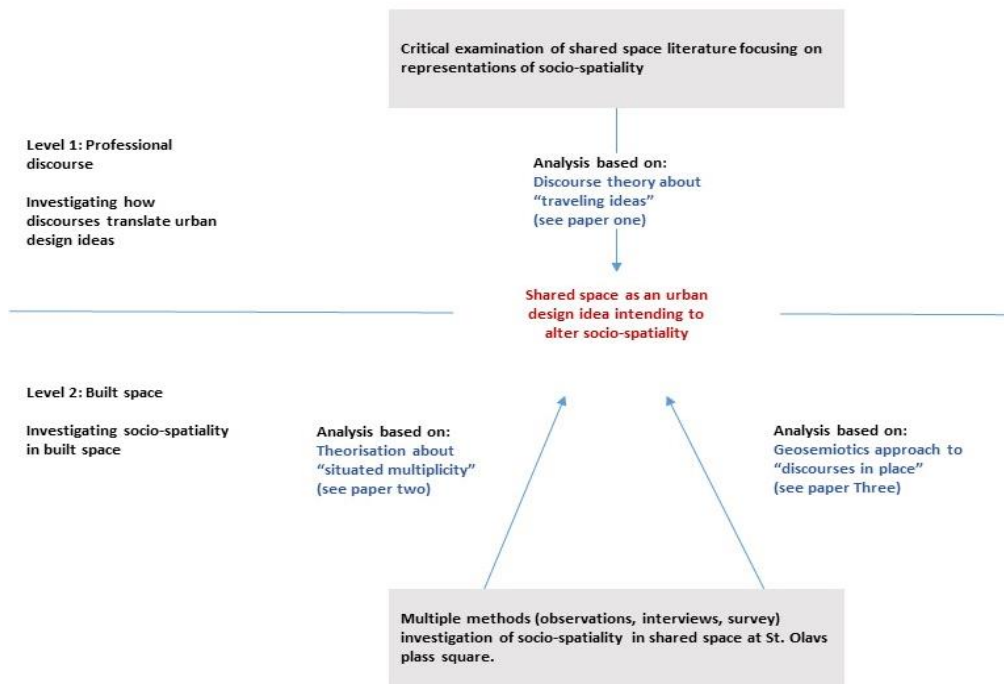
Figure 6. Methods and analytical perspectives

Justification of case selection

According to the architects, StOp was not designed under the "shared space" label. They stated that they did not seek their inspiration from other shared spaces. Neither did they conceive of StOp as a shared space project or follow existing shared space design guidelines. One weakness of the research design related to choosing StOp is thus that the square was not designed based on the in*tentions of designers to*

produce sociality through shared space design. It would therefore not be possible to compare these intentions with the outcome.

In defending the choice of StOp as a case of shared space, I would though argue that the present design of the square meets all technical design requirements for categorising it as a shared space in line with design guidelines, even to a stronger degree than many other schemes, which are presented under the shared space label. Based on that argument StOp presents a particularly good case to investigate shared space as it is presented in literature.

Further, the architects of the square have explained to me that the design work was guided by similar ideas about minimizing traffic regulation as in the case of shared space. An additional argument is that the square is successful in technical terms of sharing. The road is used by all different travel modes. From that perspective the square technically represents a shared space and its socio-spatiality can be researched as such, regardless of whether it is labelled that way by the architects or not.

Methodological process

The following paragraphs explain how and why I made particular methodological choices before, during and after the fieldwork.

The selection of the methods I used to trace socio-spatiality on StOp were not based on Amin's or the Scollons' theories. Rather, it was guided by my initial understanding from shared space literature; that this design would lead to a user experience of sociality characterised by social awareness, mutual consideration and cooperation. This entailed on the one hand to investigate how StOp's users experience social interaction. I chose to do this through a survey and through in-depth interviews. On the other hand, this entailed to observe how users behave on StOp, focusing on its shared space design properties in particular, and see how the reported experience of the participants plays out in built space. By combining these different methods I expected to be able to make a clear connection between users' experiences of sociality and the particular shared space design properties.

However, my understanding of sociality from shared space literature was vague, and it turned out to be difficult to identify explicit expressions of the design-sociality relationship in this literature. Therefore, I explored diverse literature about social interaction in urban space. Based on these readings I started to develop my theoretical frame for the Level Two investigation presented in the previous chapter, a framing that seemed to better explain what I had encountered at StOp. Based on that I decided to explore Amin's and later the Scollons' theorisation as analytical frames to examine the empirical material from StOp. It was through this theorisation that I started to adjust the fieldwork focus on what I call *incidents of friction* in the observation (see page 43) and to develop a particular interest in user's agency and role in the complex setting I investigated.

Amin and the Scollons thus became theoretically important to this work *during and after* the fieldwork was conducted. The Level Two investigation presents thus an iterative process oscillating between fieldwork and developing a theoretical framework. The theoretical base underpinning my fieldwork was thus not based on my present (as I am writing this thesis) understanding of socio-spatiality, which developed gradually over time. Realizing that designers' representations of socio-spatiality in shared space did not match with what I found in the field was part of that process, rather than a discovery at the end of investigation.

Accordingly, this research design does not follow a linear research model of: i) problem definition, ii) formulation of research question, iii) framing theory, iv) choosing methods, v) gathering data in field, vi) interpretation of data in light of theory and vii) answering research question.

Rather, my research was conducted as follows: i) problem definition on Level One, ii) formulating of research question 1, iii) framing theory, iv) defining methods based on theory, v) reviewing literature, vi) interpretation in light of theory, vii) answering research question 1, viii) defining problem on Level Two ix) formulating research question 2, x) defining methods *based on findings* of Level One investigation, xi and xii) conducting field work and re-framing theory iteratively, xiii) analyzing data and xiv) answering research question 2.

Methods Level One

The Level One investigation started as a review of shared space literature written for, and by, professionals. The aim with this was to get an overview over the explanations given of how the design influences users' social experience of shared space. During this review, I gradually became more aware of the either lacking or simplifying explanations that were given about this relationship. Therefore, the investigation evolved from being a more straightforward literature review into a more systematic analysis of texts, focusing on how the literature framed and explained the relationship between shared space design and the socializing effects it is supposed to have (see chapter 5 about shared space).

Simultaneously I started engaging with literature that theorised and researched how innovative design and planning ideas and concepts where passed on and translated in discursive processes (van Duinen 2015; Healey, 2011; Lennon 2015; Tait & Jensen, 2007). Influenced by this theory I adopted a discourse analytical approach in general terms and my critical investigation became driven by my more concrete research question - of how design ideas, intending to produce sociality, are influenced by dominant discourses about socio-spatiality, in the process of their adoption to the professional field. My investigation has some similarities with Fairclough's (2001) and Wodak's (2001) approaches, since its methodological steps resonate with their theorisation of critical discourse analysis and their methodological suggestions; yet with the important difference that I did not focus on the linguistics of the texts that I investigated, such as the use of passive voice, metaphors, etc.. I will explain the connection between my analysis and the critical discourse analysis approach in the following paragraphs, in which theoretical and methodological considerations regarding my analysis are interlinked.

I chose a similar point of departure as van Duinen (2015) in her theorisation about how ideas are "wrapped up" as concepts in order to give them legitimacy in prevailing thought. My understanding was that shared space literature worked to frame and exchange professional views about the relationship between design and sociality. I understood this exchange as the policy processes van Duinen addresses as "struggle to determine the legitimate way of framing issues" (van Duinen, 2015, p.2, citing Hajer, 2000, p.141). Van Duinen states that:

> "ideas are not isolated notions but are embedded in broader ways of understanding. Following Hajer and Versteeg (2005, p. 175) these can be defined as discourses: specific 'ensembles of ideas, concepts and categorizations through which meaning is given to social and physical phenomena, which are produced and reproduced through an identifiable set of practices'." (ibid p.3)

The main notion in this statement are those of 'giving meaning' and 'practices'. The former refers to semiosis, the latter to social practices through which semiosis takes place. Fairclough's (2000, 2001) approach to critical discourse analysis is that meaning is never arbitrary. Hence, it always has a reference to a position towards social order. In his understanding, discourses "are diverse representations of social life which are inherently positioned - differently positioned social actors 'see' and represent social life in different ways, different discourses." (ibid p.164). In this explanation '*to see and represent social life in different ways'* is a references to the process called semiosis, the process of meaning-making. According to Fairclough, this process is of key importance to sustain the "order of discourses". This order in Fairclough's accounts presents "the semiotic aspect of social order" (Hajer, 2001, p.22). Of key importance is the dialectic understanding Fairclough has about this order, in the sense that it comprises the notion of order structuring social life on the one hand, and order being formed by social practices. Social practices can form the order of discourse in two ways, either affirm or contest it.

These social practices, from a discourse analytical perspective, can take many forms and become manifest in multiple ways. The most common focus of critical discourse analysis is on text (Wodak, 2001). Wodak explains that the role of text is that it "realises" (Wodak, p. 90) discourses, meaning that text is used to make social reality manifest in physical reality. To Wodak "'Texts' are parts of discourses. They make speech acts durable over time" (ibid p. 89).

In relation to my work about ideas being translated and passed on among professionals, I see texts - in addition to make speech durable over time - as means of making certain ways of knowing transportable so that they can be disseminated. I understand this dissemination not merely as a means of distributing knowledge, but aligning and legitimising knowledge across the professional field in which these texts circulate. Certainly, there are multiple other means of disseminating ways of knowing, such as films or speech recordings. The channels of dissemination are also multiple, such as conferences, seminars and various media channels. I focused, however, on texts about shared space because I consider them to be a key point of reference for planners and designers in their everyday professional environment.

Seeing texts this way is in line with Wodak who regards "language as social practice" (Wodak p. 1) and Fairclough who explains that texts do "semiotic work" (Fairclough, 2001 p. 124) in either maintaining or contesting social order. This does not mean that Wodak or Fairclough regard texts to be social actors, but that texts do work as mediators of meaning made by social actors.

Beyond analysing the semiotic work of producing or contesting social order, researchers doing critical discourse analysis are concerned with questions of power, ideology and history (Wodak, 2001). I will not elaborate further on these concepts here (see for example Wodak (2001) explaining central concepts of critical discourse analysis) but need to mention them since they are related to the understanding of why critical discourse analysis is critical. Power and ideology play an important role in the production of meaning (and in the obscuring of meaning) and support structures of dominance over time to reach "stable and natural forms: they are taken as `given'." (ibid p.3) The analysis of discourse is critical in the sense that it aims at revealing "social inequality as it is expressed, signalled, constituted, legitimised and so on by language use (or in discourse)" (Wodak, 2001, p 2). It is thus aiming to reveal social inequality in existing power relations. Critical discourse analysis is critical because it searches for how this inequality is manifest in social practice, including language in its different forms. My analysis was based on taking such a critical position towards shared space literature, because I realised that it represented only partially and in a simplified way how users experience such a design and the social interactions that take place in it.

Methodological stages of critical discourse analysis

Critical discourse analysis is not a linear research process and neither a predefined set of research techniques (Fairclough, 2001). I thus did not simply use it as a 'tool' to 'produce' knowledge. Fairclough highlights that there may be diverse ways of conducting such an analysis. When first engaging with shared space literature I did neither set out with the strategy to apply a 'CDA', as many researchers abbreviate critical discourse analysis. For example, I did not conduct a linguistic analysis in which I would systematically look for certain patterns in language. However, what I did in my research has some methodological affinity with this approach. The different methodological steps I undertook can, for example, be outlined in terms of the "stages" belonging to Fairclough's "analytical framework" (ibid p.121), as *one* possible way of carrying out such an analysis (see table 2).

In my understanding, the numeric order of the stages does not refer to a sequence of steps that should be taken one after another. Rather, the numbers refer to four different parts such an analysis needs to cover. Each analytical part may have implications for the other parts and bring the researcher back to iteratively make both theoretical and methodological adjustments. This circular process illustrates that critical discourse analysis is theory driven at any point. For example, it already starts with the theoretical assumptions about the role of text in reaffirming and legitimizing dominant ways of thought and practice and social injustice.

Table 2. Framework of four main stages of critical discourse analysis presented by Fairclough (2001) (grey cells in table), related to my critical analysis of shared space literature (white cells).

1. Focus upon a social problem which has a semiotic aspect.
Conventional approaches to street design are functionalistic and grounded in a modernist rationale that social needs can be met with functional design. This approach reduces individual and collective user needs to mere functions in urban space. The shared space idea presents a challenge to this reductionist approach, but shared space literature translates and adjusts the idea to represent (semiotic aspect) established conceptions of public life, or manages only to a limited degree to introduce new ways of thinking. Dominant discourses figure through the absence of a satisfying explanation in justification of the claims made about the socialising effects of shared space design. The 'social nature' of the problem has several dimensions. On one hand, it arises from the social effect that street design may, or may not, have on public urban space. On the other, framing innovative design ideas in this way through 'domestication' protects and legitimise s professionals' social position as experts in charge to solve certain problems, for example 'technical' instead of 'social' behaviour in streets.
2. Identify obstacles to it being tackled, through analysis of:
a) the network of practices it is located within.
The network of practices I identified consists of texts about shared space that are exchanged among professionals. These texts refer to each other and circulate a shared professional understanding. These texts also phrase questions about shared space in ways that reproduce the way of thinking internal to the network.
b) the relationship of semiosis to other elements within the particular practice(s) concerned. [Author's comment: Fairclough refers to a particular set of interconnected and dialectically related elements: productive activity; means of production; social relations; social identities; cultural values; and consciousness]
It did not systematically and explicitly relate the semiotics of shared space literature to these elements. Rather, my analysis focused on how and the relation between design and sociality is framed and how public space is represented in this literature.

c) the discourse (the semiosis itself) (structural analysis: the order of discourse, interactional analysis, interdiscursive analysis, linguistic and semiotic analysis)

My analysis consisted of the following analytical steps:
- The identification of discourses that are projected onto the shared space idea and make it a carrier of dominant discourses.
- Identifying repetitions of arguments and references including the use of metaphors to underpin and strengthen statements about how the design influences sociality.
- Identifying representations of the social in shared space expert discourse.
- Identifying narrative patterns that give the writings an inner coherence.
- Paper One refers two key questions in order to determine the critical momentum of the shared space ideas: How are the users of space represented in the text? How is public urban space conceptualised in the text? (see paper 1, p. 7)

3. Consider whether the social order (network of practices) in a sense 'needs' the problem.

This stage refers to a consideration about whether the representation of shared space in the literature I studied needs the problem, which I had identified at stage, in order to sustain itself. This entails to reflect on the question: Does this representation of shared space need the prevailing understanding of how design relates to sociality in public urban space in order to make sense and be convincing?

4. Identify possible ways past the obstacles.

Two possible ways were identified:
- Researching and explaining better how socio-spatiality works in shared space (which I then did through my field research).
- Developing the concept of 'domestication', among others to make professionals working with shared space aware of this process.

5. Reflect critically on the analysis (1±4).

Critical reflections on the 'domestication' concept, whether and how it is useful (see concluding discussion in Paper One).

Methods Level Two

Calibration of research focus

The fieldwork at StOp was conducted by a team of four research assistants recruited by the Norwegian Road Directorate for the summer of 2013, and myself as the research team leader. The assistants were all students from different Norwegian universities, in architecture (two assistants), human geography (one assistant) and urban/regional planning (one assistant).

As preparation for the fieldwork I introduced the research assistants to the shared space idea and the main perspectives characterising debates about it. This included discussions of topics such as traffic safety, risk behaviour, social interaction of and between different travel modes and personal experience of traffic situations. This general introduction also included a presentation of some internationally well-known shared space schemes in order to show how the shared space idea has been implemented in different cases. We also visited two other squares in central Oslo that have similarities to a shared space design, Fridtjof Nansens plass and Christiana Torv. The research team became familiar with the main particularities of shared space design through these activities and how the idea relates to wider urban design debates, particularly about street spaces.

Based on their academic background the students were familiar with the works of Whyte (1980), Jacobs (1965) Appleyard (1981) and Gehl (1987). Since they were not familiar with the other works I refer to in my theoretical framing we discussed different possibilities for conducting fieldwork and gathering empirical evidence based on my explanations about social conduct in public space. These discussions related also to the main methodological underpinnings of the three theoretical aspects outlined in the theory chapter: 1. Users agency, 2. Friction and conflict as necessary parts of social interaction and 3. The dynamic nature of socio-spatiality.

Mapping the broader urban context

The next step was to gain a general understanding of StOp in its wider urban context. We conducted a general spatial analysis to understand the role the square plays in terms of where the square is situated in the city, its transport connectivity, its multiple functions and the diverse activities and user groups visiting and passing the square. The diverse research activities linked to this mapping were the following (see also Chapter 7 for a detailed description of the square):

- Mapping functions on first floor
- Identification of traffic volumes
- Identification of building relationships with street activities
- Interviews with architects about the development of the design of StOp
- Identifying the centrality of StOp, in relation to other central areas of Oslo
- Identifying main activities on the square
- Historical investigation of how the design and functions of StOp have changed through time.

Data collection

The fieldwork focused on investigating the relationship between the physical shared space design properties and sociality on the square (see Chapter 7, identifying the different shared space elements and other important design elements), however, the shared space design elements could not be treated in isolation. Rather, it was the interplay of all elements and users that gave a complete picture of socio-spatiality. It was therefore a special challenge to identify the extent to which it was the shared space design elements, rather than other design elements, that affected how users experienced and influenced socio-spatiality. We applied multiple methods that would complement each other and make it possible to construct a plausible explanation for socio-spatial mechanisms and dynamics on the square, namely through observations, a survey and in depth interviews (see Figure 7).

Those three main methods for gathering fieldwork evidence were not chosen separately in order to investigate different phenomena, however. They are a set of methods that complement each other and offer different perspectives on the socio-spatiality of shared space design at StOp. I would not claim that my understanding of socio-spatiality at StOp is solely based on these methods, however, but also on my overall participatory engagement with the place and regular field visits over a period of three years.

These main methods were supplemented by exploratory methods (see Figure 7). They are called exploratory methods because they were applied spontaneously and randomly, mainly driven by questions and curiosity that arose during the otherwise more structured field work.
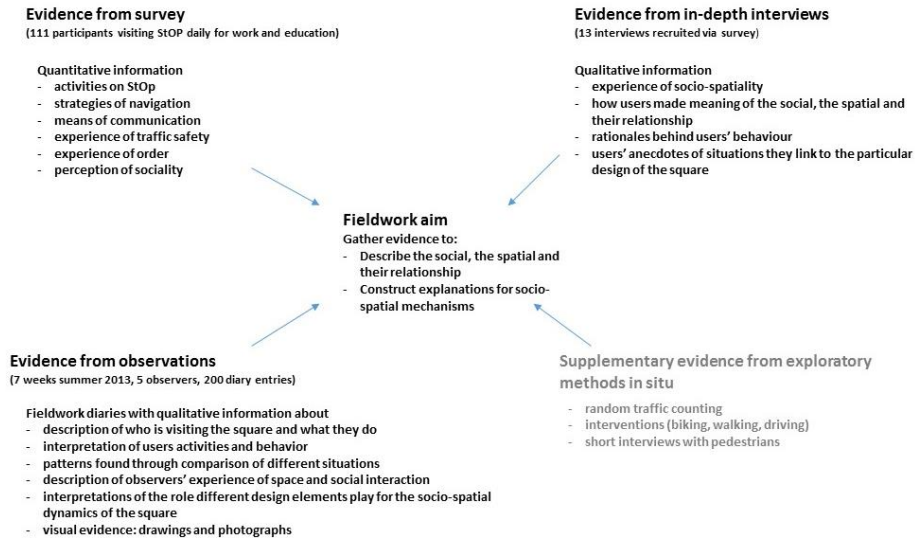
Evidence from survey
(111 participants visiting StOP daily for work and education)

Quantitative information
- activities on StOp
- strategies of navigation
- means of communication
- experience of traffic safety
- experience of order
- perception of sociality

Evidence from in-depth interviews
(13 interviews recruited via survey)

Qualitative information
- experience of socio-spatiality
- how users made meaning of the social, the spatial and their relationship
- rationales behind users' behaviour
- users' anecdotes of situations they link to the particular design of the square

Fieldwork aim
Gather evidence to:
- Describe the social, the spatial and their relationship
- Construct explanations for socio-spatial mechanisms

Evidence from observations
(7 weeks summer 2013, 5 observers, 200 diary entries)

Fieldwork diaries with qualitative information about
- description of who is visiting the square and what they do
- interpretation of users activities and behavior
- patterns found through comparison of different situations
- description of observers' experience of space and social interaction
- interpretations of the role different design elements play for the socio-spatial dynamics of the square
- visual evidence: drawings and photographs

Supplementary evidence from exploratory methods in situ
- random traffic counting
- interventions (biking, walking, driving)
- short interviews with pedestrians

Figure 7. Types of evidence contributing to understanding socio-spatiality

Observations

The observations took place during seven weeks in the summer of 2013 at different times of the week. In most cases observers would stay between two and three hours on the square. While some observations took place during times when little was going on, in order to know what the square is like when few people are passing through (such as late evening, night, weekend morning, bad weather), we deliberately chose to observe when the square was most busy.

Part of the above preparation and discussion was to define the focus of the observations and the techniques used to record them. This happened in team discussions and trial observations on StOp. The main concern in these discussions was how the relationship between the social and the spatial (particularly related to shared space design elements) could be understood by observing what people do. Based on these discussions we developed an observation guide. This guide also served as a template for the observers' fieldwork diary, which could be supplemented by the reflections or comments of the observer.

The observation focus was on individual situations that seemed (based on the judgement of the informed observer) significantly affected by the shared space design properties (see a list with examples of such situations in Paper Two). What all of these situations had in common was that they involved movement,

even though actors who were not moving might play a significant role (example: person stands in the middle of the carriageway to pose for a selfie while a bus approaches from behind).

The observation process involved the following actions:

- Observer arrives biking or walking to StOp.
- Observer chooses a place to sit down (free choice).
- Observer starts the observation by making a diary entry (with date and time) describing the overall situation in the square, such as weather, traffic, the main activities, unusual things going on and the general mood of the square.
    o Observer waits for an *incident of friction* that could plausibly be explained by reference to the shared space design. Most typically these were situations showing either conflict, misunderstanding or friction in encounters between users, or situations in which users clearly (based on the subjective judgement of the observer) reacted to the design by doing things they would most likely not do in a standard street.
- Observer describes the situation, possibly illustrating it by drawing on a map, and/or taking a picture, such as by describing the participants, their travel mode, interpreting their intentions, possible verbal communication and body language.
- Observer writes a reflection of how the shared space design might have influenced the incident. This often included a judgement of how the observer themselves would have reacted in such a situation.
- Observer, if possible, invents a *label* that would fit the incident, such as "surprise", "conflict", "insensibility", "responsibility", "caution" or "recklessness".

See also Appendix A, showing a selection of diary entries with reflections and comments from fellow observers.

Despite being passive (sitting, observing, taking notes, drawing, photographing) the observations were of a participatory nature. Observers were part of the socio-spatial setting. This *being repeatedly over long periods* on the square offered a deeper understanding of how single incidents were conditioned by the general setting. Reflections of this experience were noted down in the diaries, such as general thoughts about the design particularities of StOp, comparisons with other streets, the behaviour of people in public space and own experiences. This knowledge from simply being on the square as part of the setting was indispensable in order to learn about the particular qualities and characteristics of the socio-spatiality in the square. This knowledge would not have been accessible through the survey or the interviews.

Not all areas of the square had the same significance for the observations. Figure 8 shows the areas of primary, secondary and tertiary observation focus. The primary observation focus was on the roadspace, where non-motorised and motorised users were most likely to mix and meet. The edges of these areas were also important (markedas secondary in Figure 8). Observations indicated that these edges play an important role for users when considering how and where to move.
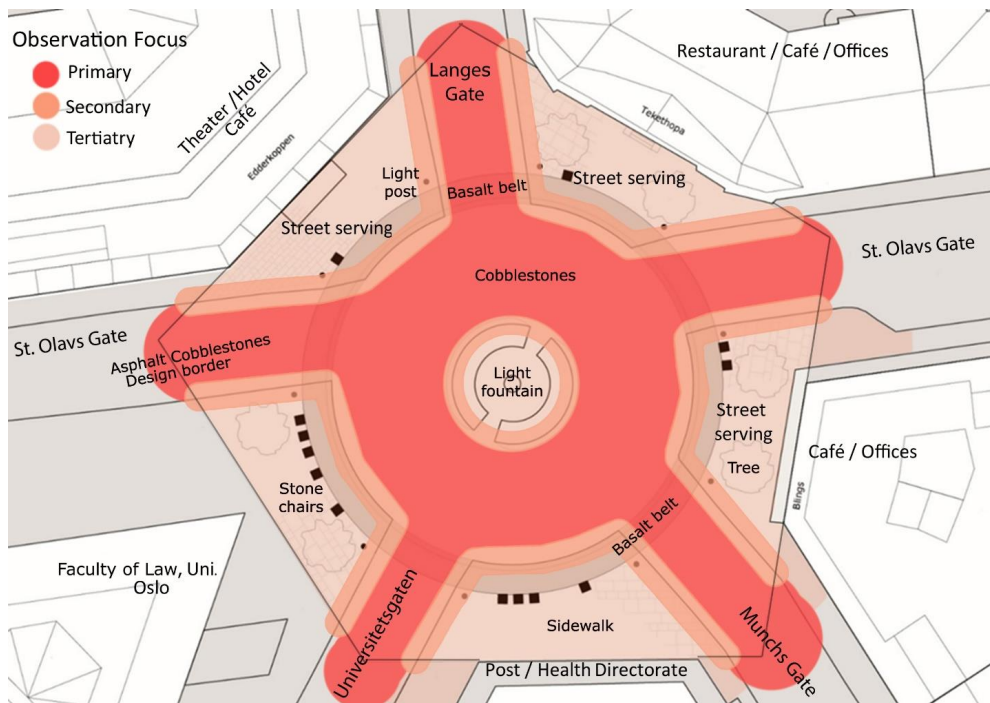
Figure 8. Areas for primary, secondary and tertiary observation focus.

In total, the observation diaries contain 200 accounts. This includes the above-mentioned semi-structured diary entries and the more general reflections made by the observers. The number of diary entries does though not reflect the number of all situations that actually took place during the observation period, but only the selected incidents. On a busy day the frequency of these incidents on StOp is so high that one cannot keep track of all of them. Neither did observations intend to collect all relevant incidents or to evaluate them quantitatively. Rather, they focused on selecting and collecting those that would, in their totality, contribute to a better understanding of socio-spatiality on the square.

Even though we did not slavishly follow the structure of the observation guide, it systematised the observations and served to strengthen reliability. An additional measure to improve the reliability and validity of the diary content was an internal cross-reading procedure at the end of the observation period. All observers read and commented on each other's observations and reflections. This cross-reading and responding to other observers' entries and reflections allowed for a kind of intersubjective evaluation of their observations, their subjective judgements and reflections. For example, they could affirm each other, compare and discuss their impressions and interpretations. This helped, for example, to identify patterns and routines on the square, such as certain people who would appear on a regular basis and do the same things as usual. This procedure allowed for an internal control for observation bias, since team members would confirm or disagree with each other, writing about possible patterns they assumed they had found.

Method of diary analysis

Since observations were theoretically informed and the observation guide already asked observers not only to record but also reflect on and discuss selected situations, the diary entries present a calibrated analysis in themselves.

My subsequent analysis of the diaries themselves was an iterative process. First, I read the diaries without any specific focus other than getting to know the content and expecting to find some general patterns. Secondly, I re-read the diaries asking particular qualitative questions: What are the most common design elements in the situations observers wrote about? What types of situations are most common in the diaries; such as regarding the number of people involved; what types of travel modes are involved? What are the factors likely to have influenced the observed situation?

For Paper Two the content of the diaries was related to Ash Amin's theorisation of socio-spatiality (see Paper Two). For Paper Three the content of the diaries was related to a geosemiotic frame of analysis (see Paper Three). Both papers thus present a theory-driven way of analysing the empirical material.

Methodological limitations of observations

Looking for 'incidents of friction' is a promising undertaking on a square like StOp because they happen so often as a result of the ambiguity of the design. As a result of approaching the observations with this focus, the fieldwork diaries are likely to represent a street mainly characterised by such incidents. Even on a conventionally designed street one would find such incidents with such an observation focus. The selection criterion for relevant incidents described above, could thus lead to an underestimation of the occurrence of smooth and conflict-less use of the square. In that case, it would not be surprising that my analysis of the diaries would find clear patterns of conflict.

In order to prevent the analysis from being biased in this way, the observations were triangulated with other methods: interviews and a survey with daily users of the square. These methods did not emphasise conflict or friction over other experiences the participants might want to report. These two additional sources confirm that the type of incidents on which observations were focused are in fact characteristic traits of StOp. The majority of the participants thought that traffic was not well organised on the square. The participants who thought that it was easy to navigate on StOp are equal in number to those who thought the opposite. Further, there was no consensus among the participants about how to interpret the square in semiotic terms. Interviewees also confirmed (uninvited) with their stories that the observed incidents are not rare cases (see also Paper Three reporting this in more detail).

Counts of the most typical incidents also confirm that incidents of friction are a typicality of StOp, meaning that they happen not only sometimes but frequently and in large proportions (see also Chapter 7 describing use patterns linked to specific design elements of StOp).

Observations that are semi-structured and involve subjective judgement may be criticised for empirical shortcomings regarding replicability, and for being anecdotal. The research assistants also had these concerns. The involvement of subjective judgements in the observations made them frustrated at times, leaving them feeling unsure about what to focus on, how to judge whether their observations were relevant, and how to interpret them. They often felt that it was impossible to know what factors in the

environment, or in people's personality, caused them to behave the way they did. Some of the assistants repeatedly claimed that it would be more satisfying to focus on quantifiable criteria, and even tried categorising and counting different types of user groups, activities and behaviours in order to 'sharpen' their observation focus and in order to come to a replicable conclusion. These exploratory approaches, with their findings and reflections, are part of the diary entries and offered valuable insight, complementing the regular observation focus.

The number of observers, their intersubjective validation of each other's diary-entries and frequent discussions about the fieldwork and methods, combined to strengthen the method's reliability and validity.

Interviews

I recruited 14 interviewees through the survey, in which the last questions asked whether the participant would be able to meet me for an in depth interview. Thirteen interviews were conducted (one interview was conducted with two interviewees). All interviews took place at StOp, either at the participant's workplace or on the square itself. All participants were employees working in all five buildings facing StOp. Most interviews took between 45 and 60 minutes. All interviews were recorded and fully transcribed, except one in which the recording failed, forcing me to immediately write an interview summary based on memory and the rudimentary notes I had made during the interview.

The interviews were semi-structured, starting with a general opening in which I encouraged participants to talk openly about their experience on, and use of StOp. In this opening I avoided mentioning a particular focus on design, the shared space concept or social interaction on the square, because I wanted the interviewees to describe in their own words and from their own perspective how they experienced StOp. Subsequently I asked participants to elaborate in more detail on their answers in the survey. These reflections usually addressed many of the fixed questions I wanted to consider in the interview (see interview guide in appendix B).

Method of interview transcription analysis

The analysis of the interview transcriptions was theory-based, for both Paper Two and Paper Three. The analysis for Paper Two focused on identifying traces of Amin's resonances of situated multiplicity in the transcriptions. This was done by myself, with the help of a PhD fellow at my institute who was familiar with Amin's theoretical approach. We read the interview transcriptions independently and marked those parts that presented empirical traces of these theoretical aspects (the five resonances of situated multiplicity, see Paper Two), according to our individual interpretation. After marking all interview texts separately we compared our sometimes diverging interpretations and discussed the reasons for possible discrepancies. This process helped me to "condense" (Malterud, 2012) the interview data and compare the answers of the interviewees with the more abstract and theoretical account of Amin.

For the third paper I undertook the analysis of the transcriptions alone, identifying those parts of the accounts that address any of the three semiotic systems (presented in Paper Two) and their interplay. This was a more straightforward process than for the previous analysis because the semiotic systems are more precise and explicit than Amin's abstract characteristics of situated multiplicity.

Methodological limitations of interviews

I decided to conduct in-depth interviews without being precise about my research interest with the interviewees. For example, I did not mention the shared space concept and its particularities to the interviewees until the very end of each interview. It could be argued that I concealed the main analytical focus of my research from the interviewees, however, I did this so as not to influence the focus of the interviewees in their accounts of experiencing StOp. The interviews also took place before I had fully developed the analytical frameworks presented in Paper Two and Three. Rather, they were structured by my overall research interest in how users experience socio-spatiality on the square and how well this experience confirmed professional expectations about the influence of shared space design on sociality.

The interviews in themselves can only give a limited understanding of the socio-spatiality of StOp, however, the various methods present different sources of information, and address the same research phenomenon. This is why the interview data has to be seen in the context of the other methods applied, not just as a parallel research activity.

Survey

The survey participants were invited to participate via an e-mail containing a link to the electronic questionnaire. The invitation was sent to the employees of workplaces at StOp and its close vicinity, and to a group of students regularly attending lectures at the Faculty of Law at the University of Oslo, located in one of the buildings surrounding StOp. The total number of people who received an invitation to participate in the survey is not known because the administrative staff at the different workplaces forwarded the questionnaire without being able to give a precise number of individuals. I estimate a total sample size between 400 and 500, if it was forwarded to all employees of the respective workplaces. This is, however, a very uncertain estimate, since some larger workplaces, such as the nearby health directorate, most certainly only forwarded the questionnaire invitation to select departments within the institution.

In total, 110 participants responded to the survey, of whom 10% were students at the university.

The most important aim of the survey was to obtain a quantitative idea about:

- What the participants do on StOp
- How participants usually navigate across the square
- How participants interact with others
- Whether participants feel safe in traffic
- Whether participants experience StOp as, for example:
    - well organised
    - confusing
    - demanding
    - relaxing
- How participants communicate with others in traffic
- Whether participants think the square is social or not

(see the full questionnaire in Appendix C)

The questions regarding user perception and experience of StOp were also asked about another known crossing in central Oslo, called the Klingenberg crossing. This was done in order to be able to compare user experiences with another crossing that, in contrast to StOp, has a standard street design (traffic signs, zebra crossings, asphalt pavement, handrails, kerbstone).

Method of survey analysis

I used the *Statistical Package for Social Sciences* (version IBM SPSS Statistics 24) for descriptive statistics and analysis of statistical correlation (see Paper Three for the main results). The analysis focused mainly on exploring different aspects of how users experience the square, in general terms but also more particularly in terms of navigation. One important use of the survey was to triangulate findings from interviews and observations. I therefore looked mainly into questions such as how users navigate, whether they think that navigation is demanding, whether and to what degree they think that traffic is well organised, how they perceive of the behaviour of other traffic modes, and their strategy for crossing the square (see questionnaire in Appendix C).

Methodological limitations of survey

It is not clear to what extent the sample (110 participants) represents StOp users. The questionnaire was sent only to those who work at StOp and a small group of university students who are there regularly. Other users, such as older people, children or tourists staying at the hotel, or people who visit cafés, restaurants or offices, or just pass by were not part of the sample. Another methodological weakness of the survey is that the total number of recipients is unknown.

Even though the survey data may not be representative of all users of the square, however, it gives a general understanding of how a larger number of people who know StOp well experience the square. This insight, as partial it may be, allows plausible judgement about how StOp is experienced in terms of its shared space design properties. Moreover, the survey serves as a backdrop for the analysis of the interviews and the observations.

Linking theory and methods on Level Two

I explained earlier in this chapter that the fieldwork focus and its theoretical underpinning developed iteratively. A consequence of this is that the methodology was not originally designed to answer questions about Amin's 'situated multiplicity' or the Scollons' 'discourses in place' in particular. In other words, the fieldwork was not preceded by developing empirical tools to discover or identify these theoretical phenomena in the field. Rather, I used the theories to interpret the empirical data that I had gathered in the field.

One weakness of such a process is that the fieldwork could certainly have been more focused on, and in line with, the theoretical framing. Then I would most likely have made more significant and explicit findings of how the theoretical concepts help to better understand socio-spatiality. However, the theoretical perspectives I decided to use for the analysis of the data figure strongly in the data, even though the data mining process was not designed to find evidence about theoretical concepts about socio-spatiality.

One may, however, also argue that a loose theoretical frame, prior to fieldwork, is a strength in such an everyday life setting as StOp, because it means that the fieldwork was not too constrained by theorisation from its start (even though it was based on my personal reasoning, informed by the Level One investigation). This may, for example, allow for unexpected but important patterns to surface more readily. Nevertheless, using theoretical concepts to analyse fieldwork data is also a way of imposing theory up onto the research subject. In particular related to Amin's theorisation of social life in public space I tried to compensate for this by not doing the analysis alone (see also p. 46 about method of interview transcripts' analysis).

The following table illustrates I searched for evidence of theoretical concepts in the empirical material.

Table 3. Linking theoretical concepts and empirical material (examples are simplified and shortened translations of field data due to space limitations in the table)

Theoretical concepts	Data	Tracing theoretical concepts in empirical material
Amin's "resonances of situated multiplicity"		
Surplus	**Interview transcriptions**	**Expressions referring to:** complexity, surprise, demanding interactions, lack of overview, busyness, information overload, being confused and puzzled. "I don't like to cross the square in a straight line because you never know. Is this a roundabout or is it not?"
	Observation diaries	**Observations describing:** user's facing and reacting to complexity, surprise, demanding interactions, lack of overview, bewilderment, information overload, being confused and puzzled. "The driver stops in the middle of the square and seems confused. …" "She suddenly realizes that a car is approaching and quickly moves towards the sidewalk …"
Territorialisation	**Interview transcriptions**	**Expressions referring to:** repetitions of spatial demarcation in daily routines or regularly reoccurring user patterns, claiming ownership of space and negotiations about who should occupy what space. "I always use this route walking to work, when a car appears I do not care so much. The car should wait"
	Observation diaries	**Observations describing:** repetitive routines in territorialisation, such as same people come and do same things every day over long time occupying same space or path route. Also non-routines obvious contests over how space should be used, friction between users. "The delivery vehicles for café Blings come and go every day at same time doing same maneuvers and claiming certain space. the drivers don't seem to bother parking close up to people seated outside the café" "An old woman with crutches walks very slowly over the square not bothering to react to any car arriving"
Emplacement	**Interview transcriptions**	**Expressions referring to:** Emplacement is here viewed as the temporal dimension of territorialisation. People repeat certain activities and procedures of everyday life with regularity in a way that creates predictability and reliability. Interviewees' awareness that there are certain times when certain people will act in certain ways and places. Descriptions of patterns appearing at certain points in time. "The students populate the light fountain at lunchtime every day"

	Observation diaries	**Observations describing:** The temporal dimension of territorialisation. "StOp has a pigeon lady! She come every day at the same time from Universitetsgate, stops in front of the post office to feed the pigeons, than leaves up St Olavs gate" "kiss-n-ride! This couple appears every day at the same time and follows the same routine: I can predict it: car arrives-parks at same spot - she buys lunch at Blings - they share – the kiss - he walks on towards center – she drives up St Olavs gate"
Emergence	**Interview transcriptions**	**Expressions referring to** change and interruption, in most cases linked to expressions about surplus: unpredictability, surprise, friction, minor conflicts, change, sudden misunderstandings, "… but you cannot rely on this, suddenly a car comes from the other direction" "oh - look at this biker – he's definitely not aware of what is going on here"
	Observation diaries	**Observations describing** moments of surprise and people obviously making adjustments to their behaviour. Also conflict situations forcing negotiation and change in patterns. "… the children start to run around the sculpture and play – the mother doesn't care at first, but as a cars appears suddenly on the square she gets worried and calls them back" "The square is calm. People sit here and there and relax, all over the square. Suddenly the atmosphere changes and the square becomes busy with traffic …" "He was strolling strait over the square, but when a car appeared he changed his route quickly to walk on the side"
Symbolic projection	**Interview transcriptions**	**Expressions referring to** atmosphere and understanding of order. Amin defines symbolic projection only vaguely as the display of "public culture", how users read a setting like StOP in its overall appearance, yet rooted in attention to details (for example signs, architecture, activities). "This square is a meeting place", "the architecture here is not very harmonic", "StOp is a nice but hidden place in the city", "you see all different kinds of people on this square"
	observation diaries	**Observations describing** the overall appearance of the square, including atmosphere during observations and reflections over how observers experience the square in relation to other streets and squares. "The square is very calm today. The weather is bright, people sit outside the cafes or in the fountain and relax. Traffic passes slowly and smoothly" "It is interesting to see the different understandings people seem to have of this square"
Scollons' "discourses in place"		
Interaction order	**Interviews - transcriptions**	**Expressions referring to** social interaction and of how interviewees interpret social order on the square. "This square is a meeting place. People hang out there. Traffic should adjust to that" "It's like with a fish swarm – everything is calm, in between it is disturbed by a predator, bursts seemingly into chaos, but drops back into balance quickly" "When I have eye-contact with others I try to make sure they see me. We notice each other and adjust our movements."
	observation diaries	**Observations describing** how people react to the appearance and behaviour of others. "Many people behave as in a pedestrian street. Many car drivers seem to notice that an drive slowly and carefully"

		"A woman with two children crosses straight over. Suddenly a car appears on the other side of the square and she leads her daughter towards the sidewalk. They continue their journey from there. The other girl jumps up close to the sculpture and waits until the car has disappeared …"
	Survey – descriptive statistics and correlations	**Questions asking participants** - to what extent and by what means they interact with others - whether they think that travel modes disturb each other - whether they use body language to communicate - how they judge traffic organisation on StOp
Visual semiotics	**Interviews - transcriptions**	**Expressions referring to** the absence of signs and signage. "I think it [having signage] would be clearer for, eh, the people in traffic how to act Because, when you are – when you are there now, I think you could both experience it as: Is this a regular roundabout? Or is it a roundabout …" "I experience this as a challenge. … there is not any sign saying that - that I have seen – ehm – but it could however look like a roundabout and simultaneously it could look like a pedestrian street, or as a square" "I called the municipalities to get an answer to what this place is supposed to be in terms of traffic"
	observation diaries	**Observations** *indirectly* **addressing** missing signage by describing situations how users interpret the square and adjust their travel behaviour**.** "… a group of four German tourist relaxes on the edge of the light fountain. A car passes by slowly, but the German woman get's worried: 'did you notice that we a sitting in the middle of a roundabout?!' …"
	Survey – descriptive statistics and correlations	**Questions** only indirectly addressing the lack of signage, asking participants: - to rate how well traffic is organised on the square - to rate to what degree they are allowed to move as they wish on the square - to rate to what they agree that the square is a roundabout
Place semiotics	**Interviews - transcriptions**	**Expressions referring to** how interviewees interpret the particular design properties of StOp. "I mean what is this supposed to be? An art piece, a roundabout, a meeting place? It signalises many different things, or?" "it is round and it has a middle – so it's a roundabout" "I cannot understand why the architects installed these fixed stone chairs and the order in which they are arranged"
	observation diaries	**Observations describing** situations and mentioning the role of diverse design properties as well as the role different buildings play related to what happens on StOp. "a car arrives and she adjusts her route to proceed on the basalt belt" "All the different buildings influence the activities on the square in different ways" "Children use the light-fountain as a playground" "The stone chairs function also as a barrier. some pedestrians seem to feel safer walking behind it even though they could walk along the basalt belt"
	Survey – descriptive statistics and correlations	**Showing pictures of two different crossings StOp and Klingenberggata,** comparing participants' grading of statements related to: - traffic, organisation and order - esthetical aspects - experience of safety

Supplementary methods

To substantiate my understanding of how professionals think and talk about shared space I also conducted a range of formal and informal interviews with professional planners and designers in Oslo and Bergen, both cities that are planning further shared space projects. In addition, I interviewed two professionals in Berlin, Germany, and one in London, England.

In these interviews I raised issues on two levels, resonating with the overall research layout: a) how the interviewee sees the ongoing debates about shared space in the wider context of attempts to improve urban inner city environments, and b) how shared space works according to their understanding, particularly in terms of the relationship between design and sociality.

In addition I visited other shared space schemes in Berlin (Germany), Aalborg and Copenhagen (Denmark), London (UK), Lotz (Poland) and Vienna (Austria) during the PhD project.

Overview of multiple methods

Table 4 presents an overview linking the different methods to the two levels and investigation, and to the respective papers I wrote.

The case of shared space	Investigation focus	Geographical context	Methods	Relevant for paper
	Professional discourse	**International shared space literature**	Discourse analysis focusing on how professionals frame the socio-spatial in shared space texts	P 1
		International debate	Meeting shared space experts on study trips and international conferences	P1
		Norwegian debate	Interviews with professionals in Norway	P1
			Participation in shared space forums, Norway	P1
	Built space	International	Visits to shared space schemes in Germany, Austria, UK, Denmark	P2, P3
		Norway	Visits schemes and project sites, Oslo, Drammen, Bergen, Stavanger, Porsgrunn	P2, P3
		St Olavs Plass	Multiple methods – observations, survey, interviews, supplementary methods: traffic counts, literature, spontaneous interviews in situ, experimental interventions	P2, P3

Main empirical base for papers highlighted in **red colour.**
The other sources, such as participation in conferences, seminars, discussions with professionals served to increase my general understanding of how experts think about shared space.
Visits to shared space schemes added to my general understanding of how such spaces are built, in which urban context and how they are used.

Table 4. Overview of multiple methods

4. Epistemological reflections

> "When knowledge is consolidated and institutionalized, as in academic and professional disciplines, it generates a powerful block, a set of circumstances which frame the actions of its members and others. The emergence of meta-disciplinary paradigms may solidify these power blocks further, turning them into closed systems of belief and action, discourses, and practices which can set limiting effects on others in explicit or implicit ways, ruling out dissent and innovation. Crossing the defensive walls of these blocks may not be welcome or easy, as it may jeopardize particular privileges and conventions. It is in this context that transgression becomes essential, opening the closed systems to scrutiny, challenging the established orthodoxies and searching for new forms of knowledge." (Madanipour, 2013, p.380)

This thesis hopes to make a knowledge contribution to the field of urban design. Yet, it does not claim disciplinary belongingness to the field. Nor does it see a need for such belongingness in order to host this thesis or position it 'within' the field. The reason is that this thesis tries to bridge fields. It wishes to support urban design in being a field steadily integrating knowledge from other fields, in order to mobilise, not settle, its own knowledge. If I were to frame this project as Mobilities research I would probably say that one of the overall aims of this research is to 'mobilise' the shared space discourse by bringing to it new understandings of socio-spatiality.

Urban design depends on building disciplinary bridges and so do its close disciplinary neighbours. Building bridges of knowledge entails experimenting with different, sometimes contrasting epistemological positions. For urban design, this is business as usual, part of its continuously ongoing everyday practices. While this may develop the field towards a better understanding of different phenomena, the aim with this is not necessarily to reach a final understanding, or the completion of some unitary knowledge. Positioning the thesis can thus not mean to fix it 'inside' the field but rather to support the field's epistemological flexibility.

When I first engaged with shared space years ago, I decided to write my master thesis about it. I was on my way to becoming a civil engineer in the subfield of planning and transport. Before that, I had worked for ten years in a planning and engineering consultancy, to which I had found my way via a master education in environmental sciences. Prior to that, I had finished my bachelor studies in social anthropology. This sums up to a mix of different epistemological traditions 'inside' one individual researcher. It entails being familiar with different, in some ways even seemingly contradicting epistemological standpoints. What anthropologists would research in shared space, the logic behind their choice of methods and the methods themselves differs from those of transport engineers or environmental scientists.

Being aware of these differences and knowing the different ways of knowing can be an advantage for an individual researcher. For example, it helps in identifying what kind of questions require certain kind of methods. It also helps to recognise the strength and the weakness of different approaches. However, this awareness may also be a curse, for example tempting me to permanently consider alternative perspectives that can complement, or put into perspective, what I am doing, or the relevance of what I am doing. Furthermore, being socialised in an academic environment that is preoccupied with formulating and reaffirming epistemological borders also urges one to take sides, to decide which way of knowing to adhere to.

In this thesis, however, I largely resist taking sides and do not subscribe to a certain epistemological paradigm such as positivism, poststructuralism, social constructivism or any other ism. Instead, I believe that it is possible to see fruitful "ways of knowing" (Moses & Knutsen, 2012) in all of them. Even their attempts to prove each other wrong are points of departure promising new understanding. Some may see the danger of eclecticism in this position, to be selective of and adopt only parts of any of these approaches to a given research problem. Given my own *multi-* and *interdisciplinary* background I would rather call it *epistemological pluralism*. Since I cannot escape that background and since I resist disciplinary subscription this makes me perhaps *transdisciplinary* in my approach. The below subchapter will clarify these cursively written terms.

This thesis does, however, not represent a research in which different disciplinary approaches are evenly weighted. It rather wishes to give more weight to knowledge that has been under-addressed in existing research about shared space. This is not to argue that these accounts are wrong or less important. They address issues that need to be researched, such as traffic safety, accessibility, functionality or ethical issues regarding whom such a design (dis)advantages (see chapter 5 on existing research about shared space).

Emphasising previously under-addressed ways of knowing entailed that I had to make certain methodological choices and, therefore, to clarify the epistemological underpinnings of these choices. Before making these more explicit for the different perspective I adopted in this thesis I need to clarify what I mean by the term epistemological pluralism and the related notions of multi-, inter-, and transdisciplinarity in the following sub-chapter. I will do this in support of some scholars, which I consider to have a similar standpoint as me, and some of whom highlight its significance related to urban design and city planning.

Epistemological pluralism and ways of knowing in urban design

Epistemological pluralism assumes that reality appears in complex ways and on multiple levels (Ramadier, 2004). The approach departs thus from the view that things exist in ontological singularity, in other words: there is only one single reality, of which everything is part. However, knowledge about this reality is plural, meaning that there are many different knowledges about this reality. Accordingly, there are also many different methodologies about how to 'acquire' these knowledges. Single ways of knowing can only insufficiently study the complexity of reality (Miller et al., 2008). Miller et al. state that: "Epistemological pluralism recognises that, in any given research context, there may be several valuable ways of knowing, and that accommodating this plurality can lead to more successful integrated study" (Miller et al., 2008, p.1).

The implication of this is of key significance to the epistemological underpinning of this thesis. I think that any research, whether about shared space or any other phenomenon, can only give partial understanding of the phenomena being investigated. This means that the more different approaches (investigating the same phenomenon) research integrates, the more understanding will be the result.

What makes epistemological pluralism particular is that it not only accepts but also watches out for possible epistemological contradictions and hopes to gain new understanding through them (Miller et al., 2008). These new understandings may also be found outside those conventionalised fields of knowing that are representative for societally recognised knowledge, legitimated through dominant discourses.

> "'Epistemological pluralism' surmounts the constraints imposed by adherence to narrow representational perspectives, and the methods that attach to them, by legitimating and facilitating the deployment of other relevant perspectives and methods in parallel with them" (Healy p. 694)

Healy's view has important implications for what knowledge is made of. Epistemological pluralism assumes that knowledge is not just 'out there' to be collected by researchers. Rather, knowledge is shaped by human action, including scientific research. Hence, one could say that ways of knowing shape ways of knowing, in the sense that each particular way of knowing reinforces a certain perspective and the development of a certain methodology which resonates with what one knows from before.

Epistemological pluralism is critical of the idea that knowledge is something out there that we need to discover and collect more completely understand reality. Rather than putting emphasis on gaps of knowledge, epistemological pluralism asks for the multiple different existing understanding of reality. Seen from this perspective, scientific enquiry is about collecting and connecting different existing ways of knowing, aiming for new knowledge to emerge from synergies and contradictions in what we know. If knowledge would entirely be about gaps, about *what we still do not know*, then scientific enquiry would be about finding and collecting new facts out there, aiming for knowledge to emerge from synergies and contradictions *with* what we *already* know.

Some scientific approaches, typically in the natural sciences, assume that only one real knowledge can describe reality and that science should try to free itself from the seeming dilemma of knowledge shaping knowledge. Epistemological pluralism accepts that there may be some neutral reality out there, but does not accept that any human scientific field should have epistemological priority over other fields. It accepts that there is such a reality, but our view on it will be both partial and constrained by what we know.

> "The notion of 'epistemological pluralism' was inspired as a counter to the stance of 'epistemic sovereignty' advanced by Rouse (1996) to describe the way representational perspectives both maintain their authority and deny legitimacy to rival perspectives" (Healy, 2003, p.693)

The approach presents thus a way to challenge hegemonic conceptions of knowledge. "'Epistemological pluralism' is intended as a step in the direction of reconceptualising knowledge and, consequently, reconfiguring the relations of power of which it is part" (ibid., p.694).

In epistemological pluralism, knowledge is thus not representational. It does not affirm that any form of knowledge represents the legitimised 'only real' knowledge, as reflections of reality. Rather the knowledge which we take to be reflections of reality is shaped by knowledge, "in ways that both facilitate and constrain action" (ibid p. 690). This is not a weakness of scientific activity but a strength and encouragement for difference in different approaches (Ramadier, 2004).

In my understanding, Mobilities studies are an example par excellence of an approach that aligns with theory of science implied by epistemological pluralism. It does not judge traditional transport geography for producing wrong knowledge or for describing reality in a wrong way. Instead, it wishes to expand transport geography and connect it to other approaches and disciplines that are also relevant for understanding movement (Cresswell, 2011). In doing so it does not intend to prove existing uni-disciplinary approaches wrong, but highlights that they only give a partial and often representative account of reality, which can be improved through a Mobilities perspective. Related to this thesis and in

line with this, it is important to tell a more nuanced story about shared space, not only those parts that are representational of widely ratified knowledge.

Encouragement for difference does though not mean that anything goes. Epistemological pluralism comes along with certain responsibilities. One of them is to challenge dominant ways of knowing and point to alternative ways of understanding reality. The aim with that is though not to close 'knowledge gaps' and create new hegemonic forms of knowledge, but precisely to keep existing epistemological paradoxes alive. They are important to keep a critical gaze, which is an important quality of academic inquiry.

Multi-, inter-, and transdisciplinarity in epistemological pluralism

Scholars adhering to epistemological pluralism make a conceptual distinction between multi-, inter- and transdisciplinarity. Different scholars largely agree on the conceptualisations of these terms (Madanipour, 2013; Miller et al., 2008; Ramadier, 2004; Stokols et al., 2003). Madanipour refers to the work of Stokols et al. (2008) and explains that multidisciplinary research can be described as "a number of representatives from different disciplines working independently or sequentially, but maintaining their identity and staying within their boundaries, entering the process of collaboration to work on a particular task" (ibid p. 382). In multidisciplinary research, the different fields of knowledge are thus given different tasks within a common research agenda. This results in the production of findings that reflect multiple different approaches and understandings, a disciplinary diversity. Madanipour explains how this is different from interdisciplinarity, where researchers are "encouraged to cross the epistemic boundaries, leading to the emergence of new concepts and methods. Interdisciplinarity aims to create a common understanding of an issue by integrating separate theories, concepts, methods, and data into a new whole, an integrative outcome that is more than the sum of its parts." (ibidem). Finally, again referring to Stokols et al. (2008) "While working together in interdisciplinary research, researchers still tend to maintain their own disciplinary perspective, but in transdisciplinary research they draw on their disciplinary epistemic resources jointly to develop and use a common conceptual framework" (Madanipour, 2013, p.382).

The distinction between inter- and transdisciplinarity is blurry in this description. Ramadier (2004), also arguing for epistemological pluralism and relating it to the context of city planning, makes this more clear. According to him, having contradicting understandings of a phenomenon does not indicate failure to think transdisciplinary but rather its opposite. Transdisciplinarity recognises the existence of different understandings of reality. He explains that this does not mean that there are multiple realities but rather multiple epistemologies, which conceive of one reality in different ways. These understandings may have some common ground but they may also contradict each other. It is in fact these paradoxes which give transdisciplinarity its potential for innovative understanding. Ramadier states thus that transdisciplinarity's objective is:

> "to preserve […] different realities and confront them. Thus, transdisciplinarity is based on a controlled conflict generated by paradoxes. The goal is no longer the search for consensus but, […], the search for articulations [of differences]. The aim is thus to avoid reproducing fragmentary models typical of disciplinary thinking. […] "In the end, transdisciplinarity simultaneously combines multidisciplinarity and interdisciplinarity in order to rise above these forms of thought. From multidisciplinarity, transdisciplinarity has inherited its awareness of different realities. From interdisciplinarity, it has adopted the effort to reinterpret knowledge in order to readjust the different levels of reality. Thus, these three scientific approaches of disciplinarity,

multidisciplinarity and interdisciplinarity have contributed to the emergence of transdisciplinarity." (ibid p.434)

This supports my understanding that these three concepts do not stand in contradiction and separated from each other but as belonging to the same spectrum (see also: Miller, 2008), interlinked in a continuous process of transgressing epistemological borders. For example, as a multidisciplinary team are at work they will through communication automatically share their different ways of knowing and enable interdisciplinarity. Transdisciplinarity can then be regarded as the outcome of this multi- and interdisciplinary process, if the researchers manage to collectively transgress epistemological borders to develop and use a common conceptual framework.

This can be translated to single researchers as well, for example if they have enjoyed training in different disciplines and been working in interdisciplinary environments over a longer time. In that case, I would argue that they, such as myself, can hardly escape becoming transdisciplinary in their ways of thinking. Even though they may try to follow one particular paradigm and abandon others, epistemological borderlines are steadily questioned and renegotiated simply by other perspectives being present.

Being transdisciplinary may be beneficial, as it opens understanding to different epistemological perspectives. It can, however, also be a curse because it makes one continuously aware of the different shortcomings and narrowness of the different epistemologies one seeks to grant legitimacy. In my case, for example, it continuously triggers doubts about being on the right path and causes me to leave paths and follow others. This may also reflect the research and its outcome, making it appear inconsistent and ambivalent at times, at least if evaluated against traditional uni-disciplinary understandings of knowledge.

The following subchapter highlights why epistemological pluralism is particularly relevant for research in urban design and related fields.

The relevance of plural epistemology for urban design

The notion of space is one of the major concerns to the diverse planning and design disciplines. It has been debated and reconceptualised extensively in literature. 'Space' can mean many different things and "to understand what space means, we need to investigate the context in which it is used, ranging from technical discourses to everyday practices" (Madanipour, 2013 p.373). Madanipour refers to 'context' in terms of epistemology.

To urban design, the difference between the main ways of theorizing space is especially significant because it relates to the discipline's nature of being transdisciplinary (Madanipour, 2013; Ramadier, 2004). For example, the concepts of *abstract space* and *relative* space enjoy a paramount position in contemporary urban research and design (Madanipour, 2013). The former referring to an abstract mathematical, often formless, notion of space and the latter referring to space as the relation between geometrically described phenomena. Both concept have positivistic roots of thought and presented ideas of space being neutral. Contemporary *relational* theorists of space, mostly belonging to the humanities and the social sciences, contest this concept of space. Madanipour chooses Thrift and Massey among the most prominent ones and relates their way of thinking to his urban design focus:

"Rather than viewing space as 'a container within which the world proceeds', the relational concept of space sees it 'as a co-product of those proceedings' (Thrift 2003, 96). Rather than

detached from any process, space is an integral part of social processes: 'abstract spatial forms [sic] in itself can guarantee nothing about the social, political or ethical content of the relations which construct that form' (Massey 2005, 101)." (Madanipour, 2013, p. 375)

The implications of this are not only a new understanding of space as a phenomenon carrying social meaning, but perhaps more important, a spatialised understanding of the social (Low & Lawrence-Zúñiga, 2003). This relationalist way of thinking about space interrelates the social and the spatial, ontologically and epistemologically. It sees the different ways of conceptualising space as different perspectives, of which none is 'neutral', on the same reality. None of them has thus epistemological sovereignty.

This thesis argues that epistemological context is often not considered sufficiently in professional discourses about urban design ideas like shared space. Based on the Paper One findings, the thesis claims that mainstream research about shared space (see also chapter five) is based on a hegemonic uni-disciplinary understanding of urban design. Literature based on this research places weight almost exclusively on a conception of space as it appears in '*technical discourses*' about space, while the '*everyday practices*' dimensions are lacking. This is one of the main conclusions of Paper One in this thesis and the main motivation to engage with socio-spatiality in papers two and three bringing in perspectives that appear to be missing in shared space literature.

The following subchapters explain better how the above epistemological underpinnings influenced the methodological choices on each level of investigation.

Epistemological implications for methodological choices of Level One investigation

The Level One investigation found that the existing knowledge of shared space is fragmentary and partial. The picture given by existing literature does not, or only poorly, connect to relevant knowledge about socio-spatiality offered by different sub-fields of the social sciences. I think, though, that urban design should make these connections. While the field may possess such knowledge (as argued in the above theory chapter), it seems not to find its way into professional debates and research on shared space. Most accounts about the idea do not attend to the socio-spatiality challenge, or only as far as the respective accounts has legitimacy in dominant discourses, for example in accounts about traffic safety (see the chapter 5 on shared space). Using Madanipour's words in support, the thesis argues that such accounts "generate boundaries which may turn into insurmountable barriers. To search for new ideas, these definitions may need to be revisited, ontologies rethought, and barriers crossed through contextualization and critical analysis" (Madanipour, 2013, p.373).

Shared space is an example-par-excellence where different epistemologies confront and contest each other, if researchers allow for this. This crystallises in debates about the idea. An engineer may see it as a technical challenge, an environmental psychologist as a cognitive challenge, and an anthropologist may see it as a challenge to cultural conventions. What I want to emphasise is not that any of them is wrong, but precisely that all these perspective should be included in urban design and planning. While many may agree on this view, it has not been realised in the case of shared space. What is of concern here is not only differing interest in different research issues but their epistemologically differing points of departure (which of course also can differ within each discipline).

The Level One investigation in this thesis is thus a critique of how the shared space idea is translated to fit into dominant ways of knowing and 'domesticated' to reflect only narrow ways of understanding. This

relates to epistemology in that it points to the recognition of only some particular kinds of knowledge, while other knowledge remains unattended. In the context of the professional shared space discourse, this means that design guidelines are likely to reproduce prevailing understandings of socio-spatiality. They are intentional and thus not dealing with a neutral notion of space. Critical awareness of that opens the ability to ask for alternative ways of understanding the socio-spatial relationship. My first paper focuses mostly on making this concern explicit, by explaining how ideas are framed in professional discourse to fit dominant ways of knowing. I see this process of translation perhaps as being so significant because I am trained in identifying differences in varying ways of understanding ideas.

Adopting a discourse analytical approach in this thesis positions myself directly within epistemological pluralism. Critical discourse analysis seeks to deconstruct representations of phenomena taken for granted in dominant discourse (Dieronitou, 2014; R. Wodak & Meyer, 2009). The epistemological position behind this is that no knowledge is free of social construction, meaning that objective and value free knowledge does not exist (Lincoln & Guba, 1985). The attempt in itself, to produce such objective knowledge, such as through the production of design guidelines, is a value-laden intention to reproduce dominant ways of knowing.

I thus critically looked at the existing shared space literature and asked to what degree it represents ways of understanding socio-spatiality in shared space, particularly regarding how socio-spatiality may be influenced through design. I tried to identify whether existing expert literature framed shared space merely in line with conventional approaches or if there might be found attempts to question those approaches, framing shared space as a challenge to existing ways of knowing.

The term 'domestication' relates to the Foucauldian view that discourses are multiple and that they are competing for recognition and legitimacy. Part of that contest is to reframe innovative ideas such as to adjust them to dominant thought. A contest over what knowledge is relevant regarding such ideas takes place when ideas are disseminated. The Level One investigation of this thesis focuses thus on how shared space is framed, or maybe I could say how the idea is 'epistemologised', through 'domestication' in professional literature. I used a discourse analytical approach because it promised to deconstruct the representational accounts of shared space and to trace epistemological gaps in these accounts.

The findings of the Level One investigation - that the socio-spatiality challenge of shared space was under-articulated in existing literature - triggered me to ask how socio-spatiality might be researched in built shared space. I decided to explore different ways of doing that in the Level Two investigation of this research.

Epistemological implications for methodological choices of Level Two investigation

The Level Two investigation responds to the Level One investigation, which argues that existing knowledge about shared space is valuable, but epistemologically selective and fragmentary. It wishes thus to explore different perspectives of understanding socio-spatiality in order to supplement the existing knowledge. This is not to devalue existing perspectives, but to complement them.

Level Two investigates thus how users participate in, and "construe" (Ron Scollon, 2001, p.146), discourses in built space. Scollon refers to the mediating influences of daily life practices on social action. He makes a clear distinction between Critical Discourse Analysis, such as presented by Fairclough and Wodak (1997) and his Mediated Discourse Analysis:

"Mediated Discourse Analysis (MDA) shares the goals of CDA, but strategizes to reformulate the object of study from a focus on the discourses of social issues to a focus on the social actions through which social actors produce the histories and habitus of their daily lives which is the ground in which society is produced and reproduced" (ibid, p 140).

The Level Two investigation presents thus, a comparison of representational discourse - manifest in most present shared space literature - with the non-representational discourses playing out in built space. It searches for the socio-spatiality, which stands out through its absence in dominant discourses. This real life discourse plays out on StOP. It is than translated into text by the research team and me taking interviews, writing observation diaries and conducting a survey. This data from the Level Two investigation was then analysed and two new accounts where produced about socio-spatiality in shared space. These accounts thus also represent certain discourses about shared space, in which socio-spatiality and user's agency are given primacy to hegemonic perspectives.

The different ways of knowing presented in Paper Two and Three, labelled 'situated multiplicity' and 'discourses in place', explore socio-spatiality of shared space in new ways. I don't follow these ways to claim that they present a better account, but I claim that they support a more nuanced and comprehensive understanding of socio-spatiality of shared space. Using these perspectives was helpful to make different ways of knowing about shared space more clear and pronounced. The epistemological underpinnings of each of these are shortly discussed in the following paragraphs**.**

Epistemological underpinnings of 'situated multiplicity'

The second perspective I introduce tries to better understand socio-spatiality by using Amin's (2008) concept of 'situated multiplicity' (see also Paper Two). Amin presents a critique against normative-prescriptive approaches, questions how well existing accounts of public space account for how the diverse users' experience and *know* socio-spatiality. Amin's critique stands epistemologically close to the above critical discourse perspective, because he presents a critical view of the way the social is represented in the dominant discourses of urban studies. Amin does not offer such a description but attempts to outline a framework (his resonances of situated multiplicity) that accounts for the different dimension through which urban citizens experience socio-spatiality. Paper Two tries to operationalise this framework to look at and learn about socio-spatiality in built shared space. The epistemological implication of the term 'situated multiplicity' is that it recognises ways of knowing socio-spatiality that are not in line with hegemonic representations of this relationship. It acknowledges that multiple ways of meaning-making meet in urban public space, leading to moderate conflict and exchange of contradicting interpretation as well as to passive pragmatism in social interaction.

Epistemological underpinnings of 'discourses in space'

Geosemiotics (Scollon & Scollon, 2003) offer a different but complementary way to understand socio-spatiality. Similar to Amin's perspective, the geosemiotic perspective also recognises that we cannot free ourselves from meaning-making in our thinking. This means that people 'know' socio-spatiality through making meaning of their social and physical environment. Similar to Amin's approach, the epistemological underpinning is that of epistemological pluralism: there are multiple ways of knowing and no single way of knowing has sovereignty of others, because there is no one real knowledge that reflects or describes reality. Even though such a neutral reality might exist, humans can only achieve a partial understanding

of it because they are meaning-making subjects, no matter what scientific methods and tools they develop to get a neutral view on things.

Both the above Level Two perspectives acknowledge the processes of meaning-making and embodiment. Amin does this in a more abstract way while the Scollons have a more concrete approach to offer, certainly because they built their framework on a well-developed and established body of theory, semiotics and interaction studies. Amin instead aims to articulate his view with new concepts, the 'resonances of situated multiplicity'. While he presents a critique against representational accounts, the Scollons present a research approach that counters such accounts. Their approach is more empirically oriented than Amin's theoretical perspective. Both approaches can therefore be argued to be epistemologically closely related. They differ in their application but they are similar in their epistemological grounding.

Final remark on epistemology - traces of pragmatism?

Apart from epistemological pluralism, there is another epistemological meeting point to which all the above perspectives relate. The Scollons' approach is based on Peirce's work, one of the founders of semiotics. The discourse analytical approach also has epistemological grounding in semiotics. For example, it acknowledges that cultural expressions, like spoken and written language, architecture and other artefacts as well as human practices are semiotic manifestations (Wodak, 2001). Amin also strongly argues that urban analysis should attend to the multiple ways meaning is mediated in everyday life urban settings. Thus, all the three perspectives highlight meaning-making as a social fact influencing all scientific enquiry (not only social science). It is therefore possible to argue that these different perspectives intersect epistemologically in semiotics, as developed by Peirce. Peirce is also by many considered one of the founders of pragmatism, known for its maxim that things are what you conceive of them (Hookway, 2013; James, 1907) even though they belong to the same reality.

This thesis may thus be categorised as a pragmatist view in socio-spatiality, based on epistemological pluralism. Despite my transdisciplinary orientation, based on my multidisciplinary education and work experience the thesis does not present an understanding of shared space combining diverse epistemologies, for example by combining a traffic flow analysis with user's socio-cultural backgrounds in shared space. I rather try to produce the knowledge that I think has been unattended and needs more weight in present accounts, both in practice and academia. In that sense my work is somehow one-sided, it's a social science account underpinned with a mainly qualitative methodology. But it contributes to a more nuanced understanding of socio-spatiality of shared space.

5. Shared space – debates and explanations

This chapter gives an overview of the state of the art in theory and research about shared space. It concentrates on those contributions that are relevant for understanding socio-spatiality even though none of them explicitly focuses on this phenomenon. The overview is limited to articles published in scientific journals and peer reviewed conference papers. Most are published either within the fields of transport planning or urban design. In line with the two-level division in this thesis, I divide these contributions into two broad groups. One group includes contributions that engage with shared space at a discursive level. They are concerned with what shared space means in conceptual terms, as an approach in relation to broader urban design debates, particularly how it fits to existing practices of designing streets. These contributions seek to determine what shared space is all about in a wider planning and design debate about public urban space, and how it is, or should be, designed. While not explicitly using a discursive perspective they intend to influence conceptions of the idea. In the other group are those contributions that are more concerned with how shared space works in practical terms, how users perceive, experience and behave in shared space, usually with a strong emphasis on traffic safety.

All those texts have some elements of both groups, stating what the shared space idea is all about and how it works. The weighting between those two elements varies, however, most contributions look into how shared space works. Only a few consider the important role that the idea plays in influencing the thought and practice of urban design and how it relates to other design concepts. The following paragraphs present the main contributions in the two groups - discursive contributions and performance contributions - related to the two-level approach of this thesis.

Context and aims of shared space - discursive contributions

This sections positions my investigation of how shared space has been translated in professional discourse in relation to the existing literature related to this topic. I try to show the way in which this literature connects to my own approach and in what sense my approach is distinct from these contributions.

The contributions in this group all relate shared space to a wider debate about designing public street space, particularly to debates about the integration and re-conciliation of different functions of street space. All recognise the conceptual relatedness to the earlier Dutch Woonerf idea, coined 1965 by Niek Boer and built by Joost Vahl and colleagues in the late 1960s (Hamilton-Baillie, 2008a; Karndacharuk, Wilson, & Dunn, 2014), and its relatedness to similar ideas. Karndacharuk et. al (2014) have given a detailed overview of this relatedness.

There is also a broad consensus about what characterises shared space design in technical terms, namely avoiding or minimising the use of standard materials and technical devices that typically characterise conventional streets, such as asphalt, border markings, railing, curbs, traffic signs and light signals. This can result in an open streetscape that either reduces or circumvents the physical segregation of different modes of travel. Despite this consensus over the main technical attributes there are very different and oppositional interpretations of the role the design ideas plays in wider debates about the design of urban streets.

For Hamilton-Baillie (2008a) the idea represents a means to create social space that integrates traffic, resulting in a balance of different street functions. Such social space allows for "informal social protocols of public space" to substitute standardised traffic control and it represents an opportunity "for

communities and individuals to shape and influence the built environment in ways that encourage diversity, distinctiveness, urban quality and civility" (ibid. p.162). His view on shared space implies that this design can help to generate a greater user engagement of civil behaviour. These concerns show that a certain understanding of socio-spatiality plays a key role in Hamilton-Baillie's view on shared space even though he does not make this explicit. While he recognises the important socio-spatial aspect that the design may have an enabling effect on users' agency - in comparison to more restrictive standard design - he does not seem to question whether this will lead to a societal improvement, such as urban quality and civility.

Hamilton-Baillie (2008b) presents shared space as a means to counter the degradation of the public realm and as an answer to modernist transport planning which has resulted in the dominance of the automobile and the deterioration of public space. His view on shared space is strongly influenced by urban design scholars like Appleyard, Jacobs and Whyte, who highlighted the importance of informal social encounters which led to a widespread view within the urban design profession that traffic is not social, and that traffic engineers disregard the importance of streets as social arenas and merely see them as technical challenge. Hamilton-Baillie continues this line of thinking and therefore promotes shared space as a counterapproach to a modernist transport engineering tradition.

Karndacharuk et al. (2014) warn against singling out traffic engineers, or the transport planning sector, as the culprits creating a "pervasively automobile-centric street environment" (ibid p.215). Instead, they argue that it was "society as a whole in the mid-twentieth century that determined the function, design and use of a public road network predominantly for motor vehicles" (ibid p.215). Karndacharuk et al. (2014) point out that the larger societal context influences how cities and public space are designed. They highlight that the users also have their part in demanding and using space in certain ways, which influence how public space is designed. Karndacharuk et al. (2014) establish a detailed overview, and position shared space differently in the wider context of related design concepts and in relation to wider debates about street design. They criticise the polemic way that shared space proponents argue for the design by creating the idea of a transport engineering profession that has no knowledge of, and competence to design for, the social dimensions of a street. Their contribution represents a discursive understanding of how planners and designers think about socio-spatiality even though it does not address this phenomenon explicitly.

In contrast to Ben-Hamilton's (2008b) account, Karndacharuk et al. (2014) argue that the idea does not belong to a shift in professional approaches, but rather mirrors a broader societal understanding that is steadily changing, of how streets in certain urban contexts should be designed. In this view, the increasingly appearing design ideas which conceptually built on the work of known urban design scholars like Gehl (1987), Appleyard (1981), Jacobs (1965), Jacobs (1987) and Whyte (1980), point to a philosophical shift in street design as a response to societal change, not as a result of creatively thinking professionals (Karndacharuk, Wilson, & Dunn, 2014) . In Karndacharuk et al.'s view, shared space belongs to a whole spectrum of road user integration concepts that refer to the work of these scholars and have gained more and more acceptance during the past 50 years, based on societal transformation.

Karndacharuk et al. (2014) refrain from the antagonistic and normative way of framing the overall aim of shared space design. They wish to objectify the idea by developing measurable performance criteria that were determined "based on how successful the public space performs its functions of Place, Mobility and Access" (ibid. p.207). In their view shared space is: "A public local street or intersection that is intended and designed to be used by pedestrians and vehicles in a consistently low-speed environment with no

obvious physical segregation between various road users in order to create a sense of place and facilitate multi functions" (ibid. p.215). This definition is derived from the view that public space is an arena of different functions competing for space and determining technical design requirements.

Gerlach et al. (2008a; 2008b) share Karndacharuk's concerns with approaches that stage shared space as an argument against certain design traditions. They explicitly seek to objectify the shared space idea by making a distinction between the policy aims behind the idea and its technical design criteria and spatial requirements. Gerlach et al. (2008a) acknowledge the discursive role of the idea of shared space in wider street design debates but they do not identify socio-spatiality as a phenomenon that it is necessary to investigate. Their main contribution is the identification of technical and functional parameters that should be considered for shared space implementation.

In comparison to the above contributions, Imrie offers a consciously discourse-analytical perspective on shared space. Imrie (2012, 2013) is critical of the shared space idea. For him the promoted benefits of balancing contesting functions only apply to certain privileged user groups, and he views it as a "post political policy initiative" (2013, p. 1) in the UK, which privileges "the normality of the non-disabled body" (2013, p. 3). He points to the widespread but often unheard concerns of those who may have difficulties or not be able to live up to the mobility and interaction ideals of shared space, such as the visually impaired, the elderly or children. His contribution positions shared space as a discursive vehicle in debates about mobility and public space. Imrie emphasises that socio-spatial mechanisms are not seriously considered in much shared space discourse, while the idea is represented as a common sense solution to creating what policy envisions as good quality public space. He laments that implementation is blindly following policy assumptions about the societal effect of shared space design principles without considering how the design works for different users.

Moody and Melia (2013) take a similar critical position as Imrie. They argue that much shared space knowledge dissemination, in the form of research publications and guidelines, is flawed by policy bias in the UK. Moody and Melia warn that declared performance indicators commonly used to evaluate shared space do not satisfyingly consider the needs of various disabled user groups, but they do not address the role of shared space in larger urban design debates. Their contribution focuses exclusively critically on the promotion of shared space.

In this section I have elaborated on how my investigation of shared space discourses relates to existing contributions addressing the role of shared space in larger debates about urban design. This literature, however, does not highlight the discursive process in the same way I do. Rather, it presents existing efforts to participate in and influence this process, by identifying and negotiating an answer to what shared space means for street design. My work is different in that it steps back from identifying and determining what the idea should be about. I ask instead how the challenge posed by the idea of urban design practice is negotiated and translated in the professional realm.

Research on how and why shared space works

This section presents the literature about shared space that is relevant for understanding the socio-spatial implications of the design. It positions my investigation of socio-spatiality in built space in the existing research on this phenomenon.

It is important for most experts engaging in shared space debates to understand how this design works. They are concerned with implementing design schemes that meet certain performance criteria, rather than with identifying these criteria. Naturally, as a response to societal debates, the most pressing questions address the issue of traffic safety. Consequently, most research has focused on how different user groups interact with each other in shared space and how they perceive of the design in terms of traffic safety. While some focus on the interaction of different travel modes (Dong, 2012; Hammond & Musselwhite, 2013; Kaparias, Bell, Miri, Chan, & Mount, 2012; Karndacharuk, J. Wilson, & Dunn, 2013a; Moody & Melia, 2013), others emphasise the need to understand whether and in what way a design may disadvantage certain users, such as the visually impaired, elderly or children (Curl, Ward Thompson, & Aspinall, 2015; Havik, Melis-Dankers, Steyvers, & Kooijman, 2012; Imrie, 2012).

While most evidence focuses on how shared space works, little consideration is given to explaining *why* it works. Some explanatory approaches exist, though, that are widely accepted in shared space debate. In the following subsections I identify three ways of explaining how and why shared space works. The third way is the one that is most in line with my approaches in Papers Two and Three. Authors writing about shared space often interlace these explanations, but it is helpful to distinguish them in order to see more clearly which explanations are commonly accepted among experts for why users *share* space.

Risk perception explanations of sharing behaviour

Most shared space literature claims that the design creates uncertainty for its users, which stimulates them to be more alert and careful in traffic. One example is Havik et al.'s (2012, p. 133) explanation: "By removing conventional structures like signs, traffic lights, and delineations between the various road users, a certain amount of deregulation is intentionally created […]. As a result, Shared Spaces gently forces road users to behave cautiously and to reduce their speed.". This explanation seems widely accepted, but has only been investigated to a limited degree in shared space studies (Kaparias, Bell, Biagioli, Bellezza, & Mount, 2015; Kaparias et al., 2012; Karndacharuk et al., 2013a; Karndacharuk, Wilson, & Dunn, 2013b).

Some shared space literature explicitly refers to risk compensation theory and the theory of risk homeostasis as models explaining how and why shared space design makes (Hamilton-Baillie, 2008a; Hamilton-Baillie & Jones, 2005; Hammond & Musselwhite, 2013; Karndacharuk et al., 2014a). Their understanding is mainly underpinned by a reference to Adams' work (Adams, 1995, 2012), however, as Hedlund (2000) has shown, the concepts of risk compensation presented by economist Peltzman (1975) and the concepts of risk homeostasis presented by psychologist Wilde (1998) are controversial. Hedlund argues that there is no firm evidence to conclude, from a statistical point of view, that these theories can serve as general explanations of risk behaviour. Evaluating a vast range of studies (including Adams' work) Hedlund concludes that "risk compensation may have occurred in response to some safety measures but not in response to others" (Hedlund, 2000, p. 86). While risk compensation mechanisms exist and they may influence behaviour in some cases, there is thus no consensus that these mechanisms determine behaviour. In the shared space literature, however, risk compensating behaviour is frequently presented as factual and plays a major role in justifying the idea against traffic safety concerns.

Sociality explanations of sharing behaviour

Another widespread explanation of why users share space is that the design triggers an awareness of belonging to a larger social group, resulting in socially responsible behaviour (Gerlach, Methorst, et al., 2008). This assumption is based on the theoretical underpinning that shared space turns "traffic space", in which behaviour is "technical", into "social space", or "humanised" space (Havik et al., 2012, p. 133), in which behaviour is "social" (Gerlach, Methorst, et al., 2008, p. 62). Hamilton-Baillie writes that "freed from conventional regulatory framework […] users adopt a remarkable range of anticipatory and communication skills" and that shared space schemes engenders "civility, patience and courtesy" (Hamilton-Baillie, 2008a, p. 171). This generation of sociality is understood in much shared space literature as the aim of the design as well as the reason why it works.

The assumptions that shared space design can create a sense of community, or realise a "spatial and a democratic quality" (Gerlach, Methorst, et al., 2008, p. 63) of public space, are probably derived from research on and theorisation related to the Woonerf concept as a generator of street life and liveability (Ben-Joseph, 1995; Biddulph, 2012a, 2012b; Curl et al., 2015). The Woonerf concept theorises the residential streets as "social elements" (Ben-Joseph, 1995) and as the extensions of private space into public neighbourhood space (Appleyard et al., 1981). Research focuses on how residents adapt to such a design and how it influences their daily activities and wellbeing, such as for children (Biddulph, 2012a) or older people (Curl et al., 2015). This thesis sees this as problematic, since a social analysis of shared space should make a clear distinction between residential streets, which is the application context of a Woonerf, and a central urban mixed-use street, which is the application context of shared space.

A residential neighbourhood is different from a central urban mixed-use street regarding social, cultural, geographical and economical aspects, as well as in terms of transport patterns, different land uses and activity types. For example, as Karndacharuk et al. point out, "mixed-use shared spaces encompass a greater competing demand resulting in more conflicts from various road users from both moving and stationary activities than that of local residential streets." (Karndacharuk et al., 2014, p. 208). This difference is one of the challenges of shared space that has been under-addressed and not paid enough attention in shared space theory and research, especially regarding assumptions about the relationship of the design and the characteristics of the sociality it may generate.

The above two explanatory approaches link well to the investigation of design and socio-spatiality in this thesis. These studies are of key importance to understanding how shared space operates and they should be regarded as important contributions to understanding socio-spatiality. Further, they present fruitful approaches helping to, at least partly, understand why shared space works. They do tend to limit their scope to functional performance of public space as defined by experts, however. Additionally they tend to overemphasise safety rationales as the main causes for behaviour. Meanwhile, the complex mechanisms of meaning-making behind socio-spatial dynamics (see Paper Three) are not considered sufficiently. These contributions therefore reach only a partial understanding of the socio-spatial implications of shared space design. The interdisciplinary perspectives I present in Papers Two and Three can supplement these beyond existing accounts because they situate shared space in a different analytical context. They explain alternatively and in a more nuanced way, how and why shared space works.

Recognition of meaning-making in explaining how shared space works

Some contributions are more in line with my research because they adumbrate a semiotic explanation of shared space. Gerlach et al., for example, offer a partly semiotic understanding of shared space because they recognises the attempt with shared space to create an environment where motorised users become aware of "being part of a wider social fabric" (Gerlach, Methorst, et al., 2008a, p. 62, my translation from German) through connotative clues. Hammond and Musselwhite (Hammond & Musselwhite, 2013) present the contribution that is probably closest to a semiotic understanding of shared space. They are critical about the common presentation of shared space from a "traditional environmental determinism perspective, suggesting that changes to the design of the street will encourage shifts in behaviour which will rebalance the needs of more physically vulnerable street users (for example walkers and cyclists) with those less physically vulnerable (i.e. private vehicles)." (ibid p. 79). According to them, "this assumption does injustice to the individual agency of people" (ibid p. 79). They thus point to the importance of agency and to a need for research and theory about the socio-psychological implications of design: "People have preconceived ideas as to how a street space should operate [reference to codified signification of street design]. In a shared space street design, cues that signify social norms about how street space should operate have been deliberately altered. How people adapt to this is not solely a function of the environment itself but a two-way process which also involves human expectations, social norms, values, attitudes and beliefs. Hence, it is likely that different people will exert different behaviours in the same setting […]" (ibid p. 81) This dialectic view of the design's socio-spatial implications is more in line with my view of how users make meaning of socio-spatiality.

I suggest, based on Papers Two and Three, that an analysis of how users perceive and make meaning of shared space is better suited to addressing the multiple meanings that users make of an environment rather than merely referring to commonly known functional meanings of the built environment. A more comprehensive semiotic approach would meet concerns such as those raised by Imrie (2013) and Hammond and Mussewhite (2013). Imrie presents the only contribution among those above emphasising that users identify with space. He recognises that shared space is not just a matter of changing interaction patterns or creating spaces where people spend more time, but gets closer to asking how users relate personally to built space, for example in terms of being part of, or excluded by, design.

Summary

In summary, the investigation of socio-spatiality of shared space in this thesis differs significantly from existing work on shared space, on both levels of investigation – discursive and built space. Previous contributions relating to my discursive perspective (Level One) try to identify what shared space is, but do not address how the idea is translated and negotiated. They thus have a slightly different vantage point. Those contributions focusing on how shared space works (Level Two) concentrate on measuring the functional performance of the design, prioritising a traffic safety perspective. They seem to take for granted that socio-spatial dynamics are sufficiently explained by risk behaviour theory and mechanisms of socialisation. In contrast, I do not aim at evaluating shared space against performance criteria. Rather, I wish to identify *how* shared space design changes socio-spatial dynamics, hoping that this knowledge can help to construct an explanation of how shared space influences street life.

6. St. Olavs plass – wider urban context and shared space properties

This chapter presents StOp in its wider historical context, including how the square performs functionally and relates to its larger urban context. The chapter then presents the main design particularities that justify categorising the square as a shared space scheme, both in terms of design and use.

History

StOp (Figure 9) is located in a district of Oslo that was planned by the Royal Architect in 1838[9]. The plan strategically aimed to create a clear connection between the castle and the nearby town Christiania (former name of Oslo). The layout of the road network in this plan followed the baroque tradition, where streets often pointed towards buildings that represented legitimate power, in that case the royal castle. The street that later became St. Olavs gate was one such street. Parts of the plan were adapted to later plans that organised the fast-growing and increasingly industrialised city. One of those plans (from 1859) introduced the five armed square that

Figure 9. St. Olavs plass 2009, photo: Arne Langleite

today is StOp, where the square's layout, in the same way as other squares in that plan, was most probably inspired by Parisian boulevards connecting great squares. The street St Olavs gate enabled a straight view from the King's castle to St Olav church, which the King's wife had built in 1856 to affirm her strong Catholic faith. The square itself was completed in 1868. Back then, and until the middle of the 20th century, it had a round water fountain in its centre (Figure 10), with a statue of the Roman god of love, Cupid, made of cast iron. The church, the street and the square were named after the same canonised Norwegian Catholic King Olav.

In the following years and decades, different buildings were raised around the square and replaced by others, as a response to a mix of influences such as changing societal structures, changing functions and needs of public space, and the negotiation of private and public interests. Today, St. Olavs plass No. 2, built in 1872, is the only building that has not been replaced by others (Figure 10). In 1950, the statue was removed from the fountain due to vandalism and in 1957 the fountain was also removed after long debates regarding the use of the square in

Figure 10. St. Olavs plass 1940, Oslo Museum, photo: Karl Harstad

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[9] This subchapter is based on Lars Roede's article "Stjerneplassen" (Roede, 2010). Repeated citation through the section is omitted.

the face of growing need for road space. In the following 40 years the square had an asphalt pavement and marked pedestrian crossings between elevated sidewalks (Figure 12).

In 2001 the municipality's transport planning department opened a competition for a redesign of the entire square. The initiative was based on the municipality's wider public space regeneration policy. ACK (Aspaas Cooper Kind) architects won the competition and the new square was finished and opened in 2007, followed by the completion of a sculpture named "light fountain" in its centre and a re-opening of the complete square in 2009 (Figures 9, 11 and 21).

Figure 11. St. Olavs plass nr. 2, 2013

Urban context

StOp is attached to the northern outer border of the central district. It is located four blocks (about 400 m) north of Oslo's popular shopping street and boulevard Karl Johans gate, named after the same king that commissioned the land use plan in 1838, determining the location of the street that today is St Olavs gate.

Transport

StOp is not a major transport node. The west-pointing part of St Olavs gate and the south-pointing Universitetsgata leading from the square are both closed to motorised traffic where they intersect with Pilestreded (Figure 14), which is a major east-west transport artery in central Oslo. They serve only as access routes to parking garages. In transport terms, the square mainly serves as a destination, and the only local through traffic is pedestrians and cyclists using it as a travel artery. The square is part of a main bicycle route in Oslo following Langes gate and Universitetsgata. No public transport line crosses StOp.

Figure 12. St. Olavs plass before redesign approx. 2005, photo: ACK Architects

Figure 13 illustrates the travel mode volumes and proportions during a typical working day in the fieldwork period (Tuesday 25th June 2013). The numbers were calculated based on five 15-minute counts at different times during the day (at 8:00, 10:00, 12:00, 14:00 and 15:30). The number of cars (2434 vehicles/working day) in this figure is slightly higher than the estimated average daily vehicle volume (2000 vehicles/day/year 2011) published online by the municipality's agency for urban environment (Esri, 2016). This discrepancy can be partly explained considering that the municipality's value represents an estimation for average volumes of motorised traffic during any day of the year, while the figure represents the results for a working day in late June.
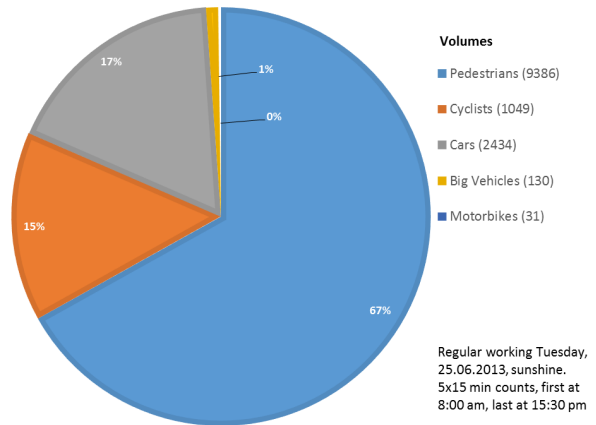

Regular working Tuesday, 25.06.2013, sunshine. 5x15 min counts, first at 8:00 am, last at 15:30 pm

Figure 13. Calculated daily user volumes and proportions for random working day, sorted by travel modes

A traffic volume between 1500 and 2500 vehicles per day is, according to the municipality's estimation, representative of most streets in this part of Oslo, except those that are categorised as higher order transport arteries with traffic volumes between 10,000 and 20,000 vehicles per day, such as Pilestredet southeast of StOp and Akersgata/Ullevalsveien east of StOp) (Figure 14).
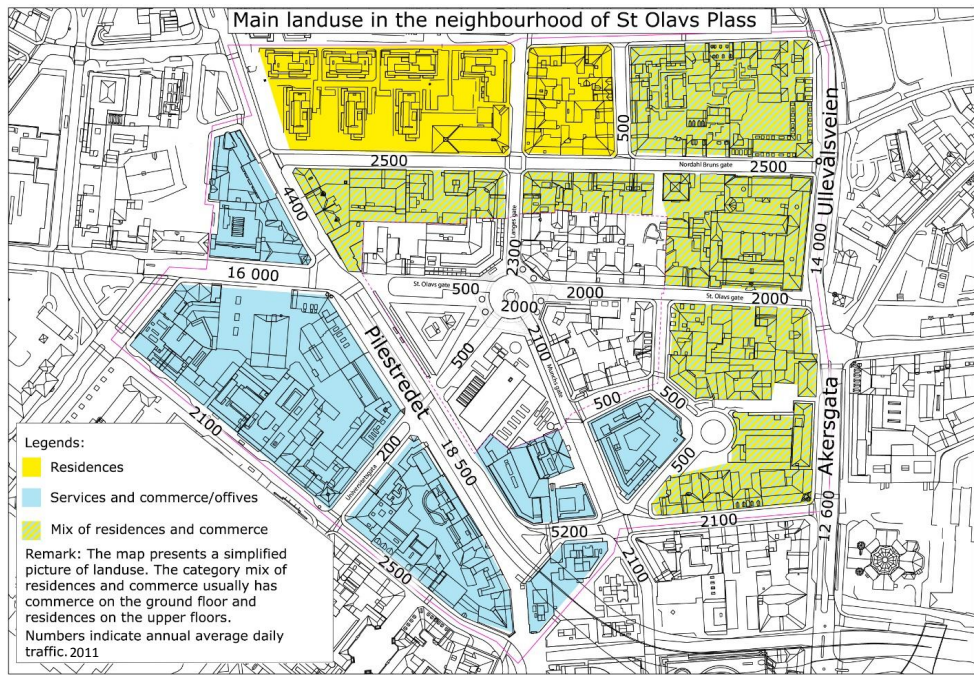
Figure 14. Main land use and average daily traffic in neighbourhood of St.

In terms of land use, StOp seems to sit in between two different areas. While service, commerce and cultural functions dominate the south towards the centre of the city, residential buildings are more dominant towards the north of StOp. The same pattern characterises the nearby neighbourhood (Figures 15 and 16). The mix of functions surrounding the square makes user types, their activities and times of use, very diverse.

StOp is surrounded by five building fronts (Figure 17). StOp 1 is a Scandic Hotel and a theatre called Edderkoppen. The hotel runs a small café-bar and restaurant with outside catering. The building makes its marks on the square. Buses pick up and deliver guests. Hotel guests walk across or around the square with their luggage. They also sit outside the hotel or explore the square from the hotel, walking around or visiting the light fountain in its centre. Children belonging to families staying at the hotel, run over the square and play in the fountain.

StOp 2 houses a restaurant called Happolati and a café-restaurant called Tekehtopa on its ground floor, and offices on the upper floors. Tekehtopa has outside catering during spring, summer and autumn, covering the entire sidewalk up to the 'basalt belt' (Figures 18 and 19). Benefiting from long sun exposure with its outside catering area facing southwest, the popular restaurant makes its mark on the square's social appearance during the outside catering period. The guests are a mix of people, including local residents, employees from the adjacent buildings who come for coffee breaks, lunch or meetings, and also hotel guests and tourists.
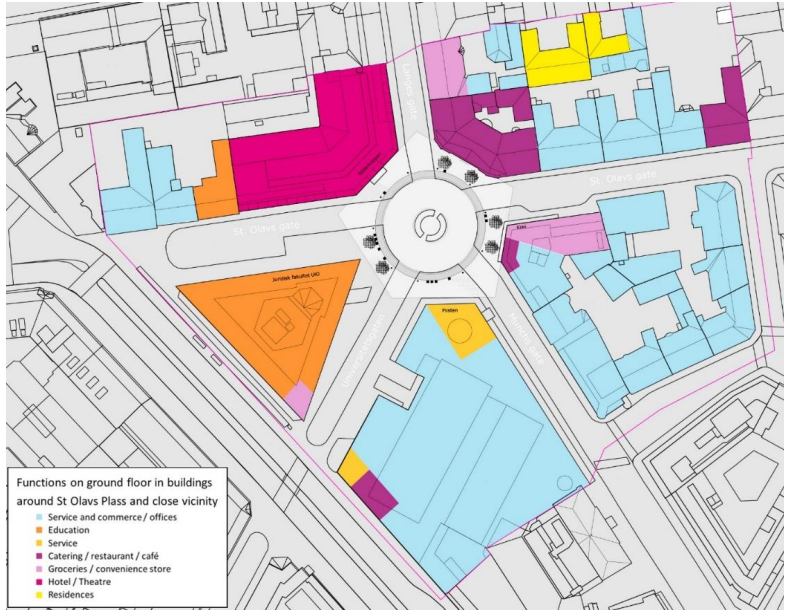
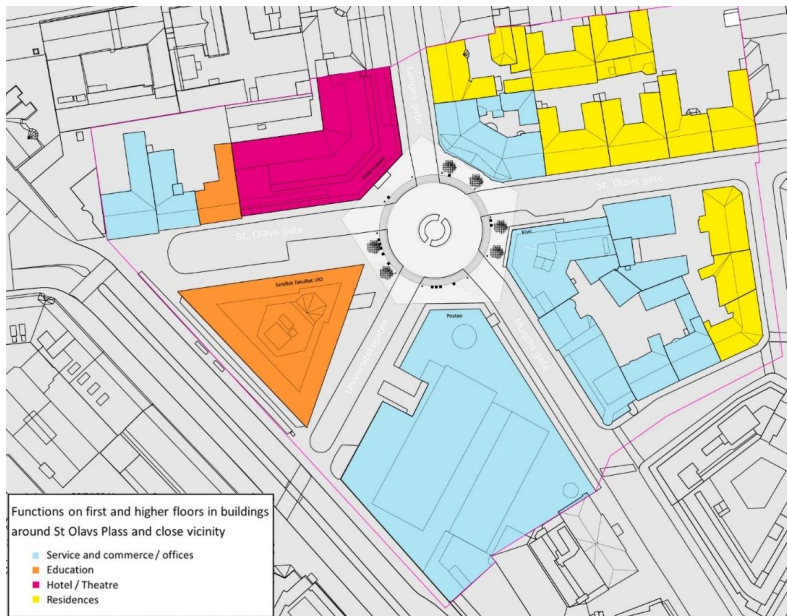**Figure 15.** Ground floor functions around St. Olavs

Figure 16. Upper floor functions around St. Olavs plass

The ground floor of StOp 3 houses a small supermarket, which has its entrance from St. Olavs gate and a small café bar named Blings on its south corner to Munchs gate. The upper floors are offices. Blings sells sandwiches and salads over the counter. The café has just a few seating possibilities inside. If the weather allows it, many of Blings' customers spread over the square, sitting either on a bench fixed to the café's front, on the two tables the café places on the sidewalk during the summer, in the light fountain or on any other sitting opportunity on the square.

Figure 17. Buildings fronting St. Olavs plass

StOp 4 does not exist. The building front between Munchs gate and Universitetsgate facing the square is a post office and has an entrance from Munchs gate. This building does not affect life on the square as much, apart from the frequent arrivals and departures of post service vehicles. The building behind, however, the Norwegian Directorate of Health, with its entrance from Universitetsgata 2, has many employees visiting the square daily, passing the square, but also for having lunch or taking breaks.

StOp 5 houses the Faculty of Law of the University of Oslo. Both students and employees frequently visit the square and its cafes and restaurants, representing an important part of social life on the square.
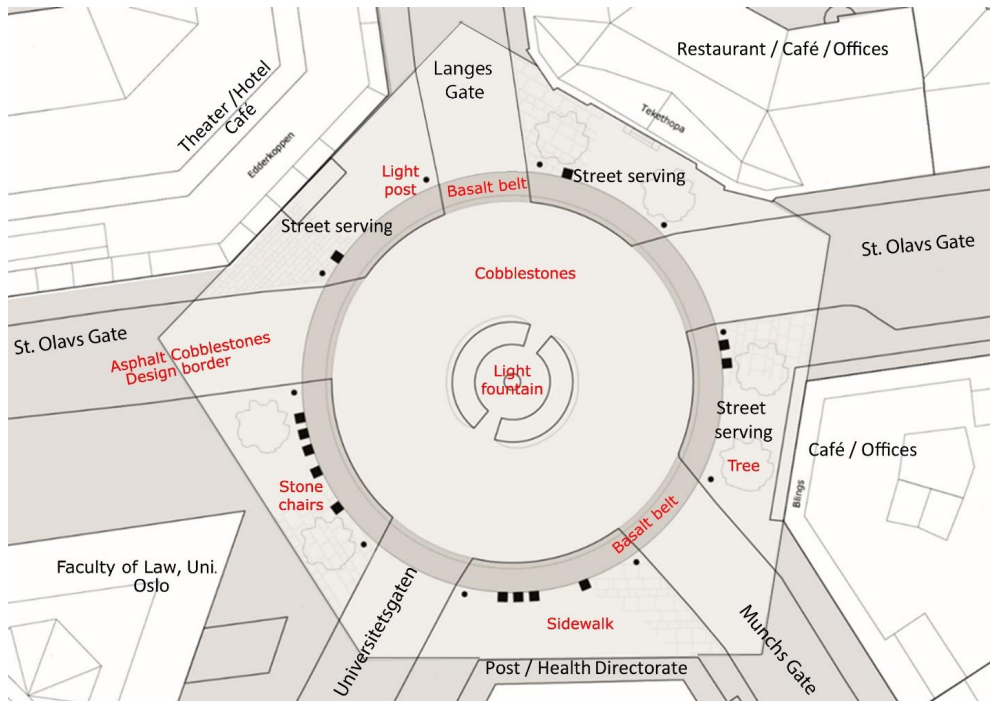
Figure 18. Sketch of StOp. Red text marks main design elements

Linking design elements and shared space's traffic functionality

StOp has three design characteristics that comply with most shared space design guidelines (See for example: Department for Transport, 2011; FGSV, 2011). The first characteristic is the absence of standard traffic regulation signage and markings. The second is the use of materials as alternatives to asphalt for the road area. The third is a levelled surface with a maximum 2 cm height difference between sidewalk and road.

The absence of signage and markings is a key feature of shared space design. It creates a strong contrast to conventional street design with signs and markings that have collectively known significations. The latter two characteristics in combination dissolve a clear segregation between the sidewalk and the road in a way that is unique to StOp, namely the 2.5 m wide dark basalt belt (Figure 18 and 19) which surrounds the square, crossing and covering sections of both the sidewalk and the road. In terms of traffic engineering,

Figure 19. The basalt belt

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this creates a certain ambivalence about the denotative meaning of this belt (see Paper Three). Half of the belt clearly covers road space, while half of it demarcates the 2 cm higher area between the stone chairs and the cobblestones (Figure 19). It can therefore be described as a kind of hybrid between a road and sidewalk. For example, many pedestrians who intend to cross the square follow the basalt belt, avoiding both the road and the longer route via the pedestrian sidewalk. The basalt belt is not free of motorised traffic, however. Many cars and delivery services StOp for a short time on the 2 cm high belt sections or drive over its edges, especially those cutting the corners when leaving the circle. The basalt belt also makes a difference in how cars and pedestrians negotiate the right of way in those sections where both elements intersect. While the outcome of right of way negotiations is hardly predictable on the cobblestone areas it is usually drivers who yield for pedestrians walking on the basalt belt. The basalt belt plays a key role in dissolving the clear borders of conventional street design.

The Light Fountain is an important design element that is not among the state of the art design suggestions in shared space design guidance, but nevertheless strongly influences how and why users share space on the square. The 15 m high sculpture in the centre of the square is a construction of metal plates hanging on steel wires in a conic pattern (Figure 20). At certain times, the art piece is illuminated by coloured light spots from within an orbital stone and glass construction beneath it. The light rays hit the metal plates hanging above, which in their turn reflect the light in different directions over the square.

Because of its attractiveness, the fountain extends pedestrian movement patterns over the road around the square. Hotel guests enter the road to stand and take pictures of the fountain and themselves. Employees in all buildings take breaks in the sculpture. Visitors at the little cafe in No. 3 consume what they have bought in the café in the fountain. Children climb it, balance on it, slide down the thick glass slope through which one can see the light spots. People sit or lie on the stone ring alone or together, having lunch, having a conversation, reading or using their mobile phones.

Papers Two and Three in this thesis highlight the importance of the light fountain for the socio-spatial dynamics of StOp. The fountain may be a major reason that users of different travel modes are willing to

Figure 20. The "light fountain"

share the surface of the square. It makes pedestrians enter and cross the road. A standard roundabout median would probably not have this effect, even though the rest of the square is designed based on shared space design principles. The fountain is not a typical shared space design element, but it plays a key role in supporting a behaviour that is the aim of shared space design. It also causes confusion in different ways, however. Some users interpret the sculpture as a roundabout median while other interpret it as an art piece on a pedestrian square accessible and usable in multiple ways (see Papers Two and Three).

This has important implications for the analysis of socio-spatiality. Without being a typical shared space design element, the light fountain is a key trigger for different travel modes to use the same road surface. Without the light fountain I would most likely have found a weaker impact of the shared space design, in terms of the movement patterns and sharing behaviour. As a result, it is not correct to ascribe sharing behaviour to the shared space design properties alone, just as it is not possible to ascribe StOp's socio-spatiality to the square's redesigned parts. It is, thus, a complicated task to isolate the effect that shared space design has on the socio-spatiality of the square. In the same way, it is a complicated task to isolate the shared space design as a factor influencing sociality. The implications of this are that this thesis cannot provide a clear cut answer to how shared space design per se influences socio-spatiality. Instead it explains how the design, *in this particular context*, (including the light-fountain, surrounding buildings and other influential factors) influences socio-spatiality.[10]

Figure 21. The "light fountain" in good weather

It is perhaps not possible to claim that the above shared space characteristics are the only reasons why different travel modes share the road on StOp. It is, though, possible to identify some indications that these elements encourage different traffic modes to share the area to which they all have access. One is the willingness of pedestrians to use the road for walking. Pedestrian counts on the 16th and 19th July 2013 indicated that almost every second pedestrian intending to reach the other side of the square decides to cross by walking over and along the drive way instead of keeping on the sidewalk or the basalt belt. Whether and to what extent this behaviour is a result of the shared space design characteristics, of other factors, or (most likely) a combination of different factors, cannot be answered by such a count, but it shows that pedestrians at StOp are willing to use the road. This is one key condition that is required for sharing to be possible.

Another indicator helps to judge whether the absence of signs at StOp is likely to encourage behaviour that is different from standard streets: the ratio of those left-turning car drivers that behave as if they are driving through a street junction (taking a direct left turn) and those behaving as if driving through a roundabout. StOp has no signs or markings that identify the square as a roundabout and it is therefore formally possible to take direct left turns. Exploratory counts of left turns from Langes gate into St Olavs gate showed that about one-third of left-turning cars take a direct turn and two-thirds follow the roundabout direction. As observations have shown, these different interpretations of the type of traffic

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[10] See also Appendix A, presenting selected diary entries about incidents linking different design elements and user behaviour.

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space StOp represents, cause frequent small conflicts not only between different travel modes, but also between any meeting parties with contradicting interpretations. This does not suggest that missing signage supports sharing behaviour, however, it rather indicates, in the special case of StOp, that different parties are forced to negotiate contradicting interpretations even if they use the same travel mode.

7. Papers

This chapter summarises the three papers and relates them to each other. Each of the three papers is summarised, their main contribution identified and their main problems discussed. This is followed by a synthesis to show how they complement each other and contribute to meeting the research needs articulated at the beginning of the thesis.

Paper One

Summary

The first paper investigates how shared space, representing an innovative urban design idea to generate sociality, is translated into a design concept for multi-functionality in the professional literature. It is concerned with the process of such ideas being passed on and translated in order to adjust them to prevailing ways of thought and practice. It sees this as a problem because this process of translation may, while making such ideas easier to implement, also distort them by removing their critical edge. The paper suggests the term *domestication* of challenging planning and design ideas, as a discourse analytical tool to examine this process. The term refers to conceptual adjustments that deprive ideas of their critical momentum in order to align them with dominant discourses. Ideas that are precarious and challenge dominant discourse are domesticated, in the sense that they are inhabited by prevailing thought and practice.

In the case of shared space, the relationship between the social and the spatial is translated into a functional unidirectional relationship in which physical design generates sociality The shared space literature does though not offer a clear answer to how such a social shift is enabled by the design. Rather, it implies these social improvements without elaborating on the socio-spatiality of the design idea. The leap from design to the envisioned sociality is not explained, only implied. One main finding is thus that the literature seems to bypass the lack of addressing this relationship. It does this by reformulating the idea in ways that fit better dominant ways of framing the social, as a mere function of public space.

The problem with domestication in the case of shared space is thus that it generates a design concept focusing on spatial performance, while the social implications of the design seem taken for granted. Consequently, the relationship between design and sociality remains elusive.

Main contribution

The paper is a contribution to academic debates about how planning ideas are not only adjusted, but sometimes compromised regarding their key intentionality to bring change to practice. The term *domestication* is suggested as an analytical concept to describe this process adequately, that is emphasising the loss of their critical momentum when ideas are incorporated and adapted to prevalent practice. The identification of domestication is a contribution to debates about how ideas emerge, how

they are passed on, translated and become part of prevailing thought and practice. This debate and research take place in the field of planning, but this insight is no less relevant for the field of urban design, which sits at the intersection theory and practice, like planning.

The paper also offers a contribution for planners and designers who work with shared space or related concepts. It gives them a critical perspective on design guidelines for such ideas and can encourage them to reflect and consider what the initial motivation behind planning and design ideas may have been before their adaptation to dominant discourse. The paper also underlines the importance of practitioners being vigilant about how innovative thought is adjusted to common practice and assumption.

Critical reflection

The term 'domestication' is not yet well developed as a concept in the context of how ideas are passed on and implemented by professionals. It is fair to ask why I do not, for example, use a term like 'standardisation', 'operationalisation', or simply 'professionalisation'. Such terms also describe the process of change that innovative ideas traverse when they are adjusted to common practice fairly well; however, while these processes may be part of domestication these terms do not highlight the possible loss of critical momentum that may result from the translation process. Nevertheless, the term needs stronger theoretical and empirical foundation.

There are also methodological shortcomings in the domestication paper. It is not very clear how domestication is traced in the empirical material, the literature about shared space. The reader may thus not be convinced that domestication really takes place. This links directly to the above problem of domestication lacking a clear definition, which causes the difficulty of identifying it precisely in the body of evidence. I am convinced, however, that a process like domestication is taking place not only in the case of the shared space idea, but also in many other cases, especially if the ideas challenge conventions of thought and practice in planning and design.

Paper Two

Summary

Paper Two is concerned with the weak understanding of socio-spatiality and an understanding of sociality as a self-evident product of design in the shared space literature. The paper tries to offer an alternative view by exploring socio-spatiality in a built shared space, St. Olavs plass in Oslo, Norway. It does this by operationalising a critical theorisation of socio-spatiality offered by Ash Amin (Amin, 2008). Amin presents a critical perspective on how many urban scholars have framed sociality in a way that is losing sight of its spatial and material embeddedness. Based on a perspective inspired by actor-network-theory, he introduces the term *situated multiplicity* to describe socio-spatiality in complex public urban space and presents different dimensions of this relationship, which he calls *resonances* of situated multiplicity.

The paper seeks to operationalise this approach by trying to identify these resonances in fieldwork data gathered through observations and interviews. The aim of using this perspective is to explore the socio-spatiality of shared space in a new way. I chose this approach because it has a strong focus on, and describes well, how the social and the spatial are interlaced and interdependent on each other in public urban space. Through this approach, the paper offers a new perspective on how a design like shared space

influences socio-spatiality and therefore offers a better ground to be able to understand the different forms sociality may take in shared space.

The main finding is that the interrelatedness of the social and the spatial does not comply with how the shared space literature presents the socialising effects of the design. Rather, users do not seem to behave as more socially aware or experience social responsibility due to the shared space design. Socio-spatiality on the square is characterised by uncertainty, ambiguity and user strategies to limit interaction as much as possible, most likely in order to be able to handle the complexity of the setting. While the square is popular, the mixing of traffic modes is not identified as a positive social experience.

Main contributions

The paper contributes to both scholarly debates about, and practitioners understanding of, the social dimensions of public space. It presents an attempt to operationalise a re-conceptualisation of socio-spatiality and thereby shows how one may understand Amin's rather abstract approach in the more concrete terms of users in built space.

For practitioners working with shared space, the paper suggest a new view of how the design works, one that is distinct from the main debates about it. This view also raises important questions about certain issues that have previously been under-addressed, such as the extent to which the design idea can generate the envisioned social qualities stated in most policies and design guidelines.

Critical reflection

Amin's resonances of situated multiplicity are used as an interpretative tool to investigate socio-spatiality, however, even though the concept of situated multiplicity builds on his previous larger work, the theoretical approach is somehow vague because it lacks reference to a strong empirical base. This makes it difficult to trace the resonances in the evidence. This problem came up when I was interpreting interview transcriptions simultaneously with a colleague who independently (but familiar with Amin's work) undertook the same analysis. Even though we had agreed that we had a similar understanding of Amin's theoretical framework, there were some clear discrepancies in how we interpreted the interview transcriptions, but there was also strong agreement. Most disagreement concerned those resonances that were less clearly formulated by Amin.

Amin's approach also has a tendency to conflate the spatial and the social, because he makes such a strong claim about the social as a phenomenon that cannot be understood without an analysis of its spatial and material situatedness. In his view, which is in line with Actor Network Theory, the sociality cannot be understood without an analysis of how people sense and interpret the built environment. From this perspective the physical environment is the mediator of social relations. This approach influenced my analysis temporarily in so far as I tended to conflate the terms sociality and socio-spatiality in my reflections.

Paper Three

Summary

The third paper aims to offer a better understanding of how shared space design influences socio-spatiality in built space. Viewing shared space representing an intention to change how people make meaning of a streetscape, the paper suggests geosemiotics (based on Scollon & Scollon, 2003) as a fruitful

approach to meet this aim. The approach offers an analysis of three different interrelated semiotic systems that the shared space design aims to alter. These three systems are called *interaction order semiotics* (how people make meaning of other people and what they do), *visual semiotics* (meaning-making of intentionally placed signs, such as traffic signs or advertisements), and *place semiotics* (meaning-making of spatial design and layout).

The paper analyses the interplay of all three systems at St. Olavs plass in Oslo, drawing on three different sources of evidence, a survey, on-site observations and in-depth interviews with daily users. It analyses each of these sources in terms of the three different semiotic systems and how they interplay.

The analysis shows that all three semiotic systems are interdependent and that their dynamic relationship makes socio-spatiality change steadily. For example, many users are ambivalent about place semiotics, not being sure whether the square is a roundabout or not, or whether it is a pedestrian zone or not. This causes a steady fluctuation of the interaction order because users act in many contrasting and sometimes conflicting ways. For example, as a result of this fluctuation the square's appearance as a relaxed meeting point can suddenly change to that of a busy traffic intersection.

The fluctuating character of the socio-spatiality of shared space is not acknowledged in the existing shared space literature. It is, however, likely that this character is especially favoured on StOp through design elements that are not typical for shared space. The main one of those is the light fountain, which is interpreted and used in multiple ways. The sculpture seems to not only support but actually enable the vivid semiotic dynamics at play on StOp. This finding makes it reasonable to conclude that without the attractiveness of the light fountain, less sharing of different traffic modes would take place on StOp, despite its shared space design properties.

Main contribution

Framing shared space in geosemiotic terms is a contribution to shared space debates because it is distinct from existing work and presents new understanding. The approach highlights the interplay of the diverse semiotic systems at work when users make meaning of design and could also be used for any other study of socio-spatiality in urban space. Identifying and highlighting the interrelatedness of these systems is helpful to establish a comprehensive and systematic view of how a design may influence socio-spatiality.

The finding that there are other important elements than only the shared space design properties at play is also a contribution. It demonstrates the dependency of shared space on additional design elements that generate a wish to use and occupy the space that is supposed to be shared. This may have further implications for further implementation of the idea, such as the consideration of such elements in design guidelines.

Critical reflection

The main problem of this paper was of a methodological nature. The observer statements about meaning-making are based on their interpretation of empirical material that is not explicit about how people make meaning of their environment, but only shows the outcome of this process. This outcome indicates, however, how observers understand a setting. The different methods used (observations, survey, interviews) also give different perspectives that can support, or correct the interpretation of each of these sources.

Synthesis of papers

If design is driven by the intention to influence the social, then understanding socio-spatiality matters. In this thesis, I investigate the phenomenon of socio-spatiality in an urban design context at two interrelated levels, the level of professional discourse and the level of built space, through the case of shared space. The thesis addresses the problem that, while urban design practice recognises that a causal relationship exists between the social and the spatial, knowledge of this relationship is elusive.

Design ideas, like shared space, that try to mobilise critical thought and practice regarding this relationship are often watered down in the process of translating and adapting them to prevailing thought and practice. The first paper I wrote suggests a concept to describe and explain this process: the domestication of new planning and design ideas. Domestication is less about how shared space should be designed, than about the rationale behind the idea and its justification in the face of established practice. It reframes the shared space idea as a solution to technical issues; those issues that are of valid concerns in dominant discourses. This gives the idea professional recognition, and therefore, one can interpret this process as a strategy to implement ideas into common practice. It equips the idea with recognised lingua but thereby also fails to bring critical theoretical and empirical attention regarding socio-spatiality into professional discourse. The first paper finds that socio-spatiality, rather than being mobilised as a major concern for street design, is side-lined through domestication.

This finding from Paper One was the main reason that I identified a need to investigate socio-spatiality in a built shared space. Domestication seemed to mainly strengthen the attention towards technical and business-as-usual concerns in traffic management, while the issue socio-spatiality was largely left unattended. The positive social implications of the design seemed to be taken for granted, but only based on an elusive and vague understanding. Hence, shared space literature only weakly examines the idea with regard to existing theory and research on the urban social and its dialectical relationship with the spatial. I therefore wished to consult this theory and existing investigation methods, to better understand how the design influences socio-spatiality and to contribute to the presently vague understanding of this phenomenon in professional discourse.

Papers Two and Three identify a socio-spatiality that diverges from how it is represented in most shared space texts. They support each other and show that the social in shared space can take many forms because socio-spatiality is unstable, contested and dynamic. The design has the potential to activate this dynamic to a stronger degree than more standardised and rigid designs that limit user agency. StOp, as a shared space supported by other design elements, invites different interpretations of socio-spatiality by multiple users. To use Amin's terms, this shared space 'situates multiplicity'. This understanding of socio-spatiality is not in line with the representations of socially homogeneous citizens from most shared space literature.

Amin's approach of situated multiplicity seems, however, to pre-assume that socio-spatiality is in constant change. Therefore, I concluded from Paper Two that this approach does not offer a satisfying answer to the question of *why* these dynamics are so strong and therefor such an important aspect to consider for understanding shared space, or any other urban space. Further, Amin's resonances of situated multiplicity are abstract and imprecisely defined, and therefore it is difficult to identify them in real world situations. Even though the approach offers a new and fruitful view of socio-spatiality in shared space it is too vague to clearly describe and possibly explain how and why socio-spatiality in shared space takes certain forms. The approach made me, though, consider that a semiotic perspective could help to understand in a more

nuanced way how users perceive and understand socio-spatiality in terms of meaning-making. This was why I embarked with a geosemiotic analysis of socio-spatiality, to complement the perspective that the second paper had already established. Geosemiotics turned out to be a promising approach to making socio-spatiality more researchable.

Overall, the three papers investigate two different interrelated dimensions of socio-spatiality within the context of an urban design idea. The first is the discourse dimension, focusing on the conceptualisation of the phenomenon in the professional realm. The second is a daily life world dimension focusing on people's experience and meaning-making of socio-spatiality. The first is critical in how socio-spatiality is thought of by professionals, and the second about how it unfolds in built space. It is important to consider both dimensions as interrelated, because discourse influences how space is built and vice versa. Nuanced knowledge about socio-spatiality is needed to inform professional discourse, especially regarding the development of new design ideas intending to change sociality in urban space, yet these different levels are usually treated separately both in research and practice. The three papers I wrote about the shared idea as an intention to alter socio-spatiality support a comprehensive understanding of how these levels relate to each other. This is necessary to understand the challenges urban design faces, as a field sitting at the intersection of these levels.

8. Conclusions

The point of departure of this PhD project was a concern with how weakly socio-spatiality is treated in literature about shared space, notwithstanding that this idea is based on intentions to bring a shift to how people experience the sociality of urban space. In shared space literature, socio-spatiality seemed to be under-researched both theoretically and empirically. I thus identified a research need to investigate socio-spatiality on two interrelated levels, the level of professional discourse and the level of built space. The research aim was two-sided, firstly, to reveal how design ideas like shared space are adapted to dominant discourses in urban design practice and, secondly, to develop new knowledge about socio-spatiality in built shared space. The findings from both investigations should be relevant to shared space debates regarding both theory and practice. This led to the formulations of two research questions, of which the latter was motivated by the findings of the former in the following way:

The first question asked how design ideas, intending to produce sociality, are influenced by dominant discourses in the process of their adoption by the professional field. The analysis of the professional literature about shared space answered this first research question. Shared space is an example of a design idea that is translated and adjusted in order to adapt it to dominant discourses. In my first paper, I suggest the concept of *domestication* to describe and explain this process, highlighting how this process involves the loss of the critical momentum of the idea: the way it challenges prevailing understandings of socio-spatiality. The literature representing a domesticated version of shared space tends to focus mainly on the instrumental and functional issues of the design, but takes for granted that the design has positive implications for sociality, and bypasses a critical engagement with how this works.

Hence, the second research question: How does socio-spatiality unfold in built space designed to produce sociality. This question was investigated through two different but compatible approaches to examine socio-spatiality in urban space; Amin's theorisation about 'situated multiplicity' and the Scollon's geosemiotic methodology to discover and describe their 'discourses in place'. The findings give rise to

criticism of existing shared space literature regarding the partial and uncritical way it represents the effects of shared space design on sociality.

The socio-spatiality of StOp is not stable and homogeneous, but characterised by two interrelated key aspects that are typically left silent in shared space accounts. The first is the agency of users, who are not only experiencing socio-spatiality, but are themselves part of and continuously reproducing it. The second is that this continuous reproduction is subjected to continuous contestation and friction, because of users' different ways of making meaning of an ambivalent design and the ambivalent and diverse behaviours of others. This leads to a socio-spatiality in which social interaction does not simply lead to collective agreement and the maintenance of an overall self-organising order. Social interaction is characterised by contestation and negotiation of diverse and conflicting interpretations of an order that is continuously changing its shape. The result is that StOp appears to have many different faces when observed over longer periods of time. Most shared space design literature does not acknowledge this, but rather ascribes a sense of stability and permanence to the socio-spatiality of shared space.

Furthermore, people on StOp try to minimise direct social interaction. The seemingly passive togetherness of people in urban space and their diverse little techniques to deal with difference and confrontation should, however, not necessarily be regarded as a weakness of sociality in urban space. Rather, several theorists have identified it as a necessary condition to make social life possible in urban space, for example seeing it as a sign of tolerance enabling the coexistence of different interpretations and diverse behaviours (Amin, 2012; Goffmann, 1971a; Hajer & Reijndorp, 2001; Jacobs, 1965; Jensen, 2013; Sennett, 2006).

The Level One investigation and findings are a scientific contribution to scholarly debates about traveling ideas in planning. These debates are concerned with how ideas travel, how they are passed on and translated in order to adjust them to prevailing thought and practice (Healey, 2011; Lennon, 2015; Tait & Jensen, 2007; van Duinen, 2015). The thesis contributes to these debates, because it offers a new way of seeing this process as the domestication of ideas.

Investigating the shared space idea in this way is also a contribution to the academic urban design field, related to debates about the interface of academia and practice. It highlights and clarifies, through the particularly clear case of shared space, the difficulties that professionals encounter in their attempts to implement new ideas and critical thought into practice. Urban design is no less affected by domestication than planning. This is why the planning research about traveling ideas is of key importance here too.

The societal contribution of this critical engagement with professional discourse is that it may influence urban design practice. It supports and demands a more reflective and critical awareness of the urban design profession, particularly regarding its aim to implement innovative and challenging design ideas like shared space. This awareness can help to develop a design practice that is more open to innovation. It seems plausible that planners and designers that are on guard regarding domestication would be more likely to reflect critically on the specific rationales that drive ideas and cause them to emerge in the first place.

The scientific contribution of the Level Two investigation lies in connecting critical theorisation of socio-spatiality with a particularly clear case. The empirical research identifies StOp as a case that supports existing theorisation about how users play an active role in making socio-spatiality unfold. The case shows agency and the dynamic nature of socio-spatiality in a particularly clear way. This supports a more

nuanced understanding of socio-spatiality, for those scholars that are particularly interested in the nature of the social in urban space, and for those practitioners who plan and design with the social in mind.

I try to offer this nuanced understanding by exploring different, complementary perspectives to learn about socio-spatiality in shared space. Amin's approach of situated multiplicity has not been operationalised for the analysis of socio-spatiality in a real world setting before. This is a contribution to urban critical geography debates about the urban social, to which Amin's work belongs. In addition, it is a contribution to empirical urban research, because it presents a fruitful experiment of implementing theorisation about the urban social into practical research. Geosemiotics not only complement this operationalisation of Amin's theoretical concepts. They present a more straightforward way of empirically engaging with socio-spatiality, making it more conceivable than the somewhat abstract concepts Amin offers. The geosemiotic investigation of StOp is also a contribution to the scientific field of social semiotics. It adds a particularly clear case to the existing corpus of semiotic studies on social interaction in the context of a design that explicitly aims to influence how people make meaning of and react to urban design.

The societal contribution of these findings, at the built space level, lies mainly in better understanding the social implications of shared space design. For designers, there is much to learn from StOp about socio-spatiality. The research highlights nuances that do at first sight not resonate so well with how shared space has been represented in literature. I would, however, conclude that the passive togetherness and the dynamic and unpredictable appearance of socio-spatiality at StOp should be seen as a success in terms of urban life - in Hajer's and Reijndorp's (2001) words as indicators of a well functioning 'public domain'. The design of the square allows for socio-spatiality to change and adjust to the prevailing needs of different users, who become active participants in influencing socio-spatiality. Slight disruptions, bewilderment, misunderstandings and change are signs of this flexibility rather than signs of failure. This knowledge may put shared space in a different light, contrasting from existing accounts about the idea, but not necessarily in a negative sense. It is knowledge for professionals who work with shared space and may encourage them to give socio-spatiality a stronger voice in the debates about the idea, and possibly other design ideas.

Apart from making the above contributions, the findings of this thesis point to a need for further research. The domestication of planning and design ideas is an interesting concept asking for further investigation, for example to answer questions like: Why does it happen? What are the precise mechanisms of domestication, e.g. when and where does it happen? How do professionals engage with and pass on understandings of socio-spatiality? Is domestication desirable? Or does it have benefits and drawbacks that can be improved? Researching and answering such questions critically can help to uncover issues in planning and design processes that would otherwise remain unnoticed.

Further research is also needed on socio-spatiality in built space. While the human-environment relationship is the subject of research in many academic disciplines, such as environmental psychology and social anthropology, this knowledge is still not sufficiently integrated into the urban design field. Geosemiotics are one way of bringing this integration forward. The approach is particularly useful because it focuses on the relationship between the social and the spatial without conflating these analytical entities. The strength of such an approach for analysis of urban space is that it considers users' meaning-making in a given context and therefore reveals diverse interpretations and design possibilities. In other words, the approach makes user understandings of socio-spatiality more visible than policy-flawed

representations of socio-spatiality. I thus recommend the application of this approach to more studies of socio-spatiality in different settings, because it is a research approach open for multiple methods and because it is comprehensive and open for integrating different disciplinary perspectives.

In summary, the two-sided research aim stated at the beginning of the thesis has been achieved: The research shows how a weak understanding of socio-spatiality can weaken design ideas and make them prone to domestication. Reframing shared space as a special case of socio-spatiality made it possible to critically analyse this process. The analysis of socio-spatiality in built shared space helped to gain new nuanced knowledge about this relationship.

What does this add up to in terms of an overall conclusion? The production of urban space is ongoing, and urban design, as a profession and an academic field, plays a key role in this enterprise. An elusive understanding of socio-spatiality, however, makes practice poorly equipped for intervening in socio-spatiality. The architects of StOp had a vision to create a square resembling a southern European plaza, however, they did not suspect that users would behave and use the square in the particular ways they do today, and they claim that they were positively surprised by the outcome of their design experiment (interview with ACK architects). If the intention in urban design to improve the social in urban space is not to be a random undertaking, it matters that both scientists and practitioners pay attention to the dialectical relationship of the social and the spatial. This is where this thesis makes a contribution, exploring different theoretical and methodological ways of learning about this phenomenon.

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Paper One

The domestication of planning ideas – the case of Shared Space

Abstract

New planning ideas of diverse types, ranging from new design concepts to large-scale development policies, are inherently challenging because they involve changes to prevailing thought and practice. As they are passed on, though, they are subjected to translation, adjusting them to discourses prevailing in different contexts, and often resulting in conceptual distortion. This paper seeks to contribute to the theorization of the translation of planning ideas, by proposing the concept of domestication as a means of understanding such distortion. An analysis of one such challenging idea - 'Shared Space' - serves to illustrate this concept and assess its usefulness.

key words

planning ideas, translation of ideas, domestication of ideas, discourse, Shared Space

Introduction

It is in the nature of new planning ideas that they pose a challenge to prevalent thought and practice. Some ideas are quite radical and may go so far as to largely question the conceptual basis of long established and institutionalized practices. Shared Space design for urban streets is one such idea, countering hegemonic discourse and proposing an alternative understanding of what a street actually is and on what principles it should be planned and designed. In simple and provocative terms, the idea advocates the abandonment of conventional means of traffic regulation. It promotes the view that engineered control of traffic in central urban streets is widely redundant because it suppresses urban spaces' sociality. In its most radical understanding, the idea suggests a reconceptualization of public space. It argues that understanding and working with that space should have its point of departure in urban sociality, rather than in issues like safety and efficiency (Engwicht, 2005; Ben Hamilton-Baillie, 2008a; Pilz, 2011). These issues are rather expected to naturally fall into place as beneficial side effects of planning and designing for sociality. The idea rejects the marginalization of social space to certain areas, going against the common approach of segregating central urban space into functional categories based on transport engineering principles.

In recent years, the Shared Space idea has found so much support that it has become central to professional debate in urban planning, especially within traffic planning, on an international scale. While the Shared Space idea gets passed on and debated, it gets subjected to discursive processes of conceptual translation. A range of scholars (Franklin & Tait, 2002; Healey, 2012; Lennon, 2015; M. Tait & Jensen, 2007; van Duinen, 2015) have investigated the problematic sides of ideas being translated in that way. Following their theorizing this paper argues that these processes can change ideas so much that they lose their core meaning.

Planning ideas get often "packed up" (Healey, 2012, p. 195) and passed on as planning tools and solutions to legitimate planning problems. In that sense, these ideas travel (Healey, 2012; Tait & Jensen, 2007), not only geographically, but also within a multidisciplinary professional realm and

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across disciplinary anchored ways of thinking. During this process of translation into transferrable and universally applicable concepts, such ideas may get distorted so that they "lose their critical edge" (ibid. p. 195). This weakens the ideas as a means to bring about the shift they were intended to achieve in the first place.

Focusing on this problem, the purpose of this paper is to offer a new theoretical concept, domestication, and explore it as an analytical tool, complementing existing theorization about the translation of ideas. By doing this it contributes to a better understanding of what is at stake when planning ideas are translated. The concept of domestication highlights not only that existing thinking and practice tend to contain ideas, but puts a focus on distortion, helping to get a better grip of what is at stake in these translation processes.

The Shared Space idea serves as a good case to explore the domestication concept. It illustrates this process, which also some authors writing about Shared Space have noted Besley, for example, laments that the idea is too commonly understood as a mere design solution, while its wider implications, such as a "new direction in thinking about the public realm" (Besley, 2010, p. 20) are out of sight. She claims, therefore, that increased focus should be placed on the "more progressive and philosophical beginnings" (ibid. p. 2) of the idea. Her critique is that the implementation debate over the idea suffers from an overemphasis on mere design perspectives leading to the marginalization of the original intentions behind the Shared Space idea.

Understandings and definitions of Shared Space range from it being a planning philosophy to a street design template. From a purely technical perspective, Shared Space is a design solution for streets and squares mostly in central town or urban areas. Many Shared Space schemes are characterized by an open streetscape, which does not segregate different transport modes, with a leveled surface and a minimized use of standardized devices for traffic control like surface markings, curbs, signals, handrails or traffic signs. Put bluntly, the most challenging aspect of the idea is that it claims to serve as a catalyst for socio-spatial self-organization, making conventional traffic engineering redundant.

Since its pioneers presented the idea (Hamilton-Baillie, B., & Jones, P., 2005; Shared Space, 2005: Shared Space, 2008a; Karndacharuk, Wilson, & Dunn, 2014) it has been passed on within the planning field on local, national and international scale. Wherever it arrives, it triggers much debate both among experts and in a wider public context. These debates have prompted the production of texts about the idea, such as academic articles, reports, guidelines and policy. As an essential part of professional discourse, these texts provide an empirical base for tracing domestication.

The following section explains the concept of domestication in more depth and relates it to other existing approaches engaging with the processes of planning ideas being translated. A succeeding section gives a short overview of the different methodological steps of this study. The next section looks more closely at the example of the Shared Space idea, firstly explaining more detailed in what way it challenges current thought and practice and, secondly, showing how domestication works on that challenge. The concluding discussion summarizes the paper and raises some critical questions regarding the domestication concept.

Theoretical framework about the domestication of ideas

This section outlines the theoretical basis for the concept of domestication of challenging planning ideas. This concept should not be confused with domestication theory in science and technology studies who research how people adopt new technologies and make them part of their everyday life. These studies highlight the role of users in constructing meaning about, and identifying the status, new technologies have in their daily life (see for example Berker, T. et. al 2007 or Sørensen, 2006). Distinct from that, I use the concept to address the process of how design and planning ideas get adopted and circulate within a professional realm. It contributes to other existing approaches studying this process (Beauregard, 2005; Healey, 2012; Kooij, Van Assche, & Lagendijk, 2014; Lennon, 2015; Malcolm Tait & Campbell, 2000; van Duinen, 2015). These accounts vary in their use of the terms 'concept' and 'idea'. This paper views planning 'ideas' as a more general phenomenon than planning 'concepts', which I rather see as one type of idea. Other different types of planning ideas, as mentioned by Healey (2012), can appear as spatial form, planning instruments, governance processes, analytical tools and theories, all aiming to influence planning practice directly or indirectly. The scales of planning ideas range widely, from abstract and general policy levels, such as compact cities or urban villages, to more specific ones, even in the form of detailed design concepts for certain kinds of urban structures, such as Shared Space.

Regarding the question whether to refer to such ideas as 'innovative', 'challenging' or simply 'new', this paper takes the perspective that emerging planning ideas inherently carry something that challenges present ways of thinking and acting. This distinguishes them from prevailing ideas. Yet, it is not entirely adequate to associate them with newness, because challenging planning ideas, such as the one presented here, often build on older ideas, bringing them back to the surface of debate. Rather than arguing whether an idea is new or not, I want to highlight that emerging ideas suggest change in current thought and practice. In order to do so an idea does not necessarily need to be innovative, in the sense of presenting something new that has not been around before.

Healey (2012) theorizes that modern planning, including the emergence and passing on of planning ideas, tends to be driven by a motivation to offer universally applicable solutions. She warns that this underlying tendency may make planning ideas lose their critical edge. However, Healey addresses this as a general concern to prompt practitioners to be critical and reflective in handling ideas, but does not look in depth into these processes of translation. Tait and Jensen provide the concept of traveling ideas (Tait & Jensen, 2007) as a theoretical approach that aims to "provide a framework of how planners' ideas are disseminated and to understand their ability to insert them in diverse places and spaces" (p. 108). Drawing on Actor Network Theory and discourse analytical concepts, Tait and Jensen theorize the process of how planning ideas get mobilized and translated in order to become embedded in new contexts. Their main focus is on the work and the mechanisms behind the process of embedding ideas in a given context. An important understanding from their work is that planning ideas do not simply get passed on over distance and applied in different locations. Rather, much work needs to be done, on the one hand to make the ideas transferrable, and on the other to make the actors at the respective destination receptive for them. In other words, in order to transfer planning ideas to other places they first need to get 'de-contextualized' and later 're-contextualized' in the process of translation (Czarniawska & Joerges, 1996, p. 26). Tait and Jensen (2007) partly build their theorizing on Csarniawska and Joerges' concepts, but call these processes 'disembedding' and 'reembedding' of ideas, thereby avoiding the theoretically problematic claim that ideas can be context-less.

These approaches are useful in highlighting that translation goes on and helps to define the process of and the dynamics behind the dissemination of ideas. However, they can be strengthened by a more critical perspective focusing on what is at stake in these processes. Such a perspective is taken by van Duinen (2015). She questions the position that planning ideas (calling them innovative concepts) are by default powerful tools to bring innovative momentum into policy arenas. Van Duinen argues that they tend to become "encased" (ibid. p.2) in traditional planning discourse, ultimately losing much of their initial challenge. One important reason for this, she explains in line with Tait and Jensen, is that innovative planning ideas depend on support from different actors in order to gain momentum. This support is gained by presenting the respective idea in terms familiar to existing discourses, as an answer to known problems, thereby altering the persuasiveness of the idea. Therefore, the "curbing" (ibid. p. 18) of innovative ideas seems to be an inevitable trade-off process in which the innovative momentum of the idea itself is at stake. Lennon, also taking a discursive perspective, calls this process giving "currency" to innovative policy concepts (Lennon, 2015). In contrast to van Duinen, he presents the discursive transformation of ideas as strategies that gives them persuasiveness and as a precondition for innovative ideas to gain momentum.

In this paper, I introduce and explore a new analytical perspective to these studies, the domestication of planning ideas (footnote 1 deleted). Domestication addresses the process in which new planning and design ideas get adjusted to prevailing thought and practice in the professional realm in such a way that they lose their critical momentum. As an analytical perspective, the concept is of use to focus on identifying this critical momentum. Applying a domestication perspective means to investigate the process of adjustments of ideas asking two core questions: First, in what way does the respective idea challenge prevailing thought and practice in the professional realm? Second, how do professional versions of the idea translate and represent this challenge?

Since domestication takes place in the professional realm it is not bound to a fixed geographical context or scale. It can have local, national and international dimensions. Distinct to that, the above contributions focus mainly on local, and often political, struggles of implementation affecting how ideas get implemented into the respective context. They focus on the translation of ideas from a theoretical level to the implemented level. The domestication perspective rather addresses how idea change being passed on within the professional realm. However, this does not mean that domestication is context-less, or that professional discourses are not also political. I rather intend to narrow the focus on the community of professional actors I consider as key players in defining and representing expert knowledge. These are architects, planners with different expertise, engineers, project managers, consultants, planning agents and other kinds of specialists involved in producing and realizing plans. Other important actors are politicians, interest groups and the public, but this paper focuses on professionals.

I am aware though, that However, even though I narrow my analytical focus on the professional realm I do not think of domestication as a process, which is driven by a single actor's or group's intention. Rather, as I explain the following sub-section I see domestication as a discourse analytical perspective.

Domestication as a discourse analytical perspective

Domestication highlights that ideas do not just get translated as to find expression in professional terms. Rather, to some degree inevitably, they get adjusted towards established disciplinary ways of thinking. In order to gain legitimacy an idea needs to fulfill certain conceptual criteria, which are not without values and judgment over how things should work. Domestication emphasizes that the fit to existing discourse through translation can be a problem if ideas get softened out so much that they lose their initial meaning of bringing change. Here, discourse is understood as a dynamic process shaping and enabling social reality (Jäger & Maier, 2009), e.g. how we think, talk and act about certain phenomena, for example in the field of planning, or one of its subfields. A single discourse may be constituted by a collective stock or reservoir of knowledge (Keller, 2011) shared and reproduced within a certain group of actors, for example actors who daily engage in planning on a professional level. Thus, discourse also influences how these actors, sharing such a reservoir of knowledge, think, talk and act upon upcoming ideas.

However, there exists not only a single discourse, enabling a single social reality. Rather, multiple different discourses coexist, get entangled with and influence each other (Jäger & Maier, 2009). The understanding of multiple interacting discourses leans on Foucault's notion of plurality of discourses and their interdependency, as explained by Hajer (1995). I argue in this paper that a dynamic interplay of discourses takes place when ideas get passed on and translated. Van Duinen follows Kooij et al. (2014) in arguing that "open concepts" (p. 84) are particularly prone to change by this interplay because they are vague and flexible, serving as "enablers" (p. 84) for already existing discourses.

In the process of domestication existing discourses re-frame an idea using recognized terms, legitimize it as playing a role in the wider professional and public debate, and eventually become part of it. Due to that professional recognition, discourses convey credibility of knowledge and persuasiveness of arguments. In that sense ideas can serve as vehicles for discourses (Biddulph, Franklin, & Tait, 2003; Kooij et al., 2014) and vice versa. Using the domestication concept for analysis means to puts high attention to the outcome of this process, asking critically for how much of an ideas' initial potential to bring change is left after the process of translation.

I assume in this paper that planning ideas are never value neutral, but promote a certain agenda, built on certain assumptions. The degree of how much this challenges common practice varies and so does the degree of domestication. However, it is possibly more likely to happen when ideas encounter planning fields characterized by strong political agendas and disciplinary traditions. This is the case in the field of transport planning, which this paper uses as an example. This subfield of planning is strongly dominated by engineering disciplines guided by instrumental approaches that have shown to be strongly resistant to attempts of conceptual and methodological change. Many scholars have noted this persistence of transport planning, being particularly strong in determining the validity of methods and recognized types of knowledge in the field (Flyvbjerg, 2007; Packer, 2003; Røe, 2000; Sheller, 2011; Urry, 2004). This knowledge is typically presented in terms of already widely accepted techniques and approaches, as a rhetorical means in reducing uncertainty and making the future appear more manageable (Langmyhr, 2000, p.673)[1]. This

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[1] Langmyhr refers to the mediation of transport policy to the public and diverse stakeholders, in the process of negotiating transport planning policy and to communicate decisions for large transport projects. I argue in this paper that such rhetorical mechanisms are not only at work when it comes to the framing of large transport projects, but also regarding the negotiation of challenging ideas.

includes the framing of certain transport planning problems with professional and seemingly universally applied terminology. Examples are problems like the lack of congestion, traffic migration or simply lack of traffic safety.

This framing has important implications for my argument about disciplinary domestication in this paper. It means that, in order to gain recognition within transport planning, a challenging idea has to be framed as a solution to professionally recognized problems in order to attain Lennon's "currency" (2015, p.1) within this particular field. From this perspective, domestication seems almost inevitable, for example, where ideas like Shared Space challenge existing approaches to governance of public space and ultimately question prevailing power constellations.

Examples of typical practices contributing to domestication are mapping, designing and developing alternatives, formulating policy, conducting planning processes, conducting impact assessments, writing planning documents and developing guidelines. These practices leaves traces of domestication in the form of text. Text mirrors commonly recognized ways of knowing and create "particular forms of knowledge, providing legitimacy for particular spatial strategies" (Richardson & Jensen, 2003, p.12). I regard these texts as attempts to reframe ideas because they reflect prevailing values, widespread terminology, or references to legitimate methods and sources of knowledge.

Important for the case of Shared Space, translating the idea includes the simplification of those elements that do not fit to dominant discourses. Meanwhile, other parts of the idea, that meet well with prevailing approaches and methods, are emphasized, partly as a result of advocates seeking to provide counterevidence to criticism. Existing ways of thinking and acting can be so formative of the translated version that they overshadow the challenging element of the respective idea.

Method – detecting domestication in texts

Debate and efforts to realize Shared Space projects in different parts of the world (predominantly in North-Western Europe and to a lesser degree in Australia, New Zealand, the US and Canada) have led to the production of a text corpus about the idea. Even though often related to single projects or national debates this literature is part of a knowledge pool where the idea circulates on an international scale. Hence, it presents the empirical base of this paper, limited to texts produced by professionals involved in planning and designing, or researching Shared Space (see table 1 and appendix 1 for a more detailed overview).

To begin with, the data collection focused on finding reviewed articles and published conference papers about Shared Space. Further, I followed references within these texts, including references to reports, policy and guidelines about shared space, until no new reference that would promise further insight could be found. This snowball building approach was used to follow up most leads, until the corpus of texts was assumed to be big enough for a robust and comprehensive analysis, e.g. new references became rare and no new understanding would be gained by following further leads. Because of the strategy to follow references this approach made sure that I would be able to identify the most central references within this text knowledge pool.

Thus, the empirical base of this paper is a collection of about 82 documents having the Shared Space idea as a main topic and are written from a professional perspective (see table 1). The texts are very heterogeneous, not only with regard to their different approaches towards Shared Space

but also with regard to their different types such as policy, official guidelines, scientific article, conference paper or case collection.

Table 1. Type and number of texts analyzed regarding domestication

Type of text	Number of texts
Reports, policy and guidelines	30
Journal Articles	15
Papers (conference papers, lectures etc.)	17
Books	1 (17 contributions)
Thesis	3
All	66 (82 contributions)

Public media articles or statements from politicians or personal actors are excluded from this selection of texts. The main reason is that this paper focuses on texts from actors that are, due to their professional position, key players in the process of domesticating the Shared Space idea. Other actors, like politicians, do certainly influence practice and perspectives within the field, but I consider expert texts to reflect professional discourse in a more direct way. Another factor limiting the scope of the literature search was language. The texts I could read where either in English, German, Norwegian, Swedish or Danish.

All texts fall somewhere in between the two extremes of being a challenge to common thought practice on the one hand and a domesticated version on the other. Thus, a text in which a fitted in version figures strongly may nevertheless have traces of challenging non-domesticated elements, and vice versa. However, different perspectives may be differently emphasized and a critical interrogation helps to sort out to which version is more explicit.

My critical interrogation of each individual text had its point of departure in examining the above texts regarding two key questions I presented in the previous sections. These sections are one possible way to identify discursive elements linked to domestication in the text corpus:

- How the shared space idea challenges prevailing thought and practice in the professional realm?
- How do professional versions of the respective idea translate and represent this challenge?

I also articulated two sub-questions to sharpen the focus of the second above question, based on the specific challenge of the shared space idea (see next section):

- How are the *users* of space represented?

This question helps to trace domestication because in typical transport planning terms users are represented as technical and quantifiable units. On the other hand, a more socially oriented account

views users in cultural terms, needs and activities and in terms of social relations. The second question was

- How is *public urban space* represented?

An emphasis on functionality, space as a technical unit or as a spatial resource, indicates a tendency towards domestication. An emphasis on urban space as a resource for social activity, communication, or arena of cultural productivity rather indicates a less domesticated version.

Thus, the interpretative analysis of these texts focuses on determining whether and in what way each particular text reframes the idea and to what extent it simplifies, marginalizes or downplays the challenging elements of Shared Space.

The challenge of Shared Space

This section identifies the challenge of Shared Space to current thought and practice in transport planning. A sub-section gives examples of how evidence of domestication was found in the text corpus.

Many accounts of the Shared Space idea link its conceptual roots to the Dutch street design concept of the *woonerf*, dating back to the late 1960s and early 1970s and associated with Joost Vàhl as one of the pioneers who practiced "the deliberate integration of traffic into social space" (Hamilton -Baillie, 2008a, p. 166). The Dutch traffic engineer Hans Monderman is often presented as the pioneer of actually realizing the first Shared Space projects.

On an international scale, Hans Monderman and his colleagues launched the *European Shared Space project* as part of the INTERREG IIIB North Sea Region Program of the European Union. From 2004 to 2008, seven municipalities in Belgium, Denmark, Germany, England and the Netherlands designed and built pilot schemes, generating an experience pool labeled as Shared Space test cases. Subsequently the concept was propagated and introduced to different parts of the world, with most resonance in countries being part of the project, and neighboring countries. While the notion of shared streets has been around for a longer time in the field (Karndacharuk, Wilson, & Dunn, 2014), the term S*hared Space* as such can be regarded as an outcome of the dialogue between the British transport planner Ben Hamilton-Baillie and Hans Monderman. Subsequently Hamilton-Baillie published some of the most frequently referred texts about the idea (Hamilton-Baillie, 2008a, 2008b; Hamilton-Baillie & Jones, 2005).

Some contributions about shared space debate distance themselves from the Shared Space affirmative mainstream. Among others, these texts point critically to a tendency of environmental determinism (Hammond & Musselwhite, 2013) in Shared Space discourse, simplification and generalizations of user needs and the danger of excluding impaired people (Imrie, 2012), or political biases of texts that advocate Shared Space (Moody & Melia, 2013).

In its earlier form, Shared Space advocates an approach, towards planning and designing urban streets, that is guided by the idea of sociality. It claims that human conduct, based on social knowledge and skills, can enable social self-organization, and promotes the idea of socially responsible citizenship. As such, it is conceptually related to wider critiques against modernistic planning in general (see for example: Abram, 2011; Healey, 2010; Sandercock, 2000), and particularly in the field of transport planning (see for example: Beckmann, 2004; Sheller, 2011; Urry, 2004). From a provocative standpoint, the idea suggests a shift in power relations in terms

of governance of human encounters in the street, because it implies that prevailing means of traffic control are, in many cases, dispensable. From that viewpoint, the idea poses a threat to the domain of transport planning because it goes further than only suggesting an alternative design for certain user conditions. It poses questions about who gets to decide how to plan, design and manage streets, and what knowledge, skills and methods are legitimate to guide that work.

Shared Space claims that principles of sociality should be the departure point for how urban streets are planned, designed and managed (Engwicht, 2005; Pilz, 2011). The idea highlights urban street design as a means to influence sociality through design, rather than to solve technical problems. This emphasis on how the spatial relates to the social is the challenge the idea brings to prevailing thought and practice.Accepting this approach would mean that new actors have a stake in defining how (if at all) transport space should be defined, professionally and in governance terms. New actors would have a say, and even be prioritized, in defining what resources to bring to the work with this space. This is why removing the sociality claim, and translating Shared Space into an engineering project is a way to keep control and protect the authority of the engineering discipline to control movement and communication in urban space.

However, the point here is not to see domestication of Shared Space as a strategy pursued by certain actors to protect established disciplinary borders or power structures. Neither are the domesticators meant to be conservative transport engineers, defending their domain against challenging ideas. Rather, domestication is seen as a diffuse discursive process within a multidisciplinary transport planning field, where professional debate has to respond to a wider public agenda, taking part in defining the most central and pressing issues that transport planning should focus on, such as traffic safety and transport efficiency. Shared Space advocates, often being transport planners themselves, are forced to produce counterevidence in order to respond to criticism concerned with these pressing issues. In this way the Shared Space debate, and the emerging literature, become gradually more and more reframed in terms of, and contained by, dominant transport and traffic discourses. Eventually, this leads to a domesticated version of Shared Space, as an answer to existing and legitimate problems.

How Shared Space texts represent the Sociality Challenge

At present, dispute over Shared Space, for example regarding traffic safety and exclusion of diverse user groups, is the driver for the systematic production of knowledge on the topic. The idea has become the key topic of international and national conferences, seminars, workshops and traffic fora. Research is mainly oriented towards the development of guidelines for planning and design. For example, as this paper is being written, research is going on in Norway, supported by the Norwegian Road Directorate and aiming at defining the Shared Space idea as a design concept for the Norwegian context, despite the fact that already plenty of implementation experience and design guidelines exists in the neighboring countries.

Texts present the idea, both as a challenge to established approaches and in a more domesticated way. One example presenting a non-domesticated version is a document resulting from the above-mentioned European project (Shared Space, 2005, 2008a, 2008b). It was written and published by members of the project group and summarizes experience from the different pilot projects. It makes explicit statements about the role of sociality for developing alternative ways of planning and designing public urban space. Strong emphasis is on reconquering public space as an arena for

social life. For example, public space is considered to be the "heart" (Shared Space, 2005, p. 9) of society. Further:

> "The layout of the public space tells us what society looks like, who forms part of it, how people deal with each other and what they consider important. It is a window on and a mirror of society." (p. 9).

In this example, the text clearly advocates Shared Space as a way of enable the social qualities of public urban space. It gives much weight to sociality as a main factor of maintaining order in public life.

Another example of a text representing the undomesticated version is the article "Shared space: reconciling people, places and traffic" by Hamilton-Baillie (2008a). This text emphasizes the socio-spatiality challenge of Shared Space, portrayed as an opportunity to change the "built environment in ways that encourage diversity, distinctiveness, urban quality and civility" (p. 162). The text frequently refers to "complex informal social protocols" (p. 162) substituting conventional traffic control. As in the previously mentioned text, the social and cultural significance of public space has significantly more weight than its technical organization. It presents the view that the technical organization of public space, especially regarding traffic, should carefully be guided by social and cultural qualities of public space, rather than the other way around. Thus, Shared Space is said to be about "the integration of traffic into the social and cultural fabric of the built environment" (p. 169).

One text representing the challenging version of Shared Space quite strongly, underlines the importance of complex relationships between people and their urban environment, as presented by Pilz:

> "Public space should be kept sensible for changes of lived social structure; there should be the possibility that locals perceive of it as a stage that becomes individually and communicatively appropriated and played upon. Not until then will the public space do justice to its function in the complex fabric of public life: It becomes the mirror of society." (2011, p.5, author's translation from German)

Another text presenting the idea as a critique to prevailing approaches argues for the deliberative effect of the design, allowing a latent social responsibility, which is normally being constrained from flourishing by standard practice, to unfold:

> "the concept counts on political responsibility and participation, whereas more personal responsibility from the citizen is required regarding both the planning process and the succeeding daily encounter with the new traffic situation. Hence, Shared Space aims to realize a double quality – a spatial and a democratic quality." (Gerlach, Boenke, Leven, & Methorst, 2008, p. 62, author's translation from German).

From such a perspective Shared Space is enacted by socially active users, presented as socially responsible persons regulating their behavior according to common social norms and rules of human conduct (see for example: Edquist & Corben, 2012; Engwicht, 2005; Jones & Young, 2010; Karndacharuk, Wilson, & Dunn, 2013; Pilz, 2011). Order is primarily the result of social encounters and only to a lesser degree conditioned by the physical environment and design. This perspective highlights civility as an important precondition for Shared Space to work out.

In contrast, domesticated versions highlight technical limitations of the idea. Table 2 exemplifies a typical outcome of domestication, demonstrating the differences between the more radical

version of Shared Space and its domesticated version. The table is derived and translated from a study report written for an umbrella organization for the German insurance companies (Gerlach, Ortlepp, & Voß, 2009).

Table 2) 10 requirements for successful Shared Space implementation in Germany

(Derived and translated from Gerlach et al. (2009) and earlier presented in *Author* (2011))

Issues	General Shared Space idea (by Hans Monderman)	Suggestions for German context by Gerlach et al. (2009)
Application area	All streets	Streets with lingering or stay function, length max 300*
Entrance signs/label/marker	None	Necessary
Mobility arrangement	Mixed use, all modes	Safe areas for pedestrians, safe crossings, speed reducing measures
Participation in planning and design process, public and interest groups	Must always	Must always
Traffic volume	No default	Max. 14,000 vehicles/day, barely heavy vehicle traffic, many pedestrians and cyclists
Speed	No default limitations	Max 30 km/h
Right of way	Left gives way to right	Left gives way to right
Signals, signs and markings	None	If necessary to provide safety
Parking rules	None	Parking not permitted
Children play on street/driving surface	Permitted	Prohibited

* The length criterion is not to be found in the original table, but mentioned in the report (Gerlach et al. 2009 p. 29)

The suggestions made in this overview reflect a much more technically oriented approach, driven by a rationale to guard traffic safety in conventional ways, than the more radical version of the idea. It is not only the differences in how the *issues* (first column) are addressed, but also the definition of what issues count as relevant at all, which gives insight into how this idea gets domesticated. These recommendations have later been taken up, and extended in more technical detail, in the official German guidelines for Shared Space implementation (Forschungsgesellschaft für Straßen- und Verkehrswesen, 2011). This document recommends a relegation of Shared Space to areas that fulfill certain technical criteria, such as pedestrian footfall, traffic volumes and type of intersection. It is presented as a so called "knowledge document" (p. 21) referring to the actual state-of-the-art on how to handle specific technical issues. Positioning Shared Space as a concept in professional street design, the emphasis of this document is on how it fits to German traffic law and a range of technical requirements for implementation. Social dimensions, as for example the creation of "pleasant atmosphere" and facilitation of "mutual consideration" (p. 4) of traffic

participants are, similar to the British guidelines on Shared Space (see below), regarded an outcome of the design achieved by fulfilling mainly technical requirements that influence the streetscape, such as:

- "The abandonment of curbs, using alternative subdividing elements to indicate permitted areas for vehicle movement.
- Matching the layout of surfaces of edge spaces and driveway, though without completely abandoning their demarcation.
- Extensive renunciation of markings and signs.
- Maintenance of clear view between vehicle traffic and pedestrians, specifically with regard to parking." (p. 5, authors translation from German)

Typically, texts representing a domesticated Shared Space version avoid addressing the challenge of considering complex social dynamics by expressing it in already established categories, typically referring to different functions urban spaces. Thus, the complex socio-spatial setting that results from Shared Space design is presented as a known function of public space, called *sense of place*. *Sense of place* is an expression commonly used, on the rationale that different functions are incompatible by nature, such as the place-function and the traffic-function:

> "Every street represents a balance between movement (the capacity to accommodate through traffic) and a sense of place (the quality which makes a street somewhere to visit and spend time in, rather than to pass through). Shared Space is a way of enhancing a street's sense of place while maintaining its ability to accommodate vehicular movement." (Department for Transport, 2011, p. 6)

A typical domesticated perspective portrays the sense of place notion first and foremost as dependent on designable elements. For example, the above-mentioned British design guidelines builds its definition of a place function on the Manual for Streets, which states:

> "The place function is essentially what distinguishes a street from a road. The sense of place is fundamental to a richer and more fulfilling environment. It comes largely from creating a strong relationship between the street and the buildings and spaces that frame it. […] The choice of surface materials, planting and street furniture has a large part to play in achieving sense of place." (Bradbury et al., 2007, p. 17)

From the discourse analytical perspectives I presented earlier, the above examples illustrate how professionally recognized terminology is used to convey credibility of knowledge and persuasiveness of arguments.

However, generally no or only vague explanations can be found in these texts about how users partake in creating or relate to the concept of sense of place. Apparently, the term place function and the sense of place concept are applied as conceptual short-cuts, promising "pedestrian comfort" (Department for Transport, 2011, p. 16), "vibrant spaces" (p. 11), or "sympathetic behavior of motorists",(p. 7), enabled by design and expert knowledge. From a state-of-the-art perspective, responsible behavior is portrayed as the natural outcome of design and layout rather than as a result of changed socio-spatial dynamics. Users are typically portrayed as a homogeneous group, technically defined based on their transport mode, rather than on social or cultural dimensions. The social implications of Shared Space, like "*cooperation*" (Schönauer, Stubenschrott, Schrom-Feiertag, & Menšik, 2012) or changes in "*community texture*" (Anvari,

Daamen, Knoop, Hoogendoorn, & Bell, 2014) are mainly thought of in technical and quantitatively measurable terms, for instance as pedestrian footfall per time unit or density per area.

The above examples show different ways of domestication, working simultaneously on the Shared Space idea. Firstly, the idea is translated into a tool to deal with known issues in dominant transport planning discourse, like safety or transport efficiency. Secondly, the challenge of the idea is often simplified or masked by expressing it with widely accepted concepts, such as sense of place. Thirdly, the realization of the idea is to some degree marginalized by defining (mainly technical) boundary conditions of exceptional cases in which it may be applicable.

Concluding discussion

The preceding analysis illustrated how the domestication concept can be used as a tool to critically analyze how ideas get, through professional discourses, translated to such a strong degree that they lose their critical momentum. In the case of Shared Space this critical momentum is the idea's to bring a conceptual shift to street design. It argues for the integration of a sociality perspective into street design aiming for a stronger recognition of how design influences sociality in public space. However, newer texts about shared space seem to bypass this challenge and reframe the idea as a technical concept to enable a functional relationship in which technical issues play a dominant role while the design's social implications are only loosely addressed, almost absent.

I can conclude that the concept of domestication is a useful analytical concept to make this process explicit by highlighting the consequences of this translation process. However, I succeeded only partly in exploring the concept of domestication. While the investigation affirms shared space as a case of domestication, the concept itself and the method I use to operationalize it need development. For example, one might be skeptical about the domestication concept, and argue that it is difficult to avoid a certain degree of translation if ideas shall be realized at all. One could further argue that all fields of planning, just as transport planning, are constantly changing and can not be presented as static, innovation resisting systems; that this change is essentially driven by a motivation to realize ideas, not by a motivation to distort them. Most Shared Space text authors would agree with that. Therefore, translation may even be seen as a precondition to operationalize ideas, and enable their potential to bring about change. Further, transport planners generally aim at meeting the needs of those that travel, viewing their practice as a service for society at large. A domestication approach should therefore avoid singling out any professional discipline, like transport planning, for being deconstructive, solely based on its attempts to implement ideas by applying its expertise.

This critique raises questions about whether domestication is of such significance, and what the concept's contribution really is, beyond giving this phenomenon a label. I would argue that it opens an important critical perspective, both in theory and practice, primarily because it highlights the question of what is at stake when ideas get translated. Such a perspective is significant because it opens for a range of other questions that help to illuminate the process of translation and its consequences. For example, who are the domesticators, and are ideas domesticated by intention, or is it an unfavorable but unavoidable byproduct of the process of implementing ideas? One possible answer is that domestication does not happen deliberately in order to impair ideas, but rather as an unavoidable discursive mechanism.

This does not mean that domestication is an actor-less and context-less automatism. That would disburden potential domesticators of their responsibility to be aware of how they deal with challenging ideas. It is only hard, and possibly inadequate, to tie domestication to a single actor, group of actors, profession or discipline. The question of *who* links also the question of *where*. Domestication does not only come up where local discourses influence how planning ideas get realized. Rather, it takes place on different geographic scales, from local to international. Yet, as in the case of Shared Space, at some point in time it materializes fixed in specific context, for example in design guidelines or planning policy, impacting particular cases of decision making on a local level.

Should domestication be avoided, or is it the unavoidable cost of bringing any change at all? Translation, to a certain degree, may be inevitable, if not necessary, but it should happen in a critical way, if an idea is meant to make a difference. After all, translation is not the same as domestication. Some translation may always occur in the course of dissemination and implementation of ideas, but that doesn't mean that nothing can be done about it, both in theory and practice. The domestication concept opens a critical view that is of significance for an increasingly multi-disciplinary planning field, falling directly on the interface of academia and practice.

For practitioners, for instance, those working with ideas like Shared Space, it offers the critical understanding that the guidelines they apply, or the policy they develop, is a product of translation, domestication being one of its possible consequences. This may make them more aware of the normative implications of such guidelines and policies. It challenges practitioners to be more critical and look out for the critical momentum of ideas while avoiding an overly focus on technical realization. For planning academics, this kind of critical analysis is useful because it helps to further develop their understanding of what may happen to planning ideas when they are translated, and of how this can be researched. It helps to map and uncover, for example, those parts of ideas that are very prone to domestication if they are not based on solid theoretical and empirical grounds, as for example regarding the idea of sociality in the case of Shared Space.

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Indication of tables:

Table 1: Type and number of texts analyzed regarding domestication

Table 2: 10 requirements for successful Shared Space implementation in Germany

Appendix 1 : Texts examined regarding the domestication of Shared Space

Author or publisher	Title
Articles (peer reviewed)	
Anvari, Bani, Daamen, Winnie Knoop, Victor L. Hoogendoorn, Serge P. Bell, Michael G.H.	Shared Space Modeling Based on Social Forces and Distance Potential Field
Hamilton-Baillie, Ben	Shared Space: Reconciling People, Places and Traffic
Hamilton-Baillie, Ben	Improving traffic behaviour and safety through urban design
Hamilton-Baillie, Ben	Towards shared space
Gerlach, Jürgen Boenke, Dirk Leven, Jens Methorst, Rob	Sinn und Unsinn von Shared Space – Zur Versachlichung einer populären Gestaltungsphilosophie; Teil 1 [Sense and nonsense about Shared Space-For an objective view of a popular planning concept; part 1]
Gerlach, Jürgen Boenke, Dirk Leven, Jens Methorst, Rob	Sinn und Unsinn von Shared Space – Zur Versachlichung einer populären Gestaltungsphilosophie; Teil 2 [Sense and nonsense about Shared Space-For an objective view of a popular planning concept; part 2]
Havik, Else M, et al.	Accessibility of Shared Space for visually impaired persons: An inventory in the Netherlands
Imrie, Rob	Shared Space and the Post-politics of Environmental Change
Imrie, Rob	Auto-disabilities: the case of shared space environments
Kaparias Ioannis, et al.	Analysing the perceptions of pedestrians and drivers to shared space
Karndacharuk, Auttapone Wilson, Douglas J Dunn, Roger	A Review of the Evolution of Shared (Street) Space Concepts in Urban Environments

Karndacharuk, Auttapone Wilson, Douglas J. Dunn, Roger	Analysis of pedestrian performance in shared-space environments
Moody, S. & Melia, S.	Shared space – research, policy and problems
Hammond, V. and Musselwhite, C.	The attitudes, perceptions and concerns of pedestrians and vulnerable road users to shared space: a case study from the UK.
Sastrawinata, A.C.	Tracking and Analysing Behaviour of Pedestrians and Vehicles in a Shared Space Environment for Model Calibration
Guidance documents	
Joyce Mairi	Shared Space in Urban Environments – Guidance Note
Department for Transport	Local Transport Note 1/11 - Shared Space
Jones, P., & Young, A.	Manual for Streets 2 : Wider application of the principles
Bad Architects Group	Shared-Space-Konzepte in Österreich, der Schweiz und Deutschland – Leitfaden [Shared space concepts in Austria, Switzerland and Germany – Guidance note]
Forschungsgesellschaft für Straßen- und Verkehrswesen	Hinweise zu Straßenräumen mit besonderem Überquerungsbedarf – Anwendungsmöglichkeiten des „Shared Space" – Gedankens [Notes on road spaces with special crossing requirements – application possibilities of the "Shared Space" - idea]
Reports & Policy documents	
Bosch Slabbers	Städtebauliches Planungsverfahren Ortskern Bohmte im Rahmen des EU - Projektes Shared Space Abschlussdokumentation [Urban development planning process for Bohmte, part of the EU – project Shared Space, final assessment]
Wallberg et al. / Sveriges kommuner och landsting	Shared space: trafikrum för alla [Shared space : traffic space for all]
Adamsson Carolin	Delad yta, dubbel yta? En studie om Dragarbrunnsgatan i Uppsala utifrån konceptet shared space [Divided Surface, doubled surface? A study of Dragarbrunnsgatan in Uppsala based on the concept of shared space]
Shared space	Shared Space: Room for everyone
Sharerd Space	Shared Space – from project to process
Edquist, Jessica	Potential application of Shared Space principles in urban road design: effects on safety and amenity
Noordelijke Hogeschool Leeuwarden	The Laweiplein - Evaluation of the reconstruction into a square with roundabout
Gerlach, Jürgen Ortlepp, Jörg Voß, Heiko	Shared Space - Eine neue Gestaltungsphilosophie für Innenstädte? Beispiele und Empfehlungen für die Praxis [A new design philosophy for city centers? Examples and recommendations for practice]
Gerlach, Jürgen Kesting, Tabea Kettler, Dietma Leven, Jens Boenke, Dirk	Voraussetzungen für die Umsetzung von Gemeinschaftsstrassen in Weiterentwicklung des Shared Space-Prinzips unter Beachtung der großstädtischen Rahmenbedingungen der Freien und Hansestadt Hamburg [Prerequisites for the implementation of community roads, developing the Shared Space principles in compliance with the urban conditions of the Free and Hanseatic City of Hamburg]
Imrie, Rob	Shared space and sight loss: policies and

Kumar, Marion	practices in English local authorities
Besley, Eleanor	Kerb Your Enthusiasm - Why shared space doesn't always mean shared surface, and other stories
Shore, Fiona Uthayakumar, Kayleigh	Designing the Future - Shared Space : Operational Assessment
Dickens, Liz Healy, Emma Plews, Catherine Uthayakumar, Kayleigh	Designing the Future Shared Space: Qualitative Research
Reid, Stuart Kocak, Nazan Hunt, Laura	DfT Shared Space Project - Stage 1: Appraisal of Shared Space
Myrberg, Grethe van Winjgarden, Karin Børrud, Elin Lene, Stenersen	Shared space - Erfaringer med "shared space" ved kryssutforming [Experiences with «shared space» in the design of street junctions]
Quimby, Allan Castle, James	A review of simplified streetscape schemes
Carol, Thomas	Shared Surface Street Design: Report of focus groups held in Holland
Deichmann, Jacob Winterberg, Bjarne Bredmose, Anette	Shared Space - Safe Space; Meeting the requirements of blind and partially sighted people in a shared space
Grey, Tom Siddall Emma	Shared Space, Shared Surfaces and Home Zones from a Universal Design Approach for the Urban Environment in Ireland. Key Findings & Recommendations
Shared Space	Shared Space - Final Evaluation and Results
Zimmermann, Tim	Überblick aktueller Shared Space Projekte in Deutschland und Ableitung von allgemeingültigen Gestaltungsvarianten und deren Wirkung auf das Verhalten [Overview over current Shared Space projects in Germany and derivation of universal design variants and their effect on behavior]
Tyréns	Trafiksäkerhet ved shared space. [Traffic safety in Shared Space]
Rambøll	Eksempelsamling – Shared Space [Example collection – Shared Space]
Shared Space	Shared Space – Spatial quality – places that attract people
Trafikverket	Attraktiva stadsrum för alla - Shared Space [Attractive urban spaces for all]
Theses (Master level)	
Larsen, Vendel	Best practices ved design af Shared Space [Best practice for Shared Space design]
Brenner, Andre	Shared Space som komcept för planering av det offentliga rummet i Sverige [Shared Space as a concept for planning public space in Sweden]
Hammarin, Petra Warnelid, Annika	Shared Space – integrerade trafikytor I tätort. Jämförelse mellan Fiskatorget I Västervik och Stortorget i Ystad [integrated traffic surfaces in urban areas. Comparison between Fiskartorget In Västervik and Stortorget in Ystad]

Papers (mainly conference proceedings)	
Karndacharuk, Auttapone Wilson, Douglas J. Tse, M.	Shared space performance evaluation: quantitative analysis of pre-implementation data
Karndacharuk, Auttapone Wilson, Douglas J. Dunn, Roger C. M.	Safety Performance Study of a Shared Pedestrian and Vehicle Space in New Zealand
Barter, Paul	Earning a Public Space Dividend in the Streets
Bliek, Desmond	Impacts of Shared Space Design on Pedestrian and Motorist Behaviour
Dong, Weili	Traffic conflict and shared space: a before- and after- case study on Exhibition Road
Gilman, Celeste Gilman, Robert	Shared-Use Streets – An Application of "Shared Space" to an American Small Town
Heinz, Harald	Shared Space or Saved Space?
Hickman, Robin Carson, Graham	Shared space in the Kent Downs: a new approach to streetscape design
Joyce, Mairi Langwell, Todd	Technical Paper – Safety and Shared Spaces
Kennedy, Janet V	Psychological Traffic Calming
Schlabbach, Klaus	Shared Space
Pauser, Wolfgang	Shared Space, die moralische Promenade [Shared Space, the moral Promenade]
Pilz, Thomas	Form, Halt, Respekt - Shared Space als Denkform in Architektur und Raumplanung [Shape, Support, Respect - Shared Space as a way of thinking in architecture and planning]
Daudén Lamíquiz Francisco José Porto Schettino, Mateus Pozueta Echavarri, Julio	New Forms of Shared Streets - Shared Space and its application in Madrid
Schönauer, Robert Stubenschrott, Martin Schrom-Feiertag, Helmut Menšik, Karl	Social and Spatial Behaviour in Shared Spaces
Tooby, David	Shared Space Performance Analysis, Port Macquarie NSW
Thomas, Christian Wolff, Richard	Homezones go downtown - The Evolution of Shared Spaces in Switzerland
Book	
Schmidt, Florian Bechtler, Cornelius Hänel, Anja Laube, Marion Pohl, Wolfgang	Shared Space. [Shared Space. Examples and arguments for vibrant public spaces]

Paper Two

Designing sociality in urban public space?

The example of shared space

Abstract

Urban design ideas often oversimplify the role of public space in enabling sociality, by prioritizing behavioural consent over conflict. By considering street users' interplay with each other and the physical environment, this paper investigates sociality in a more nuanced and comprehensive way, applying Amins' 'resonances of situated multiplicity' as an analytical tool. This approach serves to investigate the particularities of sociality of a square in central Oslo, designed in line with 'shared space' principles. The study finds a sociality that differs substantially from common accounts about shared space, characterized by ambiguity, moderate conflict and users' strategies of avoidance, rather than a sharing attitude and social responsibility.

Key words

Urban design, sociality, conflict, shared space, social interaction, urban public space

Introduction

Urban design aims to enable sociality as a key quality of urban public space (Carmona, Tiesdell, Heath, & Oc, 2010; Madanipour, 2006, 2014). This quality is thought of as how public space serves as an arena for the exchange and maintenance of societal values (A. Jacobs & Appleyard, 1987)[1]. Much of urban design debate in academia focuses on better understanding the nature of this sociality, especially regarding the possibility to influence it by design (Madanipour, 1996, 2014; Mehta, 2014). In this debate, social interaction is typically viewed as an indicator for sociality (Gehl & Rogers, 2010; J. Jacobs, 1961; Lynch, 1960; Whyte, 2001). Therefore, design ideas often focus on physically bringing people together in order to unlock the expected gains of social interaction.

Shared space is one such design idea, promising an improvement of public space by altering social interaction. Most shared space schemes are located centrally in cities, typically in places characterized by a vast mix of functions and activities. Technically, the design materialises in a street, or square, that does not segregate different traffic modes and lacks standard means of conventional traffic regulation, such as

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[1]The terms sociality and sociability are used interchangeably in literature. Even though they may have slightly different meanings, this paper views them as addressing the same quality of public space and will consequently use the term sociality.

signals, signs, handrails, curbs and markings. Typically, this results in an area with a levelled surface that can be used by motorised and non-motorised modes of transport. Shared space schemes have been built in many countries worldwide, though most of them being located in north-western Europe.

The idea is in opposition to conventional traffic engineering. As such, it relates to a range of similar critical design approaches, that have gradually grown stronger over the second half of the 20th century, about reclaiming the streets from the dominance of motorised transport (Karndacharuk, Wilson, & Dunn, 2014). It promotes the reintegration and reconciliation of different traffic modes and functions of public space (Hamilton-Baillie, 2008a). The claim of improving sociality is based on the argument that the design converts transport space into a social arena of mutual considerateness. A successful shared space is associated with social interaction of all traffic participants, civic engagement and an individual awareness of social responsibility (Department for Transport, 2011; see for example: Pilz, 2011; Schmidt, Bechtler, Hänel, Laube, & Pohl, 2010; Shared Space, 2005).

The professional debate about shared space is vivid within urban design and transport planning, concerning a range of technical and regulatory issues. However, the implications for sociality of urban public space are mostly taken for granted, and are therefore hardly addressed, neither in this debate nor in research about shared space. Discussions addressing social aspects focus primarily on safety issues and approach the performance of shared space in a rather instrumental way (for example: Hammond & Musselwhite, 2013; Havik, Melis-Dankers, Steyvers, & Kooijman, 2012; Kaparias, Bell, Miri, Chan, & Mount, 2012; Karndacharuk, J. Wilson, & Dunn, 2013a; Karndacharuk, Wilson, & Dunn, 2013b). Strikingly, despite the clear intention behind the shared space idea to design for sociality, references to academic debates in urban design and theorisation of public space and sociality are almost non-existent within shared space literature. Neither do contributions from other relevant fields, like urban sociology or human geography, find consideration in the professional shared space discourse.

This paper meets these lacks and investigates sociality of shared space through empirical inquiry. Thereby it seeks to contribute to a better understanding of the nature of sociality of shared space in particular, and of urban public space in general. The focus on shared space makes this paper different from other studies of sociality, because it asks particularly how sociality plays out as a result of people negotiating space and movement across different traffic modes. Thus, it offers a view reaching across different transport modes and beyond the sites that are predominantly associated with sociality, such as sidewalks, parks or cafes.

This is done by investigating the case of St. Olavs Plass (StOP) in Oslo, Norway (figure 1). The analysis operationalises Ash Amin's theoretical reflections on sociality in urban public space (Amin, 2007, 2008, 2012) This approach emerges from a critique of accounts of sociality that narrowly focus on direct social interaction, and focuses instead on the interface of the physical and the social in how people sense and relate to urban public space. Amin questions the frequent overemphasis of the role of public space as a political arena. His perspective is in line with scholars acknowledging the role of passive engagement, impersonality and strategies of avoidance as a necessary condition for sociality in public space (Lofland,

1998; Mehta, 2014; Toiskallio, 2002). The paper shows that these strategies are characteristic of the particular sociality of shared space at StOP.

Amin highlights the role of what he calls resonances, which influence how people sense the social and material complexity of urban public space. These resonances frame what Amin calls situated multiplicity in order to differentiate his terminology from the sociality concept he criticises. I will however, keep to the term sociality throughout the paper.

The following section presents the analytical framework, followed by a section presenting the case of StOP and the methods used to explore sociality. The subsequent section investigates sociality at the square, based on the analytical frame presented earlier. The final section extracts the most significant findings from the analysis, and offers an understanding of the particular sociality of shared space, which departs from common literature accounts about this design idea.

Analytical frame

Amin offers the notion of "resonances" as a way to view the different social and material dimensions of experiencing urban space: *surplus, territorialisation, emergence, emplacement* and *symbolic projection*. These concepts are not five separate and independent characteristics of sociality, but they are interrelated and condition each other. The resonances are rooted in existing theoretical and empirical approaches to understand urban public space, specifically its socio-spatial and socio-material dynamics[2]. This paper views these resonances as a good way to get some empirical grip on the vague and abstract concept of sociality.

Surplus refers to a kind of perceptual overload one can experience in urban public space. For the present analysis, this means that the different social and material elements of such space create a complexity that is cognitively and sensually so demanding that people experience a lack of overview, leaving them with no other choice than to simply trust things to work out. Good examples are busy traffic squares where one confronts an information overload from multiple sources, such as diverse people and transport means, activities, signs, signals, sounds, movements and smell.

Territorialisation resonates in public space through "repetitions of spatial demarcation based on daily patterns of usage and orientation" (ibid. p. 12). Spatial demarcations are not always planned or designed for, but established by repetitive user activity, which Amin calls "the way in which a public space is domesticated" (ibid. p. 12). One can understand such domestication as the appropriation of space through daily users' routines and habits. One example is tourists that regularly visit a certain place, take the same paths, and take pictures of certain objects from a certain spot. By their repetitive presence and activities,

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[2] See for example the following references for theoretical similarities, some of which are also mentioned by Amin, on surplus: (Pile, 2005), (Simmel, 1903), on territoriality: (Goffman, 1971), (Madanipour, 2014), (Kärrholm, 2007), on emplacement and rhythm analysis (Lefebvre, 2004), on emergence: (J. Jacobs, 1961), Symbolic projection: (Mehta, 2014), (Varna & Tiesdell, 2010).

they regularly claim a certain space and thereby affect the behaviour of other users. Through this, they become a significant factor in the socio-spatial arrangement of a place.

Emplacement is here viewed as the temporal dimension of territorialisation. People repeat certain activities and procedures of everyday life with regularity in a way that creates predictability and reliability. Emplacement resonates as local knowledge of users, being aware that there are certain times when certain people will act in certain ways and places. An example are lunchtimes, in which certain groups populate particular spaces. Another one is the general idea people have of how a place appears to them most of the time, as for example in the expression, "during the public holiday traffic on the square is usually very calm".

Emergence refers to change and interruption. It means that sociality never reaches a final stage or complete stability, despite the resonances that have an ordering effect, like territorialisation and emplacement. Emergence is "largely unpredictable in timing, shape and duration" (ibid. p. 12) and brings the experience of novelty to urban public space, due to momentary and irregular, often unexpected things going on. It resonates both on a long-term scale, as a gradual transition of patterns and on a short-term scale, in the form of momentary instability, such as sudden misunderstandings and minor conflicts. This study focuses on such momentary emergence and how it is influenced by shared space design.

Symbolic projection is the display of "public culture" (ibid. p.13) in a symbolic way. Symbolic expression of public culture is given by architecture, signs and advertisement, but also by behaviour and routines of everyday life, management and maintenance. It may be translated into what is often experienced by people as atmosphere, a mix of physical structure, materials, social practices, but also sounds and smells that convey a message about normality. Amin defines symbolic projection only vaguely. Yet this resonance is of high significance for this paper, since it focuses on how users read a setting like StOP, both in its overall appearance but also giving attention to details (for example signs, certain activities or other users behaviour). Consequently, users' behaviour is, partially, based on their interpretation of symbolic projection.

Research design

StOP in Oslo has the typical design properties of shared space. The square, previously a five-armed road intersection, was rebuilt from 2007 and opened in its present form in spring 2009 (figure 1). The architects state that they did not intend to create a formal shared space. Nevertheless, they developed a concept that has close similarities to what is presented in formal shared space design guidance.

(INSERT FIGURE 1 ABOUT HERE)

The square has also some other elements that are not typical for shared space design, but are integral to the square as a piece of architecture. They play an important role in how users experience of the square. The most important one is an art piece constructed of metal plates hanging on steel wires, named the "light

Figure 1. StOP summer 2013

fountain", in the middle of the square (figures 1 and 2) . During certain times, the construction is illuminated with coloured light from within an orbital stone and glass construction beneath it. This stone ring attracts different activities and causes movement patterns that affect the whole square.

StOP is located centrally in Oslo. However, it is not a main square, or major transport node. Two of five roads leading from the square are dead ends for motorised vehicles, only serving as access routes to parking houses (fig 3). Since its redesign the square serves mainly as a destination for local traffic (pedestrians, cyclists, and motorised vehicles; no public transport) but as a travel artery only for pedestrians and cyclists (StOP is part of a main bicycle route in Oslo).

Figure 2. People in the multiple use sculpture, the *light fountain* at StOP.
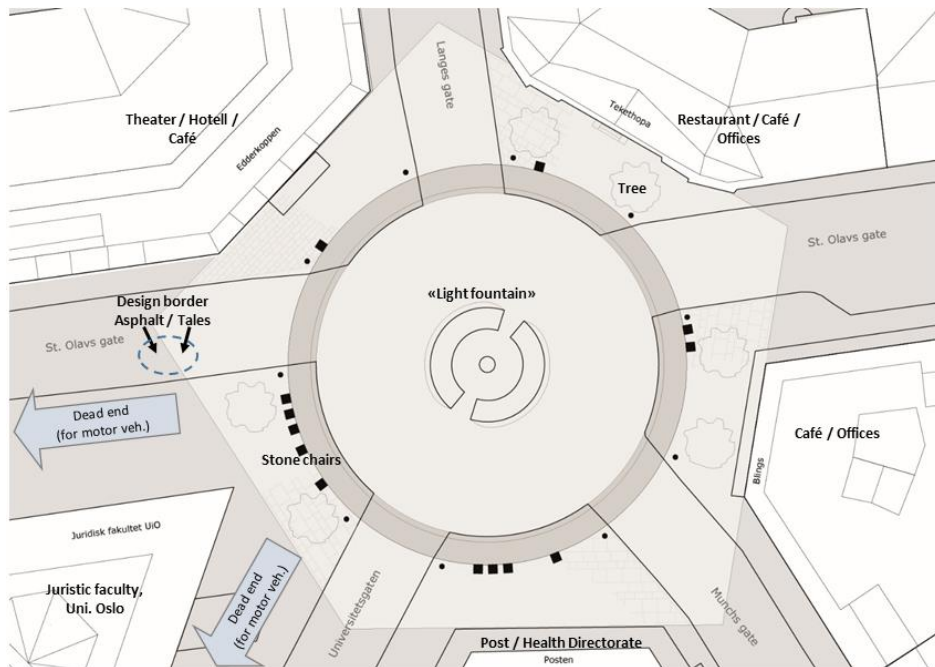Photo Kristin Forsnes

Figure 3. Sketch of StOP.

Data collection and analysis

The research strategy at StOP was, firstly, to gather evidence of sociality and its link to the design of the square. The second step was to operationalize Amin's theorisation about 'resonances of situated multiplicity' as an analytical framework for the empirical analysis. Participatory observation and in depth interviews where used to capture the interplay of design and behaviour and peoples' experience.

The observation was conducted with a team of four research assistants during two months in the summer of 2013. Guided by an observation guide, each observer wrote a fieldwork diary, enriched by explanatory drawings and photographs. The observation focus was on individual situations, showing the behavioural adjustments that users carry out in order to manage the unconventional setting. No distinction was made between situations linked to travel and other activities since shared space design aims at dissolving the conventional borders of transport space, meeting space, recreation space and consumption space. In total, the observation diaries content 200 accounts, including mainly design-related situations, but also some more general reflections by the observers.

The 13 in-depth interviews were conducted with people that, having their workplaces at StOP, are daily users of the square. The interviews focused on how the informants experience StOP on a daily basis, regarding its unconventional design, specifically in terms of strategies for navigation, and experience of order or disorder. The interview analysis was conducted in cooperation with a research fellow from my

institute, using an interview condensation approach (Malterud, 2012) guided by the above theoretical frame.

The following table illustrates how the resonances were identified in the empirical material.

Table 1. Identification of resonances in data.

Resonances	Interviews	Observations
Surplus	Confusion, being puzzled, wondering, hesitating, many things going on, being extra careful.	Difficult to observe since surplus does not often display clearly in behaviour. Possible observable indicators are hesitation, correction of path, adjusting behaviour.
Territorialisation	Explicit references to actors regularly occupying or claiming certain space, e.g.: "many high-school students eat in the fountain during their lunch break"	Notice of actors appearing regularly and claiming certain space, e.g.: a daily delivery vehicle stopping in the street at the café to unload goods.
Emplacement	Temporal references to regularity, e.g. "always at lunchtime", "during winter", "traffic is usually quite calm after working hours".	Notice of temporal conditions, e.g. daily, weekly, seasonal conditioned activities.
Emergence	References to conflict, surprise, sudden change, unexpected occurrences and friction.	Notice of balance being challenged and interrupted, e.g. misunderstandings, conflict. Observers experiencing changes of atmosphere of the square at large.
Symbolic projection	Interpretation of spatial elements: "this is not a roundabout, because it has no roundabout signs", or: "the light fountain is a meeting point", or other expressions of the general atmosphere (example "hectic", "relaxed"). Expressions about how one is "supposed to" behave.	Hardly observable, but perceivable via participation, e.g. when observers sense and reflect over atmosphere, environment and activities on StOP.

Sociality at StOP

StOP is a vivid square characterised by a large variety of users and activities during a day. In addition, the daily composition of users changes over the year. During winter, there is not much activity due to weather conditions. During spring and autumn the square gets more populated due to restaurants' and the cafes' outdoor serving and users dwelling more frequently on the various sitting possibilities. During summer, the composition of user groups changes, since there are public vacations in Oslo, with many daily users disappearing from the square, such as people working at StOP, or students from the near-by high school and the university building (fig. 3). Instead, the square is frequented by tourists strolling around, visiting the light fountain, or staying at the hotel at StOP and others nearby. A diversity of buildings surrounds the

square, significantly influencing the composition of different user groups and activity patterns at different times (fig. 4).

StOP 2	StOP 3	Universitetsgata 2	StOP 5	StOP 1
1. floor restaurant/café 2.+ offices	1. floor: café, supermarket 2.+ offices	Post office (front building) Oslo Health Directorate (Big building behind)	Oslo University, Faculty of law	1. floor: Scandic hotel, bar, restaurant and Theater Edderkobben 2+ Hotel rooms / meeting rooms

Street: St Olavs gate | Street: Munchs gate | Street: Universitets- gate | Street: St Olavs gate | Street: Langens gate

Street activities related to building
- Street serving on entire sidewalk
- Meeting, drinking, eating, talking, relaxing
- Children play in sculpture while parents sit at restaurant
- Lunch breaks in 'fountain'

Street activities related to building
- Café Chairs, tables and benches used by customers
- Meeting, drinking, eating, talking, relaxing
- Children play in sculpture while parents sit at cafe
- Lunch breaks in sculpture
- Bycicle parking
- Diverse service vehicles stop for delivery

Street activities related to building
- People sit on stone chairs and stone wall
- Preferred stopping space for vehicles
- Walk through sidewalk
- Lunch breaks in 'fountain'

Street activities related to building
- Students and employees have breaks in 'fountain' and visit cafe/restaurant

Street activities related to building
- Guests arrive and leave
- Tourist busses manneuver
- Guests visit square / 'fountain'
- Cafe serving outside
- Meeting, drinking, eating, talking, relaxing

Fig. 4 Adjacent buildings at StOP and typical activities in front of each building

Technically, StOP works as shared space, being used by all transport modes. However, even though the square is technically being *shared*, behaviour within different categories of travel mode (pedestrians, cyclists, motorised vehicles) is far from uniform. Users diverge significantly in their interpretation of the space and in their behaviour. Understandings range from it being a space where everything goes, a five-armed street junction, or a roundabout. Different interpretations result in minor incidents interpretable as conflicts. Examples are:

- People standing in the carriageway having phone calls, conversations, eating, smoking, looking around, taking photographs. (fig. 5 and 10)
- Old lady with crutches crossing the square on the carriageway extremely slowly in a straight line, without lifting her gaze to watch out for others.
- Persons lingering in the middle of the carriageway, performing different activities, forcing motorised traffic to slow down and swerve, or stop. (fig. 6 & 7)
- Children playing in and around the 'light fountain' in the middle of the square and running in the carriageway, often while parents sit at restaurant beside the square. (fig. 9)
- Young man biking free-handed across the square against the formal roundabout direction (while holding and talking into a mobile phone), encountering a car that approaches from the opposite direction.
- Vehicles manoeuvring against the formal roundabout direction, to take a shortcut over the square. (8)
- Service vehicles using the square for a large diversity of manoeuvres, such as backing, (un)loading, turning or short-term parking.

The following pictures illustrate some of the above-mentioned situations

Figure 5

Figure 6

Figure 7

Figure 8 – Photo: Torgeir Dalene

Figure 9

Figure 10

The vast diversity of activities is largely supported by the different functions of the buildings surrounding the square (fig. 3), not only by the design of the square itself. Further, the multiple ways of moving and claiming space are not only enabled by the shared space design, but also dependent on other design elements. The most important one is the artwork, the "light fountain", in the centre of the square. It attracts and encourages many pedestrians to cross the carriageway from all around the square for a large variety of activities, such as sitting, eating, lying, meeting others, reading, running, sliding, jumping and balancing. Due to its form and central position, it has symbolic ambiguity that is challenging for drivers, often being unsure whether this is a roundabout or a five-armed junction.

The following sub-sections presents the earlier presented resonances of sociality at StOP, based on the analysis of the interviews and the observation diaries. In particular, it focuses on how the shared space design influences these resonances.

Surplus

Surplus is strong at StOP because of its multiple ways of appearance, in terms of architecture, materials, buildings functions, constantly changing users and their activities. The socio-spatial setting is demanding because it confronts users with "more than the manageable" (Amin, 2008, p.11). Additionally, the shared space design that enables the mix of different traffic modes and all sorts of movements, adds even more complexity to the space. The following interview quotation illustrates an expression about surplus:

> Interviewee 1: "[…] when you are there now I think you could both experience it [StOP] as - is this a regular roundabout? Or is it a roundabout and - or is it kind of a pedestrian zone? Or what, what is this area that I'm moving in now? So it's, I, I, my experience of it is that it's more kind of - like a trendy urban thing, and for me that - that entails that it's often more difficult to be completely sure of how to behave in the traffic, because there's so many things."

Typical observations indicating surplus at StOP are people that hesitate, change direction and pace, or even stop completely to sort out what is going on. Referring to the past, when they were still unfamiliar with the setting, interviewees tell about a lack of clarity, confusion and uncertainty when traveling across or around the square. They also state that even after prolonged experience, the surplus never really disappears, because one can never rely on a common understanding of how things work amongst other users.

However, important parts of the square's design are essential to the experience of surplus at StOP without being associated with shared space design in particular. The most important one is probably the "light fountain". Another factor is that two of the streets leading from the square are dead ends and that the square is therefore only weakly linked to the wider street network. Together with how and where the square is positioned in the city, this causes much confusion especially for car drivers that are not familiar with the place. Many observations showed that people often do not clearly understand where in the city they are exactly located and how to go on. Car drivers often hesitate, drive in circles, stop and ask for directions. The shared space design with the unconventional traffic situation and the unpredictability of users' behaviour is an additional factor reinforcing the surplus experience. Thus, surplus is strong at StOP not only due to the multiple functions of adherent buildings and the shared space design, but in combination with other features (art sculpture)and the general traffic management in the area (dead ends).

Territorialsation

Rather than imposing behavioural patterns, as is the case in more strictly regulated streetscapes, the StOP allows informal territorialisation, meaning that users can claim space according to their individual and momentary needs. Users adjust their behaviour based on how they see the square being used by others and by judging whether others see them. When engaged in negotiating space, for example who should

give way, body language seems to play an important role. When asked for an explanation of how they use eye-contact in these negotiations, interviewees typically clarified that they do not look directly into the eyes of others, but read their body language and kinetic clues (speed, direction, signals) to "make sure to be seen by the others".

However, patterns as outcomes of negotiation are not very durable, due to constant changes in user composition and users' shifting territorial claims. Because of these dynamics, users (re)define very instantly the space they are in. Therefore, territorialisation as a stabilizing factor is somewhat weak at StOP. The following citation illustrates a typical moment of territorial contest as experienced by one interviewee.

> Interviewee 2: "There is – ah – a little contradiction, because, ah, it's a little - well, suppose you stand in a pedestrian zone and then a car comes along, and insists that you shall move out of the way - that makes the situation a little – damn – this is a pedestrian street, you must respect that, that we are pedestrians here! You – in a way, you have no rights here, in a way, to – to claim that we shall give way." (Authors' translation from Norwegian)

Users do not only constantly redefine territoriality based on what happens on the square, but also based on how they understand their own role in the setting. The following interview citation exemplifies how users conceive of their transport mode as a mode of behaviour:

> Interviewee 3: «I am very much pedestrian, when I am a pedestrian. And then again I am very much a car driver, when I am a car driver, and then I am very much a biker, when I am a biker. [laugthing]. These are like programs […] [laughing]» (Authors' translation from Norwegian)

Uncertainty about that role may result in less determinant territorialisation. Thus, it seems that the ambiguous design and changing settings triggers ambivalence in users about their role, as they often understand their traffic mode as a reference point for proper behaviour: as pedestrians, cyclists or car drivers. Based on that, interviewees report their initial difficulties with categorizing the square since it did not fit into their preconceptions of traffic space, nor into preconceptions of the typical traffic user categories and proper behaviour. They often experience a struggle with themselves, finding out what StOP really is in terms of transport and how to behave.

However, despite these ambiguities and much renegotiation of space and movement, there are some more stable patterns of territorialisation too, such as the groups of university and high-school students that regularly populate the square at lunchtime during spring, or regular peak hour traffic that turns the square into a busy traffic space. Most of them have the temporal resonance *emplacement* as a backdrop of regularity.

Emplacement

Emplacement as a resonance is the experience of temporality and generates through regularly repeated activities. At StOP different user groups populate certain spaces at different times during the year, the week and the day. Examples are the university and high-school students or employees from any of the adjacent buildings, eating lunch in the fountain, and traffic flows that pass through at certain times of the day. For example, one interviewee states:

Interviewee 4: "It certainly is a social space, ah – when the weather is really nice in summer – students walk out there, and sit there and they have their lunch - and sometimes we do as well, […]"(Authors' translation from Norwegian)

To daily users, these regular visitors are an integral part of the landscape and make territorial claims. Another example are tourists standing in the street, disregarding possible traffic, to take pictures of the sculpture and themselves (fig. 6). As the students during spring and autumn, the tourists are an integral part of the square's landscape during the summer.

Traces of emplacement (and territorialisation) can also be regularly appearing individuals. Examples are a beggar woman that stays every day at a certain spot between 8 am and 4 pm, the postman trolling his big carriage in a routinized pattern, or the kiss-and-ride couple that stops every morning on the same spot with the car, he rushing to buy a sandwich for each at the café, before they separate to walk and drive off in different directions.

Interviewees' expressions about the general moods and atmosphere on the square were also interpreted in terms of emplacement, e.g. stating how they experience the square 'in general' or 'most of the time', such as calm, relaxed, dynamic or hectic:

Interviewee 5: "Oh, it's, it's, when it's sunny and lunch time and it's lots of people here eh, pedestrians, bicycles, cars, kind of interacting in this weird symbiosis, I – it almost feels - you get a bit of the kind of Italian piazza feel, there is, eh, which is all very rare (laughing) in Norway. But eh, so in that sense I - it has a good atmosphere, It has a good vibe to it. Eh I don't – I don't feel stressed about being in this space"

Regarding this aspect there is a certain discrepancy between observations and interviewees' statements. While interviewees state in general that StOP has a laid-back and calm atmosphere, the observation team found that the square frequently shifts its moods and faces, often rapidly and seemingly independent of underlying temporal patterns. Observers perceived these shifts as sudden tip-overs, that were interpreted as *emergence* (see below).

As mentioned, emplacement is closely linked to territorialisation, and both are experienced and reproduced very clearly by the regular users of StOP. While territoriality is much more unstable, due to the design's ambiguity, the underlying temporal order of things happening at StOP is much more stable because it is dependent on external factors, such as working hours, vacation times, lunch times, opening hours. Hence, emplacement seems largely insensitive to the design properties of the square. Therefore, one could argue that the shared space properties have a stronger effect on territorialisation, in terms of de-stabilising territorial patterns, than on emplacement.

Emergence

The following interview citation illustrates a typical moment interpretable as emergence. The interview took place in a café on StOP. While the interviewee reflected on how the design influences behavior he commented on a biker passing by:

Interviewee 6: " […] he crosses over on the left side, not having his hands on the handlebar, just sms-ing [sending messages with his cell-phone], this is one such special situation, even as we

speak, well really, that one was exotic! And without a helmet, biking, with cool sunglasses, sitting there, sms-ing, yes, that was special!" – Me: "yes, most certainly he knows the square" - Int.:" Yea … yes, but, but he certainly doesn't know the traffic. No, that was brash, not good!» (Authors' translation from Norwegian)

Emergence seems to be a key characteristic of StOP and is strongly influenced by the shared space design. The dynamics and the small but frequent contests over space contribute to the square never reaching a state of enduring functional stability. Interruptions of more stable phases are frequent but moderate, as for example two individuals that interpret the square in different ways, resulting in minor conflicts.

Emergence happens also on a larger scale, when suddenly the whole square seems to change. Then the square would suddenly tip over from being calm and relaxed to being a busy traffic space dominated by tourist busses, service vehicles or taxis and private cars. These tip-overs were observed independently of the predictable changes during the daily course of activities (opening hours, rush hours, lunchtime etc.) in the area. They happened more of a sudden and lasted only for short whiles, without any obvious reason. The reasons for that could be the sudden agglomeration of many individual situations happening simultaneously. For example: a class of kindergarten children visiting the "light fountain" for a snack, two tourist busses picking up hotel guests, populating the street with their luggage, a service car unloading goods at a café, three bikers appearing from different directions to cross the square, and tourists standing in the carriageway to take pictures of the sculpture.

Symbolic projection

One interviewee reflected directly on how people may react to what I interpret as symbolic projection:

> Interviewee 7: "Why are people led to understand that they can actually walk into the street – more – at st Olavs Plass – and why – what is it that actually communicates to most drivers that they need to be aware of pedestrians – just doing their thing – it's – a sort of atmosphere - seems to be a sort of ah – like a magical thing – difficult to pin down and, and – point exactly to what it is – but I mean you talked about the different levels [referring to an earlier explanation I gave regarding levelled surfaces] and, and, ah – not the standard asphalt - ah - I mean – road, or whatever – I mean obviously that's a huge part of it"

If symbolic projection is understood as message about "public culture" (Amin, 2008, p. 13), then the empirical material points to diverging findings. On the one hand, informants and observations confirm a general picture about a laid-back atmosphere on the square, motivating a kind of laisser-faire style in behaviour.

Yet, there is a strong symbolic ambiguity triggering different, often conflictual, practices by users. This ambiguity is also experienced without direct confrontation of others. Users adjust their course, pace and speed, not only as a result of negotiating with other users, but as an outcome of a struggle with themselves, of whether to behave according to formal traffic rules or take opportunities of the seeming lawlessness of the shared space design. Reflecting on this issue, interviewees mentioned that they are (or were during a long time) not clear about in what way they "are supposed to" and "should" behave. For example:

Interviewee 7: "Ehm – it [driving] can be a bit chaotic because people seem to – not know whether it's a roundabout – so people act as if – very often people act as if it is a roundabout in fact - So they drive – like they would in a roundabout – but some people, myself included, eh - not! - And it creates some, eh, interesting situation, sometimes, with angry drivers, eh, yelling, and eh, stuff like that"

The experience of these two different 'faces' of the square - the relaxed and balanced on the one hand and the instable and unpredictable on the other - complies with the intentions of the square's architects. They state that they aimed at creating a vivid and yet relaxed atmosphere as they had experienced in Italy and Spain. One interviewee reflects on the square's atmosphere:

Interviewee 8: "Well, for me, it is several things that influence this, ehm, because, after all this is not a traffic machine, there is culture here, there is art, on at least 60% of the square there are small tables and chairs, and people come and stroll around. On a different, maybe lower level of consciousness, I believe, people understand that this is such a small piazza, eh, a little square, and not a traffic machine." (Authors' translation from Norwegian)

Concluding discussion

Summarizing these findings, it is clear that the design of StOP strongly influences how the resonances play out. There are, however, differences in how strongly they do that, and in how far this can be accounted for by the shared space properties. S*urplus* and *emergence*, together accounting for complexity, friction, conflict, confusion and change, figure strongly, both in observations and in what users tell. *Emergence* is maybe the resonance that has the strongest causal link to the physical design, since the diverse readings of it frequently result in moments in which stability and balance become challenged. Attempts of *territorialisation* are very visible, due to constant shifts and re-arrangements of who uses the square and how, but the resulting user patterns are short-term and unstable. *Emplacement* seems largely insensitive to the design properties of the square, since the temporal preconditions for users and what they do are linked to external factors, such as work schedules, lunch times, opening hours, seasonally conditioned composition of user groups, rather than the square's particular design properties. Finally, *symbolic projection* is a significant resonance at StOP, for which the particular design has much to say. *Symbolic projection* is similar to *territorialisation,* strongly noticeable but never consolidates to become a stabilizing factor.

The above analysis shows how strongly these resonances are interlinked. Notwithstanding their interrelatedness, the strength of approaching sociality analytically in this way is twofold. Firstly, it offers to keep focus on important elements constituting sociality other than the plain social interaction that takes place in the form of personal communication. Secondly, it addresses the experience of urban public space in a more comprehensive, yet nuanced, way. This meets the purpose of this paper, of bringing new understanding to the nature of sociality, particularly in shared space, but also in urban public space in general.

This new understanding is that *emergence* and *surplus* resonate so strongly. Thus, moderate instability seems to be an important part of the sociality of shared space, strongly conditioned by its design properties. This somewhat contradicts the picture often given in popular, and partly in academic, accounts

about shared space, implying that the design leads to order established by socially responsible public. It shows that shared space design does not necessarily lead to a stable order at all, even though it may be characterized by a low accident rate.

Interestingly, these minor conflicts do not only appear when different parties meet, but take place *within* individual users as well, as they struggle to adapt to the ambiguous design. They experience this struggle because their mode of transport has less meaning as a benchmark for how to behave than in conventionally designed standardized streets.

The resulting sociality is not accurately described as an interactive public where people follow a social program about proper conduct, but rather as individuals spontaneously responding to ever-changing challenges. Actively following their own agenda, and making claims to space, users seem to employ certain strategies of avoidance to minimise or bypass direct interaction. They meet the symbolic ambiguities and complexities of StOP with a certain pragmatism, keeping active social engagement with strangers at a minimum. These strategies are not unique to shared space and have long been addressed in urban sociology (See for example: Goffman, 1971; Hall, 1982; Simmel, 1903; Wirth, 1938) and studies that are more recent. Toiskallio, for example, comes to the conclusion that "the maintenance of distance is the carrying force of sociality in traffic" (Toiskallio, 2002, p.169). This study concludes that shared space makes these strategies even more noticeable. Users seem to actively work on establishing this distance.

Viewing sociality this way presents shared space as a particularly strong case of such avoidance strategies. This does not mean that direct social interaction is not important to sociality. On the contrary, many interviewees highlight that the square is a social space because they meet people there and hang out together. In particular, the three cafes and the "light fountain" were mentioned as meeting points. The interviewees also referred to the overall atmosphere of the square. How far this experience is caused by the shared space properties of the square is debatable, but certainly its overall design contributes significantly, for example by offering good spatial conditions for socializing activities. Notably, no interviewee identified traffic-related communication triggered by the shared space design as a reason for perceiving the square as a social place.

However, this study aimed to offer a view on sociality reaching beyond the narrow focus upon direct social interaction. The finding that people employ strategies to minimize direct contact is not necessarily a drawback for public space, and it does not mean that shared space does not enhance sociality. Rather, it highlights certain qualities of shared space that have not been conceived of in this way before, suggesting a different understanding of how public spaces accommodate complexity and diversity.

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Paper Three

Sebastian Peters – paper 3 – in revision – to be resubmitted in Sep 2017 - journal: "Applied Mobilities"

Title

"Sharing space or meaning - a geosemiotic perspective on shared space design"

Abstract

If urban design aims to influence sociality in public urban space, a nuanced understanding of the dialectic relationship of the social and the spatial matters. Yet, design practice frequently presents this relationship in a simplified and unidirectional way, in which the spatial produces the social by influencing how users read and react to designed environments. However, this view understates the role of users themselves in influencing socio-spatiality in public urban spaces. This paper meets this lack of considering users' agency in creating and influencing socio-spatiality. It applies a geosemiotic approach to explore socio-spatiality on a central urban square in Oslo, Norway, designed in line with a street design idea called *shared space*. Through this application, the paper frames shared space as an experiment aiming to alter the dynamic interrelationship of different semiotic systems. Geosemiotics explicitly account for the role of users' agency in influencing socio-spatiality, and hence, demonstrate the limitations of design to influence this relationship. The findings contrasts most existing accounts in the literature about shared space, revealing that such streetscapes may support an unstable, dynamic and constantly changing socio-spatiality, triggered by permanently changing composition of users and their distinct ways of interpreting and using the ambiguous environment.

Key words

geosemiotics, social interaction, shared space, social semiotics, socio-spatiality, urban design,

1. Introduction

Imagine you are walking downtown Oslo. It is a warm summer day. The city is busy. The screams of seagulls' mix with urban traffic noise pulsing through the streets. You arrive on a square with an abstract piece of art in its centre. Huge shining metal plates hang on steel ropes in a conic formation, many meters above the surface. The sculpture is surrounded by a low wall, a basalt stone circle in the middle. A large area of cobblestones surrounds the sculpture. The square is surrounded by a hotel, a theatre and cafés. People sit at the outside tables of the cafés. A steady coming and going. Some people also sit on the edge of the basalt circle in the middle of the square, enjoying the sun. Children climb on it, run and balance on it. You get curious about the sculpture and walk towards it. The basalt is warm from the sun inviting you to sit down. You decide to buy a sandwich in one of the cafés and sit down on the basalt to eat. You turn around to go to a café, but after two steps you are forced to StOp suddenly. A huge tourist bus is slowly crossing your route, only three steps away from you. You did not hear it coming from behind while you were inspecting the sculpture. The driver smiles at you, signalling with his finger: "this is a roundabout". Suddenly you are aware that you are standing in a driveway. More cars appear on the square. Some cyclists too. But only some drive counter-clockwise, others don't. Is this a roundabout or not? It is not clear to you what is going on. You look around but can't see any signs or markings. You are confused, crossing the driveway carefully towards the café.

The square you imagined is the result of an urban design experiment driven by the intention to enable street life. It is an example of a so-called *shared space*. Urban design, as an academic and applied discipline, has among its core concerns to be attentive to the social implications of public space design (Carmona et al. 2010, Cuthbert 2008, Fishman 2011). This socio-spatial approach (Madanipour 2014) has played an important role in influencing academic debates about how to understand the role of design for urban streets (Mehta 2014). Many well-known scholars have through their work established a consensus in the field that social interaction in public space is a sign of successful street design (Appleyard, Gerson, and Lintell 1981, Jacobs and Appleyard 1987, Jacobs 1965, Whyte 2001, Jacobs 1993). One of the broadly accepted principles guiding urban design practice is that human informal contact is one of the main qualities of "good urban spaces [which] are judged by their street life"(Montgomery 1998, 108). Spatial preconditions to enable such informal contact have been identified by many influential scholars (see for example: Carmona et al. 2010, Mehta 2014, Jacobs and Appleyard 1987, Lynch 1960, Gehl and Rogers 2010) and been adopted into formal guidelines and design practice. Along with other aims of urban renewal, much current design practice experiments with realizing ideas about creating urban spaces characterized by the social life envisioned by the above scholars.

However, these design intentions place a strong focus on spatial design as *the* most constitutive factor of urban life. Contributions to urban studies that are rooted in the social sciences rather than in design disciplines criticize such approaches for oversimplifying the socio-spatial relationship (Amin 2008, Amin and Thrift 2002, Cresswell 2010), for example for presenting the social in public space as a mere product of expert design. Meanwhile a more nuanced understanding of the socio-spatial mechanisms, integrating the significant role and diversity of meaning-making users, is lacking (Jensen 2009, Crang and Thrift 2000, Amin 2007, 2012, Cresswell 2010, Low 2003).

This paper tries to meet this lack by developing a better understanding of socio-spatiality in built space. It investigates socio-spatiality on the square you imagined in the beginning of this introduction, St. Olavs plass in central Oslo, which is built in line with shared space design principles. More or less explicitly, much shared space literature claims that this type of street design enables a social shift in public space. Experts envision that a design like this, which resigns from conventions and standards, encourages social interaction resulting in concerted order executed by socially responsible interacting citizens (Gerlach et al. 2008, Pilz 2011, Hamilton-Baillie 2008a). However, there is a lack of theory and research about how exactly shared space changes socio-spatiality as to achieve these aims. Most research focus on the technical performance and traffic safety of shared space, while the design's desired social implications seem to be taken for granted despite lacking theoretical and empirical underpinnings (Hammond and Musselwhite 2013, Imrie 2012).

Thus, the case of shared space mirrors the above problematic of urban design's ambition to improve the social qualities of urban space, while at the same time not offering a convincing understanding of how the design influences socio-spatiality. Therefore the main question this paper seeks to answer is: How does shared space design influence socio-spatiality in built space?

To systematically investigate socio-spatiality I operationalize a geosemiotic approach, as developed by Scollon & Scollon (2003). This approach is particularly useful for the study of socio-spatiality because it focuses on how people in urban space make meaning of their social and their spatial environment. This is essential in order to construct explanations of how and why design influences socio-spatiality.

A particular benefit of the approach is that it embraces all kinds of different semiotic systems that users encounter and deal with in day-to-day life in public space. It addresses not only the technical equipment that is produced and located in certain places to regulate behaviour, such as traffic signs, markings or light signals. It also strongly addresses how people make meaning of the rest of the built environment and, probably most importantly, it includes people in space as a third semiotic system influencing socio-spatiality.

Shared space has not been studied with a geosemiotic approach before, even though the design idea itself is based on certain semiotic assumptions about how users will interpret a design that diverges from standard engineering ways of designing streetscapes. Aiming to "integrate traffic into social space" (ref BHB), shared space suggests to minimize the use of standardized traffic regulation techniques, such as signals, signs, markings, segregation between different modes of transport, handrails and use of asphalt, assuming that users will compensate for this by social interaction (Gerlach, Ortlepp, and Voß 2009, Engwicht 2005, Hamilton-Baillie 2008a) guided by norms of social conduct.

The following section briefly presents the main geosemiotic framework that I use to investigate socio-spatiality on St. Olavs plass. The succeeding section presents the case in more detail and the methods I used to gather evidence for the investigation of socio-spatiality. The subsequent analysis identifies semiotic references in the empirical material. The final analytical step is to draw these findings from different empirical sources together, triangulating them to identify the main socio-spatial dynamics of St. Olavs plass. Based on these findings, a concluding discussion provides an answer to the above research question, contributing to a better understanding of socio-spatiality in built space.

2. Analytical frame - using geosemiotics to investigate socio-spatiality in real world settings

The study of semiotics, as the study of how humans make meaning of signs (Scollon & scollon), is rooted in linguistics. It has, however, been adopted, developed, and applied in many different fields, such as human geography, social anthropology and sociology (Jaworski and Thurlow 2010). Today, semiotics are used to study many sign systems other than language and text.

According to Scollon and Scollon, *geosemiotics* presents a particular interdisciplinary branch of semiotics, "the study of the social meaning of the material placement of signs and discourses and of our actions in the material world." (Scollon and Scollon 2003, p.2). They introduce the approach as a way to study what they call "discourses in place", referring to how people perceive and make meaning of each other and their physical environment, and act accordingly.

In this context, the term sign "means any material object that indicates or refers to something other than itself" (p.3). Human beings, in their physical appearance are also material objects with this property. Signs are vehicles of meaning of both denotative and connotative nature. For example, a bench is a sign carrying the denotative meaning of being *a constructed artefact to sit on*. Beyond this denotation, the bench carries connotative meaning that the bench itself does not directly codify through its mere materiality or form, such as *resting* or *waiting*.

A geosemiotic approach is especially useful to analyse the socio-spatiality of urban space because of the significance given to the concept of indexicality. Indexicality "is the property of the context-dependency of signs" (p.3). Indexicality means that users perceive and interpret signs, including themselves and other

users in a given setting, not only with reference to larger, abstract discourses, but also with reference to where they are actually placed in relation to other signs around. A bench in a park by the side of a lake may carry similar denotations as a bench on an urban square, but its connotations are likely to vary strongly in these two distinct contexts. In that sense, the approach acknowledges that meaning making is a context dependent process.

A particular strength of the approach for spatial analysis is that it embraces different semiotic systems that are at dynamic interplay in real world settings but are in most research only treated separately (Scollon and Scollon 2003). The approach covers three broad semiotic systems and focuses on their dynamic interplay, which Scollon and Scollon label as "discourses in place" in the title of their book. I see this interplay as a fruitful way to investigate socio-spatiality because it offers an understanding of how the social and the spatial relate to each other through meaning making.

The first system consists of intentionally produced and placed signs. Following the terminology of Peirce (Peirce 1955), Scollon & Scollen present them as "*visual semiotics*". Visual semiotics are presented by "pictures (signs, images, graphics, texts, photographs, paintings, and all other combinations of these and other) produced as meaningful wholes for visual interpretation" (ibid. p. 8). Visual semiotics in a street are presented by traffic signs, markings and signals, but also advertisements or other visuals set up with the intention of directly giving users a message.

The second semiotic system is called the "*interaction order*", referring to Goffman's work (1971) on how people make meaning of and adapt to different interaction settings. The entities in focus here are people, more particularly, their bodies together with their physical extensions (such as clothes, vehicles, carried items), and their activities. Scollon & Scollon state that "we ourselves are the embodiment of signs in our physical presence, movements, and gestures" (ibid. p. 2). This is crucial for the analysis in this paper, drawing particular attention to the role of human bodies not only as sensory apparatuses but as signs that are part of urban landscapes. Interaction order refers to how people position themselves in relation to others, what they do and what they wear.

The third semiotic system is called "*place semiotics*". In contrast to the more clearly demarcated previous two systems, the entities of place semiotics consist of a "huge aggregation of semiotic systems which are not located in persons of social actors or in the framed artefacts of visual semiotics" (p.8). In simple terms for the analysis in the paper, place semiotics cover all other physical elements users sense and interpret in order to make meaning of the world, as for example buildings, vegetation, materials, colours, patterns, scale and form.

Together these three systems present a geosemiotic context, of visual semiotics, place semiotics and interaction order. Most importantly for the analysis in this paper, I focus on the *interplay* of these systems, rather than on analysing them separately and in isolation. Looking into the relationship of these systems is a way to construct plausible explanations of socio-spatiality in a particular context.

Having established these main geosemiotic concepts I will opertionalize them and analyse shared space as a geosemiotic design idea, trying to understand the particular socio-spatiality of shared space. For example, the imagined square, with its sculpture in the centre, the stone circle and the surrounding buildings represent the place semiotics, the different people acting in it in distinct ways represent the interaction order and the missing signage and markings represent the (absent) visual semiotics. All three systems are interpreted in multiple ways. The interpretations and resulting behaviour depend on

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individuals, their experience, values and attitudes. In order to investigate and learn about socio-spatiality the remainder of this paper elaborates in more detail on how users interpret these systems and their interplay.

3. Case and research methods

St. Olavs plass (Fig. 1) is the square I described in the beginning of this paper. It presents an experiment in the production of urban socio-spatiality of a certain kind. The intentionality behind the design is in line with the intentionality behind the shared space idea, to produce a vivid urban space, characterized by a diverse interacting public with multiple needs without the help of standard traffic regulation.

Prior to its reopening in 2007 after redesign, the square resembled most other street junctions in the city. The asphalt road-space and the sidewalk were separated. Road-space occupied most of the area, with regular curb stones to demarcate the sidewalks, crossings clearly marked and signed in standard manner. Today the square looks different.

In order to subsequently carry out a more detailed analysis it is useful to describe St Olavs plass (hereafter abbreviated as StOp) using the above introduced geosemiotic terms right away.

Visual semiotics to regulate traffic on the square are almost entirely absent. There is no standard signage or markings, except parking prohibition signs located at the square's entrances placed outside of the redesigned area. Other, not traffic related, visual semiotics are street names and various references to the functions of the buildings surrounding the square.

Place semiotics can be ordered into two categories, buildings and the spatial elements between them. The buildings housing offices, cafés, a university building, a hotel, a theatre and a post office. The latter category includes all the elements that were part of the square's redesign, the sculpture in its centre called the "light fountain", fixed stone chairs surrounding the square, trees, street lighting, and a levelled surface. Surface materials are also a significant part of the redesign, consisting of cobblestones and tiles of different materials, used to indicate a soft segregation of the driveway and the sidewalks.

Fig. 1. StOp 2013

 The interaction order. The daily life on the square is characterized by the diverse functions of the surrounding buildings (Fig. 2). People do not just travel along or over the square, but stay and sit at the various places that offer staying (café seats, fixed stone chairs, sitting on stone edges of sculpture). There are large variations in who uses the square, in what way and how many. These variations depend on the time of the day, day of the week and time of the year.

About 2000 vehicles per day cross the square. There is no public transport but a considerable number of tourist buses coming to the hotel on the square and other hotels nearby. The square is part of the official biking route network of Oslo and bicyclists are a consistent part of the users. Many pedestrians visit the square on a daily basis, both for passing and staying at the diverse public and private sitting facilities (Fig. 2). The square is not part of a major traffic artery and only three of the five arms provide full traffic access to the square. The other two are closed in their ends for motorized transport, each leading to a parking house.
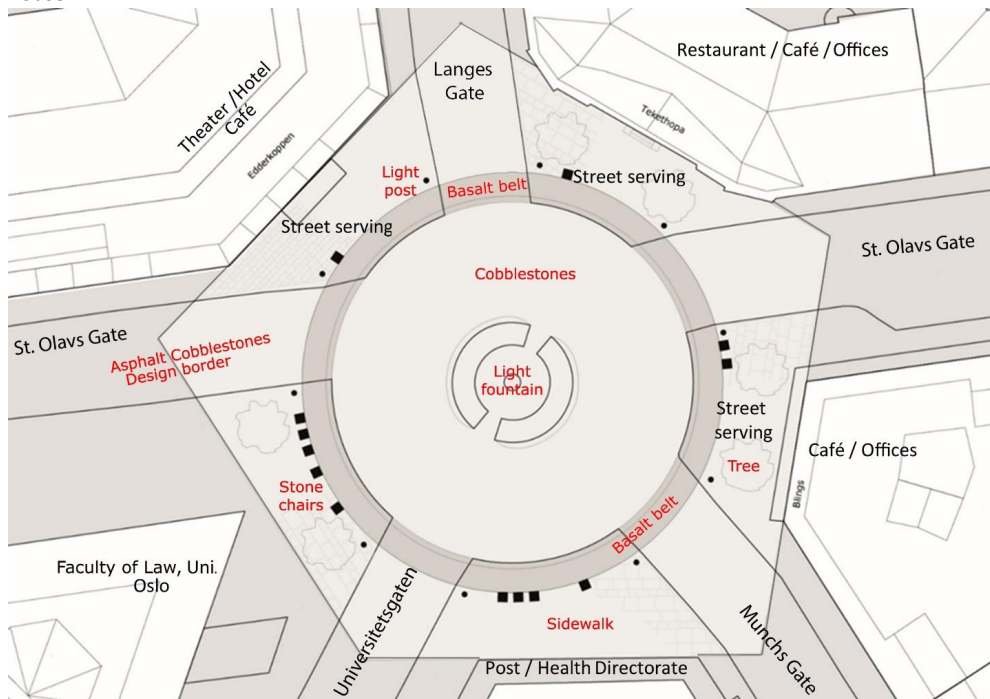
Fig. 2. Layout sketch of StOp. Red text indicates design elements that are parts of the squares redesign

3.1 Methods

I used three methods, a questionnaire, field observations and in depth interviews, to investigate the interplay of the above-introduced semiotic systems. They gave three different but complementary perspectives on socio-spatiality, focusing in particular on the influence of the shared space design properties.

The questionnaire was sent by e-mail to people working at or in close vicinity to StOp, thus visiting the square on a daily basis. The gross sample size is unknown since the questionnaire was forwarded, by administrative persons at the different work places, to an unknown number of employees. In total, 111 persons answered the questionnaire (85% working at StOp and 12% university students), 40% female and 60% male. Most questionnaire questions addressed users' personal experience of StOp in terms of

navigation, social interaction and activities. Of these daily visitors only 30 % state that they actually cross the square entirely when they are there, and only about 13% stay occasionally on StOp to have lunch or meet somebody. About 76 % of the participants use to walk, 17% bike, 5% drive a car, and 2% use other transport modes, such as scooters.

I conducted the observations assisted by a team of four university students, in architecture, planning and human geography, for seven weeks during summer of 2013. The observations focused particularly on incidents in which different users obviously diverge in their interpretation of the three semiotic systems introduced above. These incidents where noted down in fieldwork diaries together with a reflection by the observer explaining why the situation was judged to be relevant in terms of explaining a design-behaviour relationship. These where often supplemented with small drawings. In the end, the diaries contained 200 accounts, which were cross-read and commented on by the research assistants. In addition, frequent critical discussions within the team ensured a re-calibration of the observation focus. In addition, the diaries where also used to write down more general reflections about the life on and the use of the square, and in what way its particular shared space design properties influence it. Thus, apart from being a rich source of information about the relationship of the design and what people do on StOp, the observation diaries make up a comprehensive qualitative source of information about how the four research assistants experience the square.

The 13 participants of the in-depth interviews were recruited via the questionnaire. The interviews focused on how the participants experience StOp regarding its unconventional design, particularly regarding navigation and interaction with others. The interviews served to identify how users address the different semiotic systems. The semiotic focus of the research was not made explicit in these interviews and neither was the shared space design idea introduced to the interviewees until towards the end of each interview.

4. Geosemiotic analysis

This section firstly presents the semiotic dimensions found in the questionnaire, the observations and the interviews. In the end, findings from all three questionnaires are triangulated in the attempt to construct an explanation how the systems interact and result in StOp's particular socio-spatiality.

4.1 Questionnaire

All questionnaire participants visit the square on a daily basis, for work or study, and are therefore familiar with its particularities in terms of navigation and communication. However, no matter their familiarity with the square, the questionnaire indicates that there is no consensus in how to interpret the square in semiotic terms. For example, only around half of the participants agree that the square is a roundabout while the rest is neutral regarding that statement (approximately 20%), or think that is it not a roundabout (30%). This indicates a strong ambiguity in how users read the place semiotics of the square. Not surprisingly, there is a strong negative correlation between those who claim that StOp is a roundabout and those agreeing that they can move around as they wish. The group stating that they can move around as they wish is just as big as the group that thinks they cannot (each 40%, with 20 % being neutral). This trend of disagreement is consistent with the statements by the equally large numbers of participants agreeing and disagreeing that the square is unclear regarding how and where one is supposed to move.

More than half of the respondents (58%) disagree that traffic is well organized. Yet, only about 20% think that it is a demanding task to cross the square. When it comes to the statement that navigation is easy on the square, the participants divide into three evenly large groups, agreeing, being neutral and disagreeing. Furthermore, approximately 30 % disagree with the statement that traffic on the square feels safe.

All these findings indicate that there is quite much confusion about how to navigate and how to interact on the square when moving around. However challenging this may sound, traffic is stated to be quite calm or neutral by 75 % of the participants. This correlates strongly with the majority agreeing that the atmosphere on the square is in general quite relaxed. The questionnaire shows that elements of interaction order semiotics, such as body language and the use of eye contact, are important means to deal with the ambiguity of the space and to achieve this overall relaxedness.

Over 60% agree and only 12 % disagree (the rest being neutral) in the statement that they have to interact with others on StOp. This indicates that the large majority of users seems to react to the semiotic ambiguities of the square by social interaction. 82% state that they use non-verbal communication (of these, 11% use only body language, 43% use only eye contact and 46% use both), while the rest does not interact at all, or is not aware of it. However, the interviews (see below) indicate that users' definition of eye contact may not be limited to simultaneously looking into each other's eyes, but refers to the act of judging from other people's body language if one has been noticed by them. Interviewees explained that for them, 'eye-contact' means simply that they look at what others do, rather than looking than directly into the eyes.

Summing up the questionnaire findings, place semiotics are ambivalent at StOp, at least in terms of traffic, and probably also regarding a more general understanding among users about what type of urban space StOp represents. The questionnaire indicates that users react to this semiotic ambiguity by using body language as the main means of interaction. The observations and the interviews give more insight into how this plays out and what seem to be the main design elements producing semiotic ambivalence.

4.2 Observations

Observations confirm the questionnaire findings regarding StOp's ambiguity in terms of both place semiotics and social order semiotics. Differing understandings of users, about how to interpret the design and how interaction works on the square, are the rule rather than the exception (Box 1).

> "I think it is interesting to see that people show so many different behaviors at StOp. If one sits there long enough one will find examples of all kinds of behavior, as well as among pedestrians, cars or others. It is obvious that the square is interpreted differently by different people, it's not like people have the same understanding."
> (16.7.2013, 9 a.m., authors' translation)
>
> Box 1. Diary quotation

Most representative for the different readings of place semiotics are the understandings of those drivers and bikers who see the square as a roundabout and those who do not, such as when coming from Langes gate and intending a left turn into St. Olavs gate (Fig. 3). Several traffic counts during

fieldwork indicate that the driver group turning directly left is about make up between a third and a half of the drivers. The remaining ones drive counter-clockwise around the square, which is the standard roundabout direction. These contradicting interpretations occurred in traffic entering the square from all directions.

Complementary to the questionnaire, the observations allowed to see how the confusion about the ambiguity of the design plays out in situ. This helped to identify and locate those spatial and layout properties of the square that cause most ambiguity of place semiotics.

Fig. 3. Arrows illustrates the different driving routes for left turns from Langes gate.

Particularly three design elements repeatedly came up in the observation diaries as key features causing semiotic ambiguity, the "basalt belt" the "light fountain" and the "cobblestones" (Fig 4).

1) The basalt belt (Fig 4 and Box 2) consists of dark stone pavement forming a circle around the square. It covers the area between the carriage way and the fixed stone chairs. Neither to car drivers nor to pedestrians it is clear what this basalt belt indicates in terms of traffic interaction. Different interpretations of the belt, as either indicating a pedestrian crossing or just being part of the squares visual layout, often conflict with each other (see diary quotation). Half of the belt covers the drive way and half of it seems to belong to the sidewalk. This distinction is, however, not entirely clear

Fig. 4. Basalt belt, light-fountain and cobblestone.

since the design blurs these categorical borders. A typical reaction amog all involved users is to slow down and engage in a non-verbal negotiation based on body language, about how to pass each other.

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2) The sculpture in the middle of StOp (Fig. 1 and 5) was named the "light fountain" by its artist. It is surrounded by a circular basalt stone and glass construction, containing light bulbs in different colours. In darkness, the bulbs cast light up on the sculpture's huge metal plates mirroring the light into different directions. Due to its circular form and central placement the light fountain is maybe the most important factor causing semiotic ambiguity about StOp. It is an attraction in itself and visitors use the construction for many different purposes, like running around, jumping, sitting, laying down. Further, many diary entries refer to passing pedestrians seeking the nearness of the fountain, in most cases when crossing the square diagonally (Box 4).

> «It is morning on St. Olavs plass and people are on their way to work. Traffic is busy-ish, with cars, cyclists and pedestrians. Many pedestrians behave passively and stop for the cars as they wish to cross the driveway. At the same time, many car drivers assume the basalt belt to indicate a pedestrian crossing and stop when people come walking. If there would have been a standard pedestrian crossing here, I think people would hesitate less in walking over the street. Instead, many stop and wait to see if the cars stop for them.»
> (2.7.2013, 9 a.m., authors' translation)

Box 2. Diary quotation

Despite these multiple uses of the sculpture, many users, regardless of travel mode, associate the square with a roundabout, supposedly because of the form and the position of the light fountain in the centre of the square (Box 3). These different readings have diverse implication, which are of key importance to the square in terms of its performance as a shared space: Firstly, the light fountain triggers pedestrians to cross the drive-way from all directions. Secondly, the semiotic ambiguity of indicating a *roundabout-or-not* causes many moderate conflicts between users traveling around and across the square.

Fig. 5. the light fountain is a popular place to sit down.

> «Confusion – puzzlement – insecurity.
> Traffic is normal on St. Olavs plass. A car approaches from the garage in St. Olavs gate (black dashed arrow). In this moment a bicyclist comes down from Langes gate and cuts the curve (see sketch to the right). She (the cyclist) expects the car to drive as if moving over a roundabout. She gets scared and angry because of almost hitting the car, stops and waves her arms in circles, miming *roundabout*". […]
> (25.6.2013, 9 a.m., authors' translation):
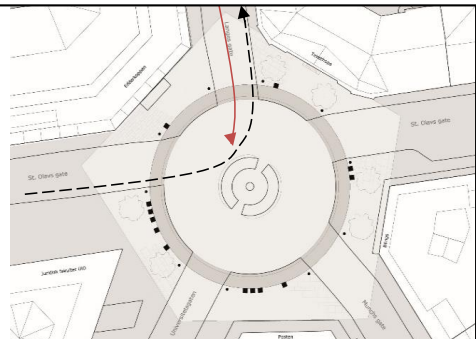
Box 3. Diary quotation

3) The cobblestones are the material paving the driveway around the light fountain. Cobblestones and other stone tiles, as an alternative to asphalt, contribute to the experience that the driveway on StOp is not predominantly designed on the premises of motorized vehicles. Supported by other design features, such as the absence of traffic signs and markings, the levelled surface (the absence of a clear curb), the light fountain and the cobblestones play an ambiguous role for users' interpretations. On the one hand the stones are clearly identified as *the street* by many users. On the other hand, for many bicyclists and pedestrians they rather present an open pedestrian area. This changes in most cases, as soon as a motor vehicle appears on the square (Box 4). In terms of interaction order semiotics, this means that the presence of a motor vehicle driving on the cobblestones can completely change how users categorize the square and, accordingly, their behaviour.

Overall, the observations did not indicate any kind of mainstream interaction pattern, despite several attempts of the research assistants to develop prediction categories of who is more likely to behave in certain ways. The squares' ambiguity in terms of place semiotics lead also to a diversity of interaction order semiotics, since people react and behave in many different ways. Many diary entries (and interview statements, see below) show that users seem to choose to read other's behaviour as an "index" of how one *should* move. In addition, the pure presence of others is taken as a hint of what kind of space the square represents. For instance, pedestrians cross-walking the driveway often change their route and swing towards the light fountain or the broadband as soon as a motor vehicle appears on the square (Box 4).

An additional important finding from the observations is that the square frequently changes in overall appearance. Mainly depending on which mode is dominant, the square can appear as a relaxed social meeting place to hang

«rush – hesitation – puzzlement.
It is nice weather and St. Olavs plass is pretty crowded. To me it seems that there are particularly many children on the square today, some staying close to their parents, while others don't.
A mother with two children crosses the square, coming from Universitetsgata, heading towards Edderkoppen [the theatre]. Just as they are in the middle of the drive-way a car appears, coming from Langes gate, and one of the girls runs towards the centre of the square while the mother and her sister head left, towards the sidewalk area. As the car has passed, the girls runs quickly back to the mother waiting at the theatre.
(5.7.2013, 9 a.m., authors' translation):

Box 4. Diary quotation

out but quickly and unpredictably tip over to be a busy traffic space with tour busses, cars and service vehicles. From that perspective the square gives a good example of how interaction order semiotics create different urban spaces in a single location, under the given conditions of absent visual semiotics and fuzzy place semiotics.

4.3 Interviews

Interaction order is dynamic and changes according to who is present on StOp. This finding is of key importance because it contradicts common accounts about shared space implying that the absence of visual semiotics and possible resulting confusion is simply counterbalanced through social interaction. The following extracts from the interviews illustrate two differing, but not contradictory views of how the

interviewees understand the interaction order on the square. Both point to a certain unpredictability of this order. The first one highlights the shifts that take place when motorized vehicles appear on the square. The interviewee describes how the interaction order gets disrupted from time to time when cars appear on the square:

> Yes I think in a way it's like a contrast, eh, in – well, there is not a lot of traffic here, it's not that, but at those times when somebody comes it seems very disturbing for those that are there – ehm – I would have liked the square much more if it wouldn't be a drive-through-square for cars. Than it would be a better atmosphere. And more life. So I think the cars ruin a little bit this breathing space that emerges here. *[Me: yes. Ok.]* I have thought of a metaphor for that – eh – it's like there is a fish swarm that stays very calm, and then something appears and goes right through it, than it move like this: [*he signals with his hands that the 'swarm' spreads apart*], and reassembles. *[Me: yes]* So it is almost a disturbed relationship. (Author's translation from Norwegian)

The following quotation refers to an incident involving a biker appearing during an interview that took place at the outside serving of one of the cafés. The interviewee comments on the behavior and emphasizes that the interaction order of StOp is uncertain and that the biker can therefore not predict what will happen:

> [Me: He crosses over the left side, with the hands off the bar, just sms-ing] You mean like – this is a very special situation! Even as we speak, really, that was exotic! And without a helmet – biking, cool sunglasses, sitting there, sms-ing, yes, that was special. [Me: Well, for sure he knows the square] Yes, well, but he cannot know the traffic! No – that was bold, not good! (Interview was in English)

In the above quotation, I make a reference to the layout, saying that this person must be familiar with the square. The interviewee makes a reference to the interaction order, answering that the biker can, however, not "know" the traffic.

In the next quotation I asked whether the interviewee thinks that standard roundabout signage (visual semiotics) should regulate the traffic on the square. She answer by referring to the ambiguity of the place semiotics:

> I think it *[having signage]* would be clearer for, eh, the people in traffic how to act *[me: Hm]* Because, when you are – when you are there now, I think you could both experience it as: Is this a regular roundabout? Or is it a roundabout and - or is it kind of a pedestrian zone? Or - what, what is this area that I'm moving in now? *[me: Hm]* So it's. I, I, my experience of it is that it's more kind of like trendy urban. *[me: Hm]* And for me that, that entails that it's often more difficult to – be completely sure of how to behave in the traffic *[me: Hm]* Because there's so many things! (Interview was in English)

The below quotation illustrates a similar experience. The interviewee compares the square with other, regular roundabouts and seems to have made up his mind about how to navigate on StOp. Riding his bike, he does not behave on this square as if biking in a regular roundabout:

> I experience this as a challenge. *[Me: Hm, so you are not completely sure whether the square is a roundabout of not?]* No. there is not any sign saying that - that I have seen – ehm – but it could however look like a roundabout and simultaneously it could look like a pedestrian street, or as a square. *[me: but when you bike there, how do you do it?]* Then I just bike straight over. *[me:*

Straight over, but counter-clockwise, or?] No, I don't care about that. Normally, in other roundabouts I do that. *[Me: But not here?]* No." (Author's translation from Norwegian)

These interview quotations indicate that users experience a struggle in making meaning of the square's socio-spatiality. They express how unclear it is in terms of traffic and about the role they are supposed to play in this setting. The interviews illustrate that the order making process is not a straightforward process on StOp. The interviewees do no perceive socio-spatiality as stable and they do not participate in the setting based on an assumed commonly known code of conduct, as implied in much shared space literature. Quite commonly, interviewees explained that this uncertainty caused difficulties in understanding and adapting to the setting. Many of them are ambivalent about how to interpret the squares socio-spatiality. The observations on the square substantiate that this struggle causes many people to change their mind and their behaviour, while being on the square.

4.4 Main traits of socio-spatiality on StOp

The absence of visual semiotics at StOp in the form of standard traffic signage and markings plays an important role for users. The interviews where explicit that this adds to the ambivalence of the square's socio-spatiality and to the opportunities this creates for action. The questionnaire did not ask explicitly about the absence of traffic signage. Yet, the questionnaire's responses indicate indirectly that this absence influences how users experience and behave on StOp. For example, large proportions of participants find it demanding to navigate on the square and think that traffic is not well organized.

Place semiotics were an explicit factor in all three empirical sources, with the light fountain and the basalt belt taking central stage. The light fountain does not present a typical shared space design element, but it plays a key role in creating socio-spatial dynamics. The main reason for this is the fountain's multi-denotative meaning, presenting a piece of art, a place to sit, lay down, or play, or a roundabout median. The stone belt, on the other hand, can be regarded as a typical shared space design attribute because it supports the levelled surface in attempting to dissolve the division between sidewalk and driveway. In addition to these two design elements, the cobblestones covering the driveway present a typical shared space design element. They contribute to the ambivalence of socio-spatiality, because some users seem to interpret them as a driveway, while others associate them with a pedestrian area.

Different interpretations of all these spatial elements are supported and amplified by interpretations of other elements. All elements relate to each other through their indexicality, meaning that user's make meaning of these elements in relation to all other present signs. For example, if the light fountain were surrounded by asphalt, demarcated by a standard kerb, most likely fewer would sojourn in and around the sculpture.

Interaction order is the most outstanding semiotic system in this analysis, highlighted most explicitly in the observation diaries and the interviews. It seems that, since absence of visual semiotics cause uncertainty and place semiotics are ambivalent, people often look at what other people do in order to decide about the own behaviour. However, interaction order on StOp is equivocal and looking at what others do often leads to even more confusion, because much behaviour on the square is contradictory. Further, interaction order can change quickly and unexpected. For example, the appearance of a car on the square causes pedestrians to change their interpretation of socio-spatiality. This confirms Hammond

and Musselwhites's claim that the appearance of motorized vehicles can cause confusion in shared space (2013, p. 95).

This is an important finding regarding the aim of shared space design to improve the social experience of urban public space. It means that motor vehicles can literally carry the meaning of traffic space into shared space, even though the design lacks all references to standard design. This means that even though visual semiotics are absent and place semiotics are multiple and ambiguous, the interaction order regularly transforms StOp into a transport space because of the mere presence of motorized vehicles, no matter how they behave.

In total one can say that the shared space design, supported by the multiply used light fountain, forefronts interaction order semiotics in playing the key role in influencing socio-spatiality. The other two semiotic systems (place and visual semiotics) cause ambivalence and uncertainty. They are, nevertheless, stable in their (non)appearance, whereas interaction order is constantly negotiated and taking new forms. The following figure (Fig 6) illustrates the interplay of the different geosemiotic systems at StOp and compares them to an imagined standard roundabout in order to show more clearly in what way socio-spatiality of StOp is particular.

Place semiotics
Place semiotics are physically stable, but ambivalent in terms of their denotation. They allow multiple interpretations.

Socio-spatiality
of *St Olavs plass*

Interaction order is constantly changing due to place semiotics ambiguity and absence of visual semiotics.

Visual semiotics
The absence of visual semiotics causes uncertainty and increases opportunities for diverse actions, resulting in multiple different interpretations of place semiotics.

Place semiotics, for example asphalt on drive-way, curb stones or railing are physically stable elements, with unitary and collectively known denotations.

Socio-spatiality
in *standard roundabout*

Interaction order. The type and number of users can change, but their interaction order is less contested due to stable and clear place and visual semiotics.

Visual semiotics, for example signage and markings. Visual semiotics have stable and unequivocal meaning for most users.

Fig. 6. Comparison of socio-spatiality of StOp and hypothetical standard roundabout.

Thus, what characterizes StOp's socio-spatiality is its instability and ambiguity. A hypothetical comparison of the geosemiotics of StOp and an imagined standard roundabout makes this even more clear. StOp's socio-spatiality is subjected to constant semiotic shifts because the three semiotic systems influencing socio-spatiality are either absent (visual semiotics), ambiguous (place semiotics) or unstable and shifting (interaction order). This stands in contrast to a standard roundabout regulated by collectively known and clear visual semiotics *and* place semiotics, as well as a hegemonic interaction order. Thus, socio-spatiality in the St. Olavs plass shared space does not seem to take simply a new form in which social interaction substitutes formal traffic regulation, as much shared space literature implies. Rather, it is in constant flux and moments of stable interaction order are short-lasting and subject to constant renegotiation.

To understand the social implications of the design it is also important to consider that none of the interviewees associated interaction in traffic as part of their social experience of the square. They rather talked about interaction in traffic in pragmatic and passive terms, as a strategy to minimize contact. In terms of categorizing StOp as social or not, they seemed to make a difference between traffic interaction and other types of common activities. They described StOp as a social place because of its meeting arenas, as the fountain, the cafes and stone chairs, but not with a reference to the interactions taking place related to traveling on the square.

5. Conclusion

This paper asked how shared space design influences socio-spatiality in built space. To be able to answer that question I applied a geosemiotic approach to investigate socio-spatiality at St. Olavs plass in Oslo, a square designed in line with the shared space concept. The approach helped to systematically investigate the three different semiotic systems that influence socio-spatiality, visual semiotics, place semiotics and interaction order. A questionnaire, street observations and in-depth interviews gave different, complementary insights into how these different semiotic systems influence socio-spatiality through their interplay.

In the case of StOp, the absence of visual semiotics combined with ambivalent place semiotics results in interaction order to continually take different forms. It is reasonable to argue that this makes socio-spatiality more dynamic than in the case of conventional street design, which imposes a more uniform interaction order through standardized unequivocal visual and place semiotics. This finding stands in contrast to accounts assuming that shared space presents a means to produce unitary order, based on social interaction substituting standardized technical control. It may do so at times, but not in a stable way. Socio-spatiality at StOp is constantly shifting.

Rather than merely adjusting to the spatial conditions of design, interaction order also becomes a determinant part of the dynamic nature of socio-spatiality. One example of this is the influence that motorized traffic can have through their mere presence. Both observations and interviews indicate that the appearance of motorized vehicles changes StOp frequently into a traffic space. A motor vehicle carries meaning and represents an interaction order many associate with standard traffic space, regardless of how the driver acts.

However, it is not only the typical shared space design elements (absence of signage, use of alternative materials, levelled surface) that are responsible for the ever-changing socio-spatiality of StOp. There are also other design elements, non-typical for shared space, that are of key importance for the particular ways in which the different geosemiotic systems interact. The most important one is the light fountain. It does crucial work in activating pedestrians to cross the driveway and become a dominant element of the square's interaction order. Further, the form and the central location of the fountain cause confusion. The number of those questionnaire participants interpreting the fountain as a roundabout median is equally large as those that do not. This confusion contributes to the experience of socio-spatiality to be unstable. This finding means that one cannot conclude that the shared space design alone causes the particular socio-spatiality of StOp. Rather, the shared space design and other elements seem to support and amplify each other in influencing socio-spatiality on the square.

The above findings present a nuanced understanding of how shared space design influences socio-spatiality, in geosemiotic terms. Based on this, it is now possible to frame shared space as a geosemiotic concept, even though not all three systems are under direct influence of design practice. This concept is based on three key aspects: Firstly, minimizing the use of *visual semiotics* such as traffic signs, markings or light signals. Secondly, changing *place semiotics* by changing the conventional street design materials and layout, levelling the surface and dissolving the segregation of different traffic modes. Thirdly, recognizing and accounting for the influence of different travel modes and users' activities on *interaction order* as a semiotic system that withholds from direct influence of design, but nevertheless effects socio-spatiality and makes it unstable and dynamic.

Shared space has not been studied using a geosemiotic approach before. Hence, the contribution of this work is not only new knowledge about socio-spatiality of shared space, but also the exploration and recommendation of geosemiotics as a research tool to investigate urban design's implications for socio-spatiality in built space. The approach has revealed dimensions of key importance for understanding the influence of shared space design in combination with other design elements. I hope that this new understanding will contribute to establishing firmer and more nuanced knowledge about the implications of urban design on socio-spatiality in public space.

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Appendix A

Examples of observation diary entries

Date 16-7-2013

Observer 1

Description: Label: bewilderedness, surprise, play

A little boy runs around chasing pigeons. The father sits on a bench in front of St Olavs plass nr.3 and watches him. As the boy heads out on the square a car appears. The father calls a loud warning and the boys stops and turns around before the car arrives. After the incident he has to sit on the father's lap.

Evaluation:

This example shows how St. Olavs Plass is in between being a square and a roundabout. The father thinks that it's ok to let the son run around freely. Probably he thinks that this is a calm and safe place for little children. But suddenly a car arrives, and the situation changes quickly. The father gets scared and he calls after his son. The son reacts at once and the situation does not get dangerous. This is special for St Olavs Plass. The mix of a calm square where people to hang out and a transport space where cars appear suddenly can be difficult to interpret.

Comment from observer 4:

I don't agree that this is necessarily special for St Olavs Plass. I think other crossings, roundabout, squares or similar places in Oslo shared such characteristics. But the square have their individual "twist", which makes it difficult to define them.

Reflection:

St Olavs Plass is an attractive place for children who want to play. Many run around the light fountain or slide down its slope. The pigeons are also fun, as in the above situation. This may be difficult to combine with motorized traffic. I have seen many parents letting their children run around freely, but also many other keeping them close.

Date 30-7-2013

Observer 1

Description: Time 08:53   Label: ignorance, unexpected, insecurity

A man in his 50s come biking down Langes gate and around the fountain. He is heading towards Munchs gate. At the same time a car arrives, driving from Munchs gate, taking a direct left turn towards Universitetsgata. They meet in the middle of the square and are forced to break to full

stop. The biker looks at the driver and hits his own forehead with his hand, as if saying "idiot". He pushes his bike to the car and says to the driver: "this is a roundabout, you have to drive that way" he points with his hand. I can't hear the driver's response, but the biker signalizes 'thumbs up' and bikes away. The biker didn't seem angry or exited to me, only a bit annoyed. I couldn't see the driver's reaction.

– – –

Car

———
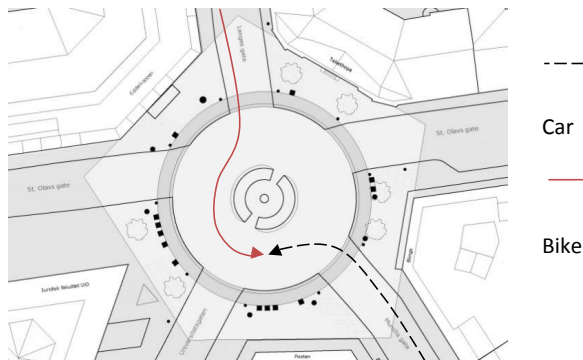
Bike

Evaluation:

This incident is very similar to another one I observed in the beginning of our observations on St Olavs plass. The biker does not expect to meet the car because he interprets the square as a roundabout. The car driver does not see the biker, until they almost run into each other because he comes around a curve. This is a typical conflict which happens because of St Olavs Plass similarity with a roundabout. People interpret the square differently and therefore they also have distinct expectation of how other people will behave.

The succession of interaction is, first eye contact, than body language, and finally verbal communication. It's the biker that was annoyed by the car driver, because he insisted that he was right, and because he is the most exposed one. He would have experienced the most serious consequences if there had been an accident.

Comments / reflections:

I think this is a bit scary side of St Olavs plass. The shared space theory is base don people being more careful because they experience insecurity in any situation. That doesn't alsway apply for St Olavs plass because it resembles a roundabout quite a lot. Those people who interpret is as a roundabout act accordingly, then these situations occur. They rely on that they will not

encounter anybody coming against their direction because they really believe that this is a roundabout where everybody will move counterclockwise. This is a false security, which may rather create accidents than prevent them.

Comment from observer 3:

Yes, I agree that there are too many distinct interpretations of the square; preventing the insecurity mechanism from being effective as it should. To make this really work the square should be designed more clearly, in a way that leaves no doubts that this is a special place where things work differently than in a regular street. One should go "all in" with the design for such a square!

Comment from observer 4:

Interesting observation, of a situation with a lot of communication, which is rather rare. But this is a rather exceptional situation, and hopefully not a frequent problem. I can see the point. But I would rather argue the opposite way (to observe 3): it is necessary that there are many differing interpretations of StOpn rather than few. As it is now, I think there are too many people interpreting the square in one way, as a roundabout. Agree otherwise.

Comment from observer 2:

I agree with observer 4.

Date 30-06-2013

Observer 2.

Description:

Weather: Shifting . Heavy clouds with sunshine in between.

It's quite on St. Olavs plass. Some sit and eat at Theketopa, nearly nobody sits in the sculpture in the middle, maximum three to four persons at a time. I think that St. Olavs plass is not a shared space in 'space', but a shared space in 'time', so not a real shared area, because the use of the *same space* does not happen at the *same time*. When there are many cars the pedestrians give way, or they stay closer to the outer edges of the 'roundabout' area. In contrast, when there are only few motor vehicles it is the pedestrians that swarm around, and then many are surprised if a car arrives (especially those that are not familiar with the square). Many tourists, in small groups as well as whole buss groups, take a picture of the sculpture and go on.

Comment from observer 1:

This is similar to the situation when it suddenly started to rain so much that no pedestrians stayed on the square (31st July 15 hours). In this moment, cars dominated the square and started to

behave more freely. I have the impression that id there are many pedestrians the cars become a bit more passive and considerate; while, if there are only few pedestrians, speed goes up. I am trying to say that the number of pedestrians is crucial, the volume of people on the square has much to say. When there are many people sitting in the middle of the square the atmosphere resembles more to a piazza, where the pedestrians have priority and the cars have to adjust. When there are few people staying on the square, such as during the morning hours, the square is to a stronger extent interpreted as a conventional roundabout. That is why more people walk than on the basalt belt and the cars have priority.

Comment from observer 4:

I think this is an interesting analysis, to which I agree.There is a constant shift in the balance regarding which user groups has «the power» on the square. Many pedestrians and few cars mean that the pedestrians have more freedom and are more self-confident (it seems). When there are no people on the square it quickly turns into a road space and the cars go faster.

Date: 18-07-2013

Observer 2

Kl 12:49 The couple is back!   Routine, repetition

This is the third or fourth time I see them! Have not written about that before, though. I didn't realize that this was so repetitive. But well, this is the routine (present):

The car stops havl way in the basalt belt in front of the post office. The man drives, the woman sits in the so-driver seat. The car stops, the motor is swiched off. The women exits, exchanges a few words with her husband, than inters café Blings to by some food. Comes back. Bilen stopper, motoren slås av. Kvinnen går ut av bilen, veksler noen ord med mannen, og går inn på Blings for å handle mat. Kommer ut igjen.

I think this is what will happen next (future):

The man will exit the car, the woman takes the driver's seat, the man get's his share of the food she baught, will leave walking down Universitetgata. The woman drives up Langes gate (some times she has also driven up St Olavs gate.

Back in present time: Everything I predicted really happened! The couple is in their 60s.

I think: This is a fixed procedure, and that this is a good place to stop and have a driver change.

Date: 29-07-2013

Observer 4

Biking family

- It is 14:55
- Two boys/young men and their parents come biking up Universitetsgata. The boys are a bit faster and stop close to the waste bin by the post office. The mother takes a picture of the light fountain. They talk together. Than proceed biking towards St. Olavs gate (west) , passing the light fountain on the left (clockwise). A car approaches towards them in the roundabout (counter clockwise), breaks and makes a little swing to avoid a collision. The bike further on. Close to the Edderkobben theatre a motorbike appears from their right, approach them from behind while they bike towards Pilestredet. He is forced to break and stop in order to not collide with them.

Comment:

This is a situation of potential conflict. Four persons bike the «wrong» way without giving any signals about their intentions. Nevertheless, it seems neither the car driver nor the motorbiker get upset (as far as I can see), and adjust to their behaviour. On the other hand, there is also no communication between the cyclists themselves. The biking family simpli just the way they like. An iteresting point is that they appear to be tourist that are not familiar with the square, however, the move just as they please and do not show conderation of other traffic participants and seemingly not even their own safety.

Comment from observe 1:

Maybe they feel safe because their are many. Four bikers occupy a lot of space, maybe this is the reason why other adjust to their behaviour. Perhaps they are also used to such settings, from where they come from (if they are not Norwegians). Possibly they are not used to such settings at all, and simply interpret the street to be an open square, and not a street, as many others also do.

Appendix B

Interview guide and exemplary interview transcription

Interview guide for in depth interviews with people working at StOp.

A)

General opening

Ask for permission to make a voice record.

My name, where I work, my education, the general topic of this research.

Avoid mentioning or going into shared space, social implications of design, focus on social interaction.

B)

Important questions to ask in all interviews:

How do you use StOp? For example, do you just pass it, or do you sometimes stay on the square for any reason?

Have you noticed anything particular about how traffic works on the square? What do you think about that?

What is your usual travel mode when passing of staying on StOp?

What is your own strategy to navigate on the square? How would you explain how traffic works for somebody else that does not know the square?

How do you understand the term 'eye-contact' in the context of people interacting in traffic? How does eye-contact work?

Do you use body language on StOp? In what way? What situations?

Do you remember any particular traffic incidents that made an impression on you?

Do you think the square is a social place? Explain

How would you describe the atmosphere on the square?

Do you know how the square looked like before it was re-designed?

Example of interview transcription I

Female – 23.07.2013 på StOP – we meet at the fountain but pass the bycicle stand to sit on the kerb beside the parking cars.

S: Researcher

J: Interviewee

S:Flott – jeg ta en Doktorgrad på UMB og dette er statens Vegvesen som betale stipendiat fordi de er interessert om gateutforming som heter Shared Space. Her du hørt om dette?

J:Nei – men jeg kan forstå konseptet ute fra noe andre

S:Ok – jeg tenke mye om samspill mellom brukere – så det er ikke mye om trafikksikkerhet og og tekniske ting – det er mer om sosiale ting –

J:Ja

S:Og da studere jeg hvordan folk samhandler og sånt – men da her jeg svarene dine – og jeg skal spørre mer om det og så videre om generelle ting også – hm –

J:Hm

S:Da stå at du er student? – men hver slags – hver slags –

J:Evige student.

S:Evige student?

J:Ja – jeg har en bachelor fra Blindern – i Nordamerikanske og Amerikanske – og tok jeg også sosialantroplogi – eh – som delfag – eh – og så har jeg også tatt et år på shipping management – så det er en sånn logistik-fag – og har om dagen kom jeg in på byggeingjeneur på høyskolen så det skal jeg begynne på i august

S:Oh ja kul – ok - så skriver du at du jobbe her på Sant Olavs Plass?

J:Ja- jeg jobbe på Edderkobben på deltid – på resepsjonen – til sida ved studium – så da fikk jeg linken via min sjef

S:Men de på ferie nå? Eller

J:Nei – vi har hotellet – jeg skal på job kl 11

S:Ok – ja – flott – ehm – du sier at plassen – St Olavs Plass er særegen? På hvilken måte? Hva mener du?

J:Eh – den har en sånn kontinental feeling – føler jeg? Ehm – at det – ehm – ja – det er samspille på en måte mellom biler både, men den kafeen synes jeg er veldig flot og så denne veggen som du sat på – eh – rund – hvordan den blir brukt – for eksempel i forhold til døgnene og årstider – eh – nå solar faller inn – på i mellom byggen så er det ofte mange steder hvor er skygge og så har du en liten fil eller en en del af denne ringe som er belyst af sol – da sitte alle der – så går du forbi en time senere så har alle flyttet seg til det neste stede hvor sola er – så på en måte den – den har en fin dynamikk også (tha space is

dynamik – the struktur, the sun and the people are linked – constantly recreate the space – Julia direktly adresses the change of the space as something that characterises it – and she links it direktly to how she experiences the space)

S:Ok – kjenner du plassen – hvordan han var utformet før?

J:Nei – jeg flyttet til Oslo i 2006 og jeg har ikke vært har så veldig mye – eh – før jeg kom her for 2-3 år siden – når jeg begynte og jobbe har og jeg har også trent på CU (?) så har man blant annet passert her burte. Men den ligger også veldig – sånn – avlokka til så jeg synes at det har vært merkelig og koma seg in fra forskjellige gater og så ser men statue og tenker jeg – yes – ligger den der? – for den eneste veien opp hitt som jeg først vist var jo opp universitetsgate forbi nasjonalgalleriet men så plutselig en dag så passere du her og så ser du statuen eller hvis du stå på veien ved st Oalvs Kirken – eh – og sen kommer litt nær som overraskende fra mange vinkler og det gjør det litt sånn .. ja – jeg liker det – det er gøy

S:Ok – ehm – hvor fra er du?

J:Eh – jeg er født i utlandet – men jeg har bodd i Hedmark før jeg flyttet hitt – så jeg bodde langt in i skogen.

S:Oh --- eh ---det stå at du synes det uklart hvor man skal gå på St Olavs plass - men samtidig synes du at du kan bestemme selv –

J:Ja – fordi det er ikke klare – eller – du se at noen av de fortøyenskantene – men også – jeg leste en sånn notice i aften – når Aftenposten hadde de der bilagene sine for Oslo by – eh om at dette her ikke var en rundkjøring men en fem veis kryss – eh – så bilistene har egentlig lov til å svinge til venstre. – eh – hvis man komme opp herfra for eksempel – og at de trenge ikke nødvendigvis å ta en hel runde rund statuen da – eh og det er jo – fordi mange bilister blir forvirret over det og – folk – til folks er også forvirra også når du ser over i luftlinje så er det på en måte så mye lettere å bar kutte og gå i veibanen i stedet for å følle fortauskanten fordi det blir på en måte mye lenger – men eh – jeg her selv aldri hatt problemer med å krysse plassen og følt meg - ja – nei at det er noe problem med å gå ja at jeg vet at jeg vet at jeg ikke burde gå i veien da er bilene kjøre – men jeg føle ikke at jeg skape for store faremomenter og at man ha så pass gå oversikt da

S:Ja – ehm --- kan du forlkare hvordan du forholde deg til andre på plassen ? eller huske du noen eksempel – har du sed konflikter eller -- rare ting

J:Ja – jeg tror de er blant annet forvirring om noen som få lov til å kjøre ditt eller ikke få lov til å kjøre ditt og er det gjerne store kjøretøy som her - og sirkulere her mye både fordi de er --- plutselig så kommer en ruter buss der – de er helt rart (points to a public bus crossong the square) det skal ikke gjøre eh –

S:Oh ja – de er ikke her vanlig?

J:Nei – ikke vanlig – eh – vi se jo ganske greit fra resepsjonen den plassen – også særlig nå vi har bus grupper så har vi spesielle rutine – vi skal forberede oss når det kommer bus-grupper – og så er det hotell i riktlinien (??) også – og så ofte så kommer en bus og så svinger han veldig nær oss og så få vi sånn følelse – shit vi skal ikke ha noen grupper på besøk vi - og så tar den en sånn ekstra runde og så må han ofte rygge seg litt nær hitt for også å kjøre videre – så for større kjøretøy så tror jeg er det er sliten å finne fra (??) – eh og så vet jeg at mange av våre gjester som ikke er fra byen de slite (??) veldig med å komme hitt fordi GPSen – eh – ikke fungere som den skal – og vi har funnet ut at langens gate 1 er den

adressen som få deg best til StOP, ja - så tar du StOP in i GPS ditt så få du ikke hitt likt effektivt som med Langens Gate 1. eh – og da få vi ofte tilbakemelding på jobbet at – eh – bilister synes det vanskelig og komme seg hitt - at det er sperret der, at det er enveis-kjørt, at det er sperret der nede ved Pilestredet – ehm – sånne tilbakemeldinger få man og så se man som den lastbilen der nå – sånn som måtte rygge seg og ut for den hadde antageligvis hadde kjørt feil – men jeg tror den mindre biler har det lettere av det og de som gå på fot og sykkel har mye mer å for å ståle (?? Forstå?) for og mye greiere da –

S:OK – eh – ja - du går mest over StOP. Hvis du forklare for noen som ikke kjenne plassen – hvilke prinsipper gjelder om samhandling på StOP?

J:Oh! – jeg vil si at eh – for eksempel den utekafeen er veldig fin og at – eh- jeg forså vit at det er et grei sted å møtes – eh – den er kanskje ikke like kjent som eh – fontene bak nasjonalteatret der hvor T-banen kommer ut og alle møtes da – vi møte på nasjonal – jeg tror at vi ikke sier like ofte at vi møtes på StOP, men – jeg tror at den fungerer ganske greit på denne måten. Eh – til at man kan ta seg en pust i bakken – så som for eksempel – eh – nå de trærne blomstret i vor – det var kjempe vakkert – det var helt sånn –

S:De Har ?

J:Eh – de trærne som er akkurat rund StOP de to der og så ved KIWIen – de hadde sånne veldig flotte rosa blomster – at man igjen fikk sånn følelse at man ikke var i Norge – eh- og det var luftig været – og det var kjempe fint – så den er – eh – den har litt sånn – kanskje ikke magisk følelse, men den er litt interessant – og så er det – eh- faktisk, hvis du kjenner til den – så er det lettere til å komme seg på andre steder i byen - som for eksempel til å komme seg til løkka – nedre overkanten-område (??) så kan du bare gå over der – så mange sa at man må gå via sentrum, via grensen og sånn – ja – men det er bare over der, over StOP og så ditt og så .. da synes folk – ja –det stemmer – så den er eh – den er litt sånn skult og det er på en måte – det er litt gott også – selv om det er en god del trafikk so tror jeg ikke at folk ikke er klar over – hvor fin den egentlig er da

S:OK – men hvis du forklare hvordan folk forholde seg i trafikken – for noen som ikke kjenner

J:De er ikke kaos – men de er liksom et anarki – uten at det er et problem da – eh – det – folk føller ikke så veldig regler og strømmer – at eh - som jeg har satt også – at man krysser lit sånn på tryss og kryss og tvers at man går ikke i strømmlinier bort over – at de er rom for mye mer eh – versatality kreativitet da.

S:Ja – fordi ---

J:Eh både fordi – eh på en måte fortau-steinen og asfaltdelen for der er brukt stein akkurat rund og det er (på stein ??) og det er jo hellinger og plater og de på en måte spille på hverandre så du ser ikke de tydelige skyldene som for eksempel på Karl Johann hvor du har relativt høye fortaus-kanter eh – og fargeforskjeller da – mellom Asfalten – der hvor kjørebanen er og fotgjengerfeltet med de nye marmorplatene – så der er også de grensene vi skal litt mer ut – eh – og vi har jo gjester som kommer og skal bare parkere litt for siden og hente in en billett som de skal kjøre i parkeringshuset med – så det er også lettere for dem at fortaus-kanten er så liten å kjøre av og på – og – ah eh – vi har jo veldig handicapt-vennlig hotell så det skal være mulig og lett å kjøre inn med alt mulig, rullestoler og så videre – så det er også bra at – den er ikke så veldig markert da. (expresses how positive it is to leave the markings of space to the users).

S:Ja – har du set blinde for eksempel, på plassen – hvordan de bruke – eller er de forvirret, eller?

J:Nei det har jeg ikke lagt merke til – de kan ja – nei, de har jeg ikke lagt merke til.

S:Fordi blinde – fordi de har ofte kritisert disse utforming – i utlandet – det har vært steder i utlandet som kalles shared space – de er sånn som StOP men de har fått label som shared space . de bruker ikke skilt og ingen separering mellom trafikanter og ingen markeringa på veien og sånn – ingen trafikklys og ingen sånn vanlig regulering – og de kalles shared space – og – men StOP er akkurat som sånn. Den eneste i Norge som virker nesten 100% som Shared Space – og blindeforeningen har oft kritisert disse steder fordi da har de ikke denne universelle utformingen og vet ikke hvordan de –

J:Ja men jeg oppleve at Oslo er kanskje generelt ikke den beste shared space, jeg huske – for et par år siden jeg hadde – jeg hadde et fransk par som skulle ta banan til Holmenkollen men de var når Holmenkollenbanan var under arbeid så da måtte de tar bus og så hadde de en liten sånn barnevogn med barnet sitt og synes det var så torment (??) å gå fordi de var så mange høye fortøy sånne høydeforskjeller – ehm – her i byen at du måtte hele tida opp på en kant, ned på en kant opp på en kant, ned på en kant at da tenkte jeg – jeg er litt enig med dem – de er nok veldig mye om det – jeg vet ikke om de har noe med klime vort å gjøre at i blant er så mye rein og mye snø – så du må har – lit tydeligere forskjeller da – ellers flyte det for mye – det tror jeg mange glemmer – at eh- særlig på sånne flotte sommerdager som nå – at vi – eh – vi har vinter.

S:Ja – ja – hm – ok – så sier du at du må ha øyekontakt med bylister og syklister – eh – men samtidig sier du at du må ikke samhandle med andre trafikanter på StOP så mye –

J:Ja – nei – jeg ser dem og jeg ser særlig farten på bilene og som ofte så er det veldig god og lav fart her – eh – så er jeg trygge og kan på en måte gå og så prøve jeg å ta hensyn at så snart som jeg har kommet over plassen – nei in til den ringen at jeg gå langs den til jeg må igjen krysse, krysse veien men igjen fordi det ikke er en rundkjøring – du kan ikke bare stole på at høremansregelen gjelder har, men at biler kan komme fra aller retninger at du må likevel kike litt, men jeg har ikke hatt – ja – konfrontasjoner eller måttet – styre mer – ja – jeg har følt meg trygg –

S:Ja så du ser over og vurdere plassen –

J:Ja – så det jeg vet at der er en rundkjøring ved Furuset – hvor dem har plantet veldig høye grantrær – eh morsomt at det er Furuset så det burde har vært fura – eh – men jeg fikk beskjed, eller kommentar om at det er nok gjort for at det skal være tett slik at du ikke har en syn, så du har sss- nok fart, der komme du gjerne fra motorveien og in, men her, synes jeg, er det en stor fordel at du har full oversikt over plassen – så at trærne nå allerede er så pass bl.. trekrone er så pass høye da hvert fall i stå vanlig bilhøyde så ser du gott over alt og kan ser sosiale mennesker ute da

S:Ok – men du venter ikke for øyekontakt med andre? Du mer sånn ser over –

J:Ja, jeg se de – og så se – du ser litt in i bilen og på en måte hvor sjåføren er – om den har oppdaget at det finns eh – to gate til fra den veien fra de ofte, når den kommer in så er den allerede på leit etter noe så det gå ganske sakte heldigvis – men igjen fordi det ikke er en rundkjøring og man er litt forvirra – eh – så – tar man det helder likt sakte – og sjekker .

S:Ja – men samhandlingen? Tenker du at du må samhandle med andre, mer på Klingenberggata – huske du det andre bilde i undersøkelsen –

J:Ja – ved kinoen da – eh ja – delvis, fordi ofte er jeg da mer på kvelden, selv om jeg er ferdig med vaktet på alle mulige tider – der er det lit mer festsammenheng så man er litt bruset og andre runda der også er det – uten om taxisjåførene folle viss (??) – så det er – der kan – jeg har sånn følelse at der kan det være litt mer sånn cowboy-kjøring – eh – sniking in og ut – eh – av taxibiler og folk som bråbremse taksibiler - at der er det litt mer kaotisk, men det er igjen – fordi man kanskje er litt – eller det er annet stemning - og så er jeg ikke så ofte der i forhold til der –

S:Så du tenke at du bruke mer samhandling i vanlig gaterom? Mer en på StOP?

J:Eh – ja – men jeg tror det gå litt på å være trygg på noe – jeg bor ikke langt fra Mayer-Oslo Krysset - og det har jeg gjort i fem år – sh – så den er jeg veldig trygg på – så jeg vet hvilken lys fungere hvordan – så selv om jeg har fått grønn – som jeg dobbeltsjekke der at han som akkurat har fått røt ikke fortsatt kjørere – eh – så de tror jeg gå mer på kjennskap og trygghet fordi – jeg er så pass ofte på STOP – eh – og kjenne den så pass gott – så er jeg også mye tryggere – i mine bevegelse fordi jeg vet på en måte hvor potensielle farer kan kommer mens på Klingenberg så er jeg ikke likeofte der selv om de er færre gate og den er løkka av på en måte til drosjer (??) bilene har veldig lav fart da – men der er ofte mye syklister og fordi så mange av stedene har uteservering ut – eh – og sånne typer plater (touching the flor we er sitting on) som ikke er alle jevne – er de? For senker om? Er det på grunn av vann? Som sån også foran nasjonalgalleriet er det sånne plater og de er ofte ujevne og jeg har snublet de 80 ganger over det siste par årene   - jeg ofte føle det er litt same greie på Klingenberg – de er litt ujevn grunn - eh – de er syklister sykle som er parkert ute på peringer (??) – uteserveringer – folk som er beruset – og taksikjøring – også – hvis du kommer byttelitt i gangen ned (??) så er det trafikken fra rådhusplassen som kommer ut og så er det ikke de alltid kjøre riktig – der er også en del busser – eh – ja – men den plassen er jeg ikke så ofte på og derfor føles den mindre trygg og den her da – fordi den her stå jeg og se på fra jobben –

S:Ja – men det med å gjøre hvor bra du kjenner plassen eller har det med utformingen å gjøre?

J:Jeg tro de har med eh - – begge deler – fordi jeg er også sjeldne der men her er det mye mer symmetrisk – selv om den ikke har en sånn strømlinjeform allikevel så like jeg symmetrien her borte og alle bygningene rund og gatene som er mer eller mindre like breie – kanskje her er det breieste stedet men det er på grunn av parkeringer og syklene – men her er det mye mer organisert – det like jeg her i forhold til der nede – der nede er det – mer en løkke og ikke en – fordi den starter i midten, den fungere jo faktisk som en rundkjøring – de fleste velge å bruke den som en rundkjøring selv om du kan svinge til venstre så er det mange som tar seg halvrunden rund ….(.???) – og så hende det at vi får folk in og som lurer på om hvem har laget den statuen – så på en måte hadde det vært fint å få opp et skilt – om hvem som er kunstneren, ikke bare om når den ble åpna – fordi det er vanskelig å finne - tror at jeg klarte å finne det en gang men når har jeg glemt hva han heter – Mette Lovis .. navn . 2002 (????)…eller

S:Men plassen åpnet 2007?

J:7 ja

S:OK – så – eh- oppmerksomheten din er påvirket av hvor bra du kjenner plassen og ja – jeg spør fordi i teorien da er – utforming av sambruksareal som dette her – de tror at folk blir mer oppmerksomt på den plassen en på vanlig kryss fordi på vanlig omrade og vanlig utforming da – gjør alle samme ting og du har tekniske kontroll over hvordan folk forholde seg og her har du ikke teknisk da bruke du sosialt eh---

J:Ja – det kan de være men det fins jo et år ah fysiske gjenstander som gjør at du føle deg trygg da. Som for eksempel de trestolene – nei de eh b- ja marmorstolene som stå rund – de er eh --- de fungere som barrikader da så du kan i verste fall hoppe litt til bake og for… (??) en, hvis du tar den i mot mye av støyten (???)og så at det er den ringen er ganske mye beskyttelse da noen høyre – sånn sperre-taskler (??) og igjen så se bilistene dem og kanskje sake ned farten for de er – eh skal litt mer til å komme gott ut av det i forhold til dem der, i forhold til en vanlig fortauskant da – eh så det føler jeg at de dra til en sånn trygghetsfølelse - ------ og så er det mange på en måte uteserveringer og sånn som blir litt for travle – fordi der er så mye trafikk som sånn rett her nede når du kommer ut av tunellen – eh, det er ikke noe koselig å sitte der mens her – jeg har selv sittet på denne uteservering et par ganger og – al – bilene kjøre så pass sakte at de ikke forstyrre for mye at – ja- så følgelig er …merkelig å spise …. Ja de de to meter da men den er ikke for ille

S:Ok – ja du snakte om trygghet og du sier at du føle deg trygg uansett at trafikken ikke er god organisert – men du har forklart det nå ------- og i spørreundersøkelsen da sier du også at du føle deg utrygg – uansett er trafikken god organisert da

J:Eh – fordi du kan jo aldri – på Klingenberg? Ja – som jeg sa på grunn av alle de bussene og den ujevne greia og fakten at der er flere utesteder og mer folk som er påvirket av alkohol og så er det flere som bodde der – så du har – sånn som for meg som er en liten nett jente og gamle gubber som sitte har og har drukket siden kl 12 – eh , ja.

S:Så det er mer sosiale – eh

J:De er mer sosiale, eh ja - men igjen så er den en litt sånn plass hvor - jeg skjønne ikke at de har behov for biler da i det hele tatt. Eh – at det – hva er det man kjøre de burde og så fall at søppelbiler og varebiler som levere burde hatt sine tidspunkter – eh – og denne taksiløkka - ja – nå vet jo ikke alle at den er der (???) men igjen – så tro jeg at den plassen kunne på … (???) bedre ut hvis den var kutta ut helt da.

S:Ja – ja – vi tenkte å finne et kryss som her sammenlignbare funksjoner men hvor trafikken er organisert på en vanlig måte og derfor valgte vi Klingenberggate – men hovedideen var jo å har et kryss som ligne alle andre vanlige krysser – eh – ok

J:Der er det heller ikke lyskryss da

S:Nei – ikke lyskryss, nei – jeg vet – men det er separert trafikk på en vanlig måte – de har jo asfaltvei og

J:Ja men som den gata fra Rådhuset fra vannet på en måte – den er så brei eh – at de igjen så føle jeg at man mistet litt av oversikten fordi veier som er eh – klar turlane ?? sånn som for eksempel eh – Kirkeveien – eh- der er de mid-felt (??) og så har du to linjer vest over og to linjer østover – eh – og der føler jeg an har tryggheten da- fordi du ser klare – mens på Klingenberg også er de eh – for den ene gate blant annet er så brei – så er du plutselig forvirra fordi plutselig har det stoppet en bus der og så er det noen som lurer seg forbi (describes a situation how agents create a space) og så kommer en bus til fra rådhuset og den må jo har skikkelig svingradius eh – og så videre – at det blir plutselig sånn føle at man kanskje kan har sex biler i bredden – og det er mye mer forvirrende fordi de er mange flere ting å holde oversikt over mens her har du helst plass til en – to hvis de omkjøre sakte og du holde oversikt og de igjen – færre biler gjør at man har en tryggere følelse fordi da har du færre å føle med på da – men jeg er den typen som gjerne like å ha oversikten og følle med en stor ….. (????)

S:Ok – er noe som forstyrre deg med plassen? Eller noe du liker med plassen – mer sånn generelt spørmål. Noe som du er ikke fornøyd med eller noe som ja

J:Ehm – en sjelden gang så lukter det – lukter det – det er sånn kloakkluft – den lukta finns enda mer der nede ved Nasjonalgalleriet eh – så jeg vet ikke om det er på grunn av for mye vann eller for lite vann i i rørene eller rørsystemet men i blant så er litt sånn ubehagelig kloak-aktige lukt og det er uheldig -eh – så det liker jeg ikke – eh og så er det bus – manglende bus parkering men samtidig så er det veldig deilig at det ikke finns bus parkering men som eh – arbeider på hotellet så er det ofte jeg må tar den diskusjonen med bussjåførene – de bare – ja hvor skal parkere bussen? Så si jeg at du må opp på Radisson blue, for eksempel – og så sier de: ja men kan jeg ikke bar stå her - og ja – nei de kan du ikke – fordi eh – de bare: ja men jeg har utalandsk bus så jeg gi dritt om jeg er i forbud – vi sier ja – få brann (??) vi må en stig – bilen stå i veien – så flytt bussen din . så – vi måtte tar den krangelen i blant da – og så de bussene som kjøre rund her og så kjøre feil og så videre – og så mye rygging og så videre – men det har jo kanskje delvis med jobben å gjøre – heldigvis så er generelt lite trafikk her så vi er glad for at vi ikke har rutebussen gående her – jeg tror det var en liten stund i forhold til 22. juli område – at det gikk litt rutebuss på grunn av mange andre gate var sperret da – men ellers så har vi ikke offentlig transport eller trykk eller noe sånt i nærheten og veiene som går her den eh – bråke så pass lite at det faktisk eh gå bra – den lage en sånn generelt støy men ikke nok til at det er forstyrrende – men jeg like, jeg like bygningene som er her og på en måte begynt å --- selv om mange vil si at de ikke er helt perfekt arkitektonisk da – så hver sin særegenhet og sjarm

S:Ja – jobber du her bare om sommeren eller?

J:Nei jeg jobber deltid så jeg jobber ca. annen hver helg og det har jeg gjort i to år – så jeg har vært her alle årstider og til al slags vær

S:OK – eh – husker du andre plasser som er sammenlignbare, i Norge eller i verden?

J:Oh! – det er vanskelig å si men jeg husker at jeg var i Milano eh – og da fikk jeg en litt sånn følelse (talks more often about feeling, instead of experience!) av at det, eller det minne meg om det, en sånn typisk plass hvor du har litt kafeer litt biler men samtidig så eh – er det ikke like – antagelig ikke så amperjkøring (??) her da at folk tuter ikke, dem har, hat ikke, at det er mye mer rolig da. Der gir den behagene

S:I Milano – når var du da?

J:Oh – det er vel et par år siden –

S:Ja – jeg var der når i sommer – ja – jeg synes det veldig bilistisk by

J:Ja – de har jo trykk og de har biler og så videre men eh – det er ikke sikkert at det var en sånn type plass, men i blant så passerte du en sånn bakgård og så hedde dem en sånn bakgård in i med en liten fontene eller sånt hvor det var et eller annet – eh hvor man sånn – hvor er rolig følelse eh – og i blant så synes jeg den plassen er absolutt kan by (??) på det. På kveldstid og på natters tid så ehh – ja det er litt ubehagelig blant og komme opp og jobbe hitt men de kan man jo på en måte ikke så mye for at eh at fulle/fugle (??) folk har vært og velte søppelkassene som igjen bidra til søppel og igjen bidra til måke og at det ligger og flyte her litt og det ser ikke ut – eh – og da blir jeg litt sånn skuffet sånn kjære meg ikke om ….(???) og så har vi men som for eksempel som brannvesen og sånn det kommer veldig bra tid, men

de kjenne også selvfølgelig hvordan de komme seg ned hitt men – de par gangene hadde brann åren ?? i forhold til jobben – må vi evakuere som komme brannvesenet så har jeg alltid hatt dette

S:Der var en eksplosjon ikke sant?

J:Ja det var for lenge siden – det var – oh – kan det være 7 år siden eller sånt – det var den lille juleaften – så var det noen som hadde kjørt ned i parkeringshuset og hadde noen gasstanker i bilen og da var det sent på kvelden lille juleaften så da var ingen mennesker her og de var, dette teater på innsiden og da forsvant hele senen, du kunne se et par etasje ned der hvor scene-gulvet er i dag – det var ingen som ble skadet fordi det var så off-season da – ikke mye folk – men man bygget teatret opp på nytt – det er nytt anlegg – jeg tro vel at det er parkeringshuset du ser der gjennom de der glass eh – veggene på den veggen og – ofte så se man barna leke der, leke på den de bruke den veggen eller skå eller sklie og så videre – ehm – de er sjelden jeg har en følelse av at – hvordan mor hvorfor passe den ikke på – at eh – også barn som leke mitt i – på en måte trafikken – er – er trygge da – så det er gott

S:Ja vi har vært har mange dager og observert sånne situasjoner – forskjellige situasjoner du ser er ikke i et vanlig gaterom – så vi er oft her og observere - eh – deltakere – ok – da tror jeg vi er ferdig

J:Ja så bra

S:Than I ask her to remind others to answer the questionnaire …

J:Men det er gøy! Og så leste jeg her om dagen at Jalejale, eller den restauranten som er her, som er en av de bedre high end restaurantene er den heter det fordi Knut Hansen sin suld, som var skrevet, så var det han hvor var forelska i jenta og hun puttet i den gule gården og nå er det restaurant i den gule gården og restauraten har da blitt kalt opp etter henne og eh – så den har den historiske – eller ja litterær-historiske delen – enten (??) så var det vel gamle apoteket som sånn en lille restaurant som heter Teketopa, som er Apoteket baklengs (??) det tok meg to år å lære – de er bra – jeg klarte ikke å si det – men altså den tro jeg også gøy at det er en sånn kontinental følelse – servitørene har sånne klassiske hvite skjorter – eh – og er litt sånn – jeg lurer på om de er fra Tyrkia egentlig så dem – dem ser – ser – du få veldig sånn Italia eller sånn sånn feeling da – så jeg synes de er veldig stas – altså den er der og den bidra nok så til at – eh – de er høyre trivsel her – ehm – den lille kafeen på hjørnet der kunne kanskje har gjort mer for å være med – men det er ikke sikkert de er like gott utsatt i forhold til sol – den Blinks – og så hende det i blant at folk kommer og spørre hvor tinge er – eh – ofte så finne dem ikke eh – jeg lurer på om det er S Olavs Gate 22 som er vanskelig og finne – de er blant annet sånn NAV relaterte greie og så videre eh- brukere som er allerede slite med å snakke norsk og som skal på et land i tur og så er hun forvirra og er på vei (??) til Operns plass eller …(??) så jeg er litt usikker på om det er det bygge der eller om det er rund hjørnet eh – så man – om det om å skilte bedre eller om de skilte (??) de bedriftene som de holde til om de kan utrykke seg litt bedre og - …. (??) så er det noen legekontorer … (??)

S:Ja - --- 21? Hvor er de sier du? --- du vet ikke?

J:Nei – hvis du slå det opp i google maps så treffe du huset vårt men jeg vit at på hotellet mitt så har vi ikke noe sånt til taks. Hehe – så noen av adressene her er – er – kan være litt forvirrende – og så er det ofte folk som skal tar flybussen spør om hvor det går – ja den går langs vinduene her også fortsette du rett frem – og in der som man komme seg bort til Radisson blue eh – der er Herz bilutleie på hjørnet så sier jeg at du komme langs så må du runde gata så – blant så få man tilbakemelding – «jo men det var

ikke rett frem!» så , men hvis du ser på kart så er det helt rett frem, det er St Olavs Gate som du går gjennom her og fortsette ned, men fordi du har så mange kryss og veier som svinge og så videre så føles det ikke som rett frem – men akkurat her er vi så heldig at vi – særlig den gata der gå opp og ned men fordi de er en, to ,tre, ja fem gater som møtes da så blir det aldri helt rett ned – litt forvirrende.

END OF RECORDING!

Example of interview transcription II

Interview (30 min) 30082013, with xx male, meeting in his office location at St Olavs plass, sitting at his desk.

The bases for the interview was a questionnaire participants had already answered about St Olavs plass via an online survey (and where they agreed to give an follow up interview).

- [Me]
- o [Interviewee]

- So I am doing a PhD on a design concept which is called shared space
- o M-hm
- Which is called shared space
- o M-hm
- And – a
- o at Ås?
- At Ås University – and – I have sent out this questionnaire – to all the places, or most of the places around St Olavs Plass
- o Ja
- And ah – than I am taking these follow up interviews – and I think we wil just go through the answers from you and discuss a little bit around them
- o Sure
- And than I have some other questions – ah – and you have half an hour time?
- o No problem
- Ok – great - So you have a driving lisens, isn't it?
- o Yea, yea
- So – but you come here mostly walking? (I know these things from the questionnaire in front of me)
- o Yea – I take the subway and walk from stortinget or nationalteatret – yea
- Ok
- o And I ride my bike sometimes as well
- Yea
- o I used to ride my bike everyday - but I moved – so
- Ok – but have you been driving here, also, some times?
- o Yea yea.
- Ehm – but – eh – how do you like driving here at St Olavs Plass?
- o Ehm – it can be a bit chaotic because people seem to – not know whether it's a roundabout –
- Ok
- o So people act as if – very often people act as if it is a roundabout in fact
- Yea?

- o So they drive – like they would in a roundabout – mhm – but some people, myself included, eh, not!
- - Ok
- o And it creates some, eh, interesting situation sometimes.
- - Ok
- o With angry drivers, eh, yelling, and eh, stuff like that, but eh,
- - Are you yelling? (smile)
- o Well I'm, I'm, I'm not a terribly aggressive driver, but eh, but I have in ah – three or four situations at st Olavs Plass,
- - Ya?
- o Ah were people, sort of – you know – may gestures like - they point to their head and stuff like that, because I'm – ah – if you like I am driving the "wrong way" around the roundabout
- - Yea
- o And I try to make gestures back – trying to tell them in such a strange way that. No, it's not a roundabout – where is the sign – thinks like that – but ah, - so I havn't, I havn't - I shoud have been in a dangerous situation – have observed – have seen dangerous situations there
- - Ok
- o And I actually wrote an e-mail – like six moth after they finished the work on the new concept there – I wrote an e-mail to the ehm municipal administration. Or the –
- - Yea
- o Trafik etatet, or whatever,
- - Yea
- o And said that – I mean – accidents almost happen all the time – can you please tell me whether this is a roundabout or not? (refers to mentioned e-mails)
- - Yea
- o And I got a reply saying that – no it's not a roundabout, it's just a regular – ah – ah- I mean, regular street crossing – and – and ah- also the concept is that ah - they want to communicate to cars that you should drive really slowly and people are supposed to bo able to weave in and out of traffic, walking and stuff like that so eh, so if you let eh – it's communicated rather poorly.
- - The idea or?
- o Yea, I mean, it seems to work all right –
- - Hm
- o I havn't seen an actual accident there – but eh some people get confused and that – sometimes they are a bit aggressive. – yea!
- - But – eh – they an Idea – at the administration – they knew what they – why they have it like this?
- o Well yea I got the idea that they want of – sort of open city space, where eh – ahm – cars are allowed but they should drive really slowly and carefully, and people can ride their bikes, and walk and sit, in the middle, and ah - a sort of organic, beautiful new space, - but eh – as long as people just eh – ah, many people, just ah – think that it's a regular roundabout it doesn't really work.
- - Ok – ehm – so you think it doesn't really work?

- o I mean it's it's – ahhhh – so – it works in some ways, because it has obviously become as sort of, like – like you'r interested in it as a social space as well – and it, it certainly is a social space, ah – when the weather is really nice in summer – students walk out there, and sit there and they have their lunch - and sometimes we do as well, and ah – and the eh – the students graduate in high-school at JUS
- - hMm
- o aahhh – a few years ago at least – had a sort of – like a test that they used to – that you have to spend a night in the middle there –
- - ok
- o as – ah – because they, they – they get these things in their hats, yea? – so – one of the – one of the challenges – was to spent a night at st Olavs Plass
- - ok
- o ah – sssso it has really transformed the space, and people are using the space in many new ways, obviously, but also ehm – it has become a more ambigous – ahhh, space when it comes to traffic –
- - yea
- o and its, it's a bit unclear, ah, for many drivers and cars, especially how to, sort of, react to this new space and its ah, I – I feel that it , actually, - creates a lot of dangerous situations, I – I – I have – as I said haven't observed an accident – and I have no statistics to back this up, but I fell that they should have some sort of eh – sign or whatever – to make it a bit saver.,
- - hm – ok – but you say that you can really go where you want on this square – when you walk? (referring to his answer on the questionnaire).
- o Yea – yea people actually seem to be doing that – people seem to just walk into traffic – so – eh – I mean that is obviously a sort of success – if that's the plan – to make it a, like a space that pedestrians can just wander into if they want, that seems to be a success
- - Hm – and you say that it's not a roundabout and that is because it has not a sign.
- o Yea – so its not, nots not a, well – that was confirmed to me in the e-mail. It's not a roundabout –
- - Yea – ok
- o So, so – eh- so if I'm – sometimes for instance, I ah, I ah – recently I spend six month in, in ah – in the UK, so I moved a lot of my books –
- - OK
- o Out from the office, and when I came back I moved them back, so I drive into that little peace of street that eh blocked – just by this building yea? And when I drive out of that little peace, and eh if I want to, if I want to go left – than I just go left – I don't go round around the roundabout
- - No
- o And that is what you – according to the administration – are supposed to do. You'r supposed to just go left – ah – there are two lanes going in either direction, going around that square – but when you meet a car, actually as if it was a roundabout – you have a problem (laughthes)
- - Yea (laugh)
- o You meet had on – in the middle of the – yea -
- - Ok – and what is than the rule?

- o Well the rule is ah – as I understand it, that the person acting as if it was a roundabout is wrong, but – I mean – what can you do? (laughes)
- Ok – ehm – and you say jeg må har øyekontakt med bilister og syklister når jeg gå over plassen (refering to the questionaire)?
- o Yea, it's for this reason, you see, that eh – as cars can actually come from both directions,
- Yea
- o You have the roundabout-drivers and the not-roundabout-drivers – can come from either direction – so you have to be extra careful I would say
- Yea - how do you understand "eyecontact"?
- o What do you mean concretely?
- Concretely by the term.
- o Well, ideally you try to get the eyecontact with the driver – if you'r walking across the square cou get eyecontact with the driver, but at least you want to see in what direction he's looking, or she's looking.
- Ok – so you don't need to see into the eyes?
- o Well ideally I guess – but you want to make sure that – he knows you are there –so
- Ok – so you want to know where they are looking and what they see – what they can see?
- o Yea
- Ahm ---- yea. Hvordan samhandler du med andre I trafikanter på plassen ? (referring to the questionnaire) Can you discribe it a little bit better? The body language and eye-contact?
- o Especially I think – especially if you are driving a car there – you have to be – as as people are actually just walking into – into the street there – and people seem to be – as I said – seem to be doing that there a lot – you have to be ahhm – and I mean people are just walking around there in their own thoughts – and and – might actually just stray into the road, so you have to be extra careful – and ah make sure that ah – yea, you see them.
- And as a pedestrian – how do you – how do you use your body language?
- o Sometime I'm, I'm – as a pedestrian - I'm no better than anyone else and sometimes I just walk – into the street and and and I just – assume that cars will – take it easy and eh not run me over.
- So you somehow – get a feeling of what's going on? And than –
- o Well I try to not make the decision difficult for the drivers, obviously, so, so if he's actually driving in my direction I don't want to – like play chicken with the car - that's potentially a very stupid thing to do – but ah -
- Ok – hm –
- o But I mean – if you, if you don't drive around st Olavs plass very often – if you are not from Oslo – if you if you – I mean – you don't know exactly where you are going – you you you come to this – this square here – or this roundabout thing and you drive around it just like it's a roundabout you can get – I assume you can get – ah – a a a bit surprised that people are just walking – just wandering into the street like that, so ah –
- Yea – you say that – eh – st Olavs Plass is a social place to be? – or *sosialt sted*
- o Yea
- How would you explain this – what do you mean by social – it is a social place?

- o Yea, I guess it depends on what we mean by st. Olavs plass, because – I mean I worked in this building for – well I worked here since 2006 and before I was a student here – so spent a lot, many years her – and ah – obviously used the restaurant apotheket for – many many years and in the summer – the eh, the eh – tables and everything outside – it's obviously part of the square
- Yea – I mean everything ..
- o So ah – so that's like a like a – regular street-walk -café type of space. But also – I mean the the the round ah area in the middle is also used a lot in – when the whether is nice – as a – as a place to have lunch – and ah just hang around – have an Icecream in the summer
- Hm – so it's the function of the places where you can actually stay – that you mean with social?
- o Yea –
- But as a – as ahm – traffic participant – do you think it's somehow differently social than any other street?
- o Ahm – as ah – traffic participant – ah – well I mean yes – when there is a lot of people around you have to obviously be careful – ah – particularly when you are driving a car, but also as ah – if you are riding a bike – if if – I mean you have thirty forty people in the middle there and people are going to and from it and that's obviously – not your average roundabout, or whatever, so that's that's ah – a bit special yea.
- Ahm – than you say that you don't feel very save in traffic – I think you have already explained that – ah – but – and you think the traffic is not very calm – at st olavs plass
- o Well, sometimes – ah – so I would say I would say most of the cars sort of take it very easy, slowly, see that people are are are sort of given priority there, but ah, but ah I have seen a few episodes where people – sort of get ah – I have been involved in a few as well – where people get sort of angry – and use the horn on the car and sort of – sh – ahm s- yea – I think it's also frustrating for some people that ah – the ambiguity although – that it's difficult to not know exactly what to do. And traffic is obviously very rule governed and and and and you want people to be ahm – easy to read and easy to understand and and forutsigbar (predictable) in Norwegian – ahm – all the time in traffic and and st olavs plass is a bit uforutsigbar – in a way so it has - ah good sides, but it also can be a bit frustrating I think for many people.
- Ahm – do you think that the social function of the place is due to the street design or due to the cafes and the sitting possibilities and these functions.
- o Ah well both I think, but I'm I mean I remember what the square was like before they rebuild it and people didn't really use it like they do today – so it obviously has something to do with the design – not sure whether I can pinpoint exactly what
- Hm – I am trying to see ah – if you would have a normal asphalt roundabout – even though that you can sit in the middle and you have the cafes - but than you would have the kerb and a street and the difference of level from sidewalk to street and these standard things – if that would somehow make it less social.
- o Yea – no – it's difficult to say, but I'm pretty sure that design itself is – is ahhh – is – communicating something ah – to – most of the cars. S – s- ah – so O think most drivers understand even though they think – still think that's a roundabout, they'll understand that it's a special kind of place – that you have to calm down and drive very carefully and ah –

- Ok – ahm ----- yea – you say that the *samspillet mellom ulike trafikanter* – it doesn't work so well ah- do you mean most of time, or because you have seen so many almost conflicts
o Oh I don't know – so I don't mean most of the time – ah – because most of the time pedestrians are given priority – basicly – they are just allowed to walk into the into the street and the cars – I mean accept that – and ah – so most of the time it seems to be – it seems to be ok – but ah – sometimes – not so much.
- Ok - -- than we have this comparison between st olavs plass and the square – or the crossing in front of the Klingenberg
o Yea
- Cinema there – and ahm – do you think that you – if you compare these two crossings – ahm - what are the differences ?
o Ahm – well – down there you obviously have the same kind of street walk ahh – café type situation where people can sit down at the table and be served something to drink, but I don't think I've ever seen one use the – ah – the space ah – like right in the middle - like that would probably – people would be even more frustrated if you - just - sat down there, (laughes)
- Yea – of course
o So so so – that's not the idea at all - I guess – ahm – and also – you have you have even more things going on there, right – you have ah more people I guess and ah - st olavs plass is ah – even though it's in the center of Oslo it's still – because they have closed that – well in front of this building – so you can't really drive out into Pilestreded - its its – still sort of in the periphery of the traffic
- yea
o - so it's a bit quieter – I would say
- Ok – what about the – interaction of different traffic modes – and participants in the streets? Is there less interaction at Klingenberg – do you think – or more, or just comparable?
o I think I think it is less interaction down there because I think I think that's a much more rule governed space – that people just act like in normal traffic there –
- Ok
o So if you – if you act differently that would feel like – you are violating some rule and people would think you're a bit strange or doing something dangerous or whatever – but – ahm – st Olavs Plass – ehhh – is space – a space that seems to accept a bit more – ah – rule violations and than you a loud to – sort of – do a bit more strange – traffic-wise strange things
- Ok – and you are – ahm – you think it's not a very social place – the Klingenberg crossing.
o The street – I mean the ah – the older cafes and the restaurants and stuff obviously are, but – outside -
- No
o It's the places that are explicitly designated for that purpose - as they seem to be
- --- and its not a very relaxed atmosphere there?
o Ahm – I mean it's much more about pure transport – I think - so it's not –
- OK – ah – how do you explain the idea of atmosphere when we talk about such urban space? – because I was asking about relaxed atmosphere about st Olavs Plass (referring to the questionaire) and other places – what comes up in your mind when you here this term?

- Yea – so – that is an interesting question – what is atmosphere really – and what creates and makes -makes a specific atmosphere – ahm – the minute its its sort of ah – so why why – why are people led to understand that they can actually walk into the street – more – st st Olavs Plass – and why – what is it that actually communicates to most drivers that they need to be aware of pedestrians – just doing their thing – its – a sort of atmosphere seems to be a sort of ah – like a magical thing – difficult to pin down and, and – point exactly to what it is – but I mean you talked about the different levels and and ah – not the standard asphalt - ah - I mean – road, or whatever – I mean obviously that's a huge part of it – ah- I mean the ah – the art work it's – might create some sort of atmosphere as well – I guess that ah - it's it's – it obviously doesn't have a – like a function – in the narrow sense – it's there to be – ah – to be experienced in a way - and ah – and obviously it's a peace of – I mean not the metal things hanging in the air, but – the ah – the ah – the the the light fountain itself in the middle - it is obviously created to be – to be used and to be walked into – and and you can sit on it and sort of be in the middle of it and that creates something of a – of a – of an atmosphere in general – that you can do a bit whatever you like there. I gues – I don't know – it's a difficult question
- Ah – I think you know – all the people that – use it – they know – you are all experts (laugh) in this in a way –
- Yea yea sure
- What is … – yea – I think you have already explained the strategy that you are using when you cross the place – because some are – ah – we have been observing people there and ah – over many weeks now –
- Yea
- And – me and a team of four assistants – we have been observing and writing logbooks – and observing this strange behavior – on the place, or on the square – what is ah – some people walk around it and some people walk over it – but only ah – they swing a little bit and others walk straight over it and some hesitate and so - so what is your strategy when you cross –
- It depends where I'm going – so if I'm going to the KIWI store - from here – that's almost exactly opposite – I would just walk through – I think
- Ok
- Depending on the traffic – I guess – so if I see a lot of cars I might use the side walk to ah – if want to go to apotheke it's – just it's a little bit more on one side – so I walk more around I think – not through it. – yea – it might be – it might be weather dependent as well – I don't know – have you – have you – is that a variable for you? Weather?
- Ah – of course – when it rains it's almost empty (laugh)
- Yea yea yea – but people still walk more, more on the sidewalk – or?
- I think it's not impacting the routs that people choose. It maybe will in the winter when it's more slippery on – ah – some place
- Yea – definatly
- - but the weather has been fantastic all summer so –
- Yea – that's a problem for you guys (laughes)

- Ahm – but have observed that ahm – when there are groups arriving they are more likely to cross the square – without hesitation and take the shortest path – because in a group people seem to be more confident or something – they feel bigger – or something –
o More …? [here I don't understand the recording]
- Yea – individuals will more often take the rout around – except they really know what is going on – ahm – do you think – now, this is an idea – this shared space design is designed for different users to ahm – to use all the place – whether pedestrians or cyclists or – the mode – it's opening up the area – and it's called *sambruksareal* in Norwegian – it's been coined and termed in the Netherlands and also build a lot in Germany, Netherlands, UK – a little bit in Denmark and in Sweden – not so much in Norway – so the Road Administration here they are very interested in the concept and many municipalities already discuss if they could have this in their downtown area or the center – in order to – makes streets more vivid – and they have many theories about what this can do to places – and ahm – some people say that it depends on the culture – so in some countries, or in some places, there is a different traffic culture than in another one – and – they are very skeptical and in most cases they are very skeptical and the say: we are to much of a car oriented society or so – I have also talked to – for example the Icelandic road administration and they say: no we are a car culture – we cannot have this – it doesn't work here – people will not accept it and so on – do you think it depends on the culture? Or do you think –
o Yea – sure – ah – I think Norwegian traffic culture is quite – sort of ahm – we like, we like rules – and we like people to follow the rules – ah – an even if, even if we sometimes break the formal rules we do it in a very rule – ah - I mean, we do, we do it in a, like a pretty predictable way – so people drive too fast on the motorway but just so, just – the suitable, the suitable sort of ah – going suitably fast – not too fast – so – and and I mean it's like —- the traffic in Oslo is very different from let's say the traffic in Rom – or whatever – ehich – where, where traffic signs and light posts are stuff are – things to be – I mean I mean ah – things to be considered, but eh – you could obviously do it in an alternative way if – if it suits you – and it's not like that here eh – so ah – so I think it's ah – a bit more – challenging for many Norwegians to – sort of be thrown into this ambiguous space and – and ah – and be expected to just ah – to find a way to work with all the other people who are there ah – but ah – and it ah – it certainly has something to do with Norwegian traffic culture – and Norwegian – ah legal culture – or hm rule culture – in general – and – but I think in traffic in particular we seem to like predictability quite a lot - ahm – but I mean in Oslo – so there is a difference between Oslo and other, more rural, parts of the country as well. We have a much more aggressive traffic culture in Oslo I don't know whether you have experienced this but ah – I mean, the second largest city in Oslo – no in Norway – if you go to Bergen – people will always use that little extra time when the traffic lights go from red to green – so if you are used to Oslo traffic you find Bergen traffic, in my experience, find Bergen traffic slow – so there are – obvious – and and also in Oslo you can just drive your car onto onto the sidewalk and and ah – push the, the blink button – the red button – and that's a sort of very short term parking – you can do that in Oslo – ah – because you are just collecting a parcel – or whatever you need to – but you can't do that in Bergen. That would, that would be ah – people

- – I mean – not accept that – so, so it's it's it's so there are differences within Norway as well I think.
- OK - that's interesting – they are planning one shared space in Bergen you know – (laugh) – on street – planning to build it next year or so – ahm – how do you think that people that are having some navigation difficulties, like blind people, handicapped people, old people or children that don't have you capabilities – how do you think they will handle st. Olavs Plass? Have you seen it – or do you have some …
- o I don't think I have seen it – I would expect ah – I would expect them to be ah, ah – I would expect it to be a bit challenging for them – ah – I mean old people they – they want to use the side walk and to be totally safe – ah – this is obviously not something for a really old person- this is my – my idealized version of old people – but ah – and at children – you want them to be, ah- be able to sort of ah – wait at the green light and ah – and walk safely across the zebra crossing and and – you know follow the rules and – if everything is ok – but to be sure you want them to follow the rules – that's what you want from a five year old right? But ah – at st. Olavs plass the five year old is allowed to just walk in th.. – and it's just bound to be confusing – ah – and if you'r blind – I have no idea – that's - I I I would gues that a blind person would appreciate – ah – a very predictable traffic environment as well – cars coming from both sides – I don't know – isn't this a roundabout? – it's confusing for me - as a blind person – I would guess –
- Hm – yea it's been criticized be a lot of blind-people-associations in many countries –because they need some guidance and when they don't have it they might start to avoid those places.
- o Yea sure
- Ah – I think we are through with the questions - unless you have some other questions …

[end of recording]

Appendix C

Questionnaire

Undersøkelse om gateutforming og opplevelse av St. Olavs plass

1) * Alder

○ Under 20 år

○ 20 - 29 år

○ 30 - 39 år

○ 40 - 49 år

○ 50 - 59 år

○ 60 - 69 år

○ Over 70 år

2) * Kjønn

○ Mann

○ Kvinne

3) * Nasjonalitet

Velg alternativ [▼]

4) * Yrke / Sektor

Velg alternativ [▼]

5) * Utdannelse / Faglig bakgrunn

Velg alternativ [▼]

6) * Har du førerkort?

○ Ja

○ Nei

➩

7) Er din funksjonsevne nedsatt på noen måte?

○ Ja

○ Nei

8) Hvis ja, på hvilken måte?

Velg alternativ   [　　　　　　　　　　　▼]

➩

9) * Hvor ofte passerer du St. Olavs plass?

○ Ofte

○ Av og til

○ Sjelden

○ Aldri

➩

10) * Hva er de vanligste årsakene til at du er på St. Olavs plass? Her kan du velge flere alternativer.

☐ Jeg jobber på St. Olavs plass.

☐ Jeg passerer gjennom St. Olavs plass.

☐ Jeg oppholder meg/spiser lunsj ved lysfontenen.

☐ Jeg er på kafé/restaurant/bar på St. Olavs plass.

☐ Jeg går på teater.

☐ Annet _____

↪

11) * Hvilket transportmiddel bruker du som oftest på St. Olavs plass?

○ Bil

○ Sykkel

○ Fotgjenger

○ Annet _____

↪

12) * Hvordan opplever du St. Olavs plass?

○ Hovedsaklig bra

○ Hovedsaklig dårlig

○ En mellomting

○ Jeg vet ikke

↪

13) Som bilist, i hvilken grad er du enig i disse påstandene?

	Ikke i det hele tatt : 1	2	3	4	I svært stor grad : 5
Fotgjengere er irriterende.	○	○	○	○	○
Syklister er aggressive.	○	○	○	○	○
Jeg må stoppe ofte for fotgjengere.	○	○	○	○	○
Jeg synes det er krevende å kjøre over plassen.	○	○	○	○	○
Det er uklart hvordan man skal kjøre.	○	○	○	○	○
Jeg kan kjøre hvor jeg vil på plassen.	○	○	○	○	○
Plassen er en rundkjøring.	○	○	○	○	○
Jeg må ha øyekontakt med fotgjengere når jeg kjører over plassen.	○	○	○	○	○

↪

14) Som syklist, i hvilken grad er du enig i disse påstandene?

	Ikke i det hele tatt : 1	2	3	4	I svært stor grad : 5
Fotgjengere er irriterende.	○	○	○	○	○
Bilister tar hensyn.	○	○	○	○	○
Jeg må stoppe ofte for fotgjengere.	○	○	○	○	○
Biltrafikk er forstyrrende.	○	○	○	○	○
Jeg synes det er krevende å sykle over plassen.	○	○	○	○	○
Det er uklart hvor man skal sykle.	○	○	○	○	○
Jeg kan sykle hvor jeg vil på plassen.	○	○	○	○	○
Plassen er en rundkjøring.	○	○	○	○	○
Jeg må ha øyekontakt med fotgjengere når jeg sykler over plassen.	○	○	○	○	○

15) Som fotgjenger, i hvilken grad er du enig i disse påstandene?

	Ikke i det hele tatt : 1	2	3	4	I svært stor grad : 5
Syklister er aggressive i trafikken.	○	○	○	○	○
Bilister tar hensyn.	○	○	○	○	○
Jeg synes det er krevende å gå over plassen.	○	○	○	○	○
Det er uklart hvordan man skal gå.	○	○	○	○	○
Biltrafikk er forstyrrende.	○	○	○	○	○
Jeg kan gå hvor jeg vil på plassen.	○	○	○	○	○
Plassen er en rundkjøring.	○	○	○	○	○
Jeg må ha øyekontakt med bilister og syklister når jeg går over plassen.	○	○	○	○	○

16) * Hvordan samhandler du med andre trafikanter på plassen? Her kan du velge flere alternativer.

☐ Ikke i det hele tatt.

☐ Ved øyekontakt.

☐ Ved kroppsspråk.

☐ Verbalt.

☐ Jeg vet ikke.

17) * Velg på en skala fra 1-5 i hvilken grad påstandene beskriver din opplevelse av St. Olavs plass.

	Ikke i det hele tatt : 1	2	3	4	I svært stor grad : 5	Jeg vet ikke
Jeg må samhandle med andre trafikanter på plassen.	○	○	○	○	○	○
Plassen er kjedelig.	○	○	○	○	○	○
Plassen er særegen.	○	○	○	○	○	○
Plassen er et sosialt sted.	○	○	○	○	○	○
Plassen ser fin ut.	○	○	○	○	○	○
Plassen har en avslappet atmosfære.	○	○	○	○	○	○
Jeg føler meg trygg (i trafikken).	○	○	○	○	○	○
Trafikken er rolig.	○	○	○	○	○	○
Samspillet mellom ulike trafikanter går bra.	○	○	○	○	○	○
Jeg liker å oppholde meg på plassen.	○	○	○	○	○	○
Det er lett å navigere på plassen.	○	○	○	○	○	○
Trafikken er godt organisert.	○	○	○	○	○	○
Jeg er mer oppmerksom på andre trafikanter på denne plassen enn andre steder.	○	○	○	○	○	○

18) * Her ser du et bilde tatt i krysset mellom Olav Vs gate og Klingenberggata. Velg på en skala fra 1-5 i hvilken grad påstandene beskriver din opplevelse av dette krysset. Dersom du ikke kjenner til krysset kan du prøve å forestille deg hvordan det oppleves.

|	Ikke i det hele tatt : 1	2	3	4	I svært stor grad : 5	Jeg vet ikke
Jeg må samhandle med andre trafikanter i krysset.	○	○	○	○	○	○
Krysset er kjedelig.	○	○	○	○	○	○
Krysset er særegent.	○	○	○	○	○	○
Krysset er et sosialt sted.	○	○	○	○	○	○
Krysset ser fint ut.	○	○	○	○	○	○
Krysset har en avslappet atmosfære.	○	○	○	○	○	○
Jeg føler meg trygg (i trafikken).	○	○	○	○	○	○
Trafikken er rolig.	○	○	○	○	○	○
Samspillet mellom ulike trafikanter går bra.	○	○	○	○	○	○
Jeg liker å oppholde meg på stedet.	○	○	○	○	○	○
Det er lett å navigere i krysset.	○	○	○	○	○	○
Trafikken er godt organisert.	○	○	○	○	○	○
Jeg er mer oppmerksom på andre trafikanter i dette krysset enn andre steder.	○	○	○	○	○	○

⇨

19) * Kunne du tenke deg å delta på et 30-60 minutter langt intervju om opplevelsen av St. Olavs plass? Intervjuet vil handle om din opplevelse av St. Olavs plass, hvordan du forholder deg til andre på plassen og sammenhengen med gateutformingen. Det vil hjelpe meg å samle mer detaljert informasjon til min PhD. Tid og sted blir avtalt etter ditt ønske.

○ Ja

○ Nei

⇨

20) Takk for at du vil delta på intervju! Vennligst skriv inn din e-postadresse, så vil jeg kontakte deg for avtale av tid og sted.

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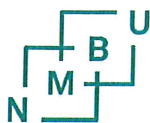
FORM 4.7   **Errata**

Correcting formal errors in the PhD thesis (cf. section15.3-2 in the PhD regulations)

The PhD candidate may after submitting the thesis apply to correct formal errors in the thesis. An application to correct formal errors must be submitted no less than four (4) weeks before the disputation. Such an application can be made only once.

Thesis title:	Socio-spatiality – intended by designers, realised by users. The case of shared space

Page number	Para-graph	Change from	Change to
3	Figure 1	"Paper Three"	"Paper Two"
3	Figure 1	"Paper Two"	"Paper Three"
13	5	"chapter x"	"chapter 3"
15	Figure 3	"designer"	"designers"
19	3	"emphasise that this"	"emphasise this"
29	3	"can both"	"can be both"
36	5	"Rather, this it"	"Rather, it"
36	5	"able make"	"able to make"
36	5	"sociality with the"	"sociality and the"
57	3	"in me"	"myself"

This form will be signed by the PhD candidate and the main supervisor and must be sent to the faculty for approval. The approved errata must be archived in the PhD candidate's doctoral archive and must be attached to the final thesis print version as the last page of the thesis.

Date and signature:

PhD candidate (Author):	05/10/2017	*[signature]*
Main supervisor:	10.10.17	*[signature]*

Errata approved by the faculty: Yes ☒ No ☐

For the faculty:	10.10.17	*[signature]*