London School of Economics and Political Science

Producing Space
Investigating Spatial Design Practices in a Market Moment

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Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

I warrant that this authorisation does not, to the best of my belief, infringe the rights of any third party.

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Abstract

This thesis is an investigation of commercial spatial design practices. It contributes to an emerging sociological and anthropological scholarship on design and is grounded in a studio ethnography of a large London-based architecture and spatial design practice (called StudioFour). The analysis is based on an understanding of spatial design as conceptual, problem-solving and form-giving and focusses on the mediating role designers take on. This is framed by a pragmatist approach that highlights the significance of mediation, contextuality and agency in design as situated practice. The purpose of this project is to analyse the complicated set-up of spatial design as creative, material and commercial practice against the backdrop of distinct competitive and regulatory environments. Here, the "market moment" provides the empirical window for investigating how spatial design is premised on linking up creativity, space and commerce.

The research attends in detail to how StudioFour organise studio life and how they rationalise and carry out design production. It examines the processes through which spatial designers define and materialise conceptual space as their product and explores in detail what kinds of material knowledges and practices underpin this. The empirical discussion also centres around issues of market competition and calculation. The thesis argues against theorisations of design that begin from a particular critical position on the interrelationship of design and commerce, as well as against ANT-committed design research that seeks to decentre design practice from intentionality. It suggests that studio studies are crucial for retrieving a humanist element in sociological interpretations of (spatial) design to help analyse the significance of materiality and commerciality within design as creative-conceptual work. In the context of an emerging and increasingly politicised design scholarship, this can provide avenues for examining the nuanced forms of design agency as well as design's entanglement with existing and emerging socio-economic conditions.

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Chapter 1

Mapping Out Spatial Design

> [The] work of design – the intentional use of cultural and material resources to create a worthwhile artifice – is where the cultural rubber hits the commercial road. Designers' backgrounds, their mode of operation, and the way they organise their work all affect what stuff ends up being. (Molotch, 2003, p. 23)

Introduction

These days, bricks are a problem, Michael[1] explains to me. The project he is working on is an old town hall that is being converted into student housing, comprising art studios as well as a café and communal spaces. The project also entails a new-built community theatre as part of a section 106 agreement[2]. For all of these spaces, he is involved in designing both the exterior and the interior, working with a whole range of other designers, experts and consultants. In terms of the exterior, the new buildings largely are required to be built in brick so that they blend into the existing streetscape as smoothly as possible. This is the premise of the project and an essential element of the concept as approved by the planning authorities. However, because "bricks have gone up from 600 pounds for a thousand to, you know, a grand and a half, really, for a thousand", Michael deals with a "totally different story" (Michael, 07.10.2014). This is not a unique situation. Across all projects he has to think about "how much the material costs and how much it costs to work with that material" (Michael, 07.10.2014). In other words, in his design practice, he needs to consolidate material, creative and commercial considerations with the different kinds of spaces that need to be designed (student rooms, communal kitchens, art studios, café, communal areas, community theatre and so on), while adhering to internal work processes, rules and studio culture as well as the regulations and dynamics that structure the wider field of spatial design. His

[1] All names of the research participants have been changed.

[2] A section 106 agreement describes the "planning obligations" that may be placed on a person interested in developing land (an individual or a developer) by local planning authorities as a condition of giving planning consent (Town and Country Planning Act 1990, p. 64-67). "Planning obligations" are legally binding and can be enforced by local authorities. They may comprise restrictions or prescriptions of land use or financial or non-financial "contributions to offset negative impacts caused by construction and development" (Southwark Council Website, 12.10.2015). In this case, a section 106 agreement was part of giving planning permission to a private development on former publicly owned land.

concerns about bricks indicate that within spatial design, there is a strong connection between material and social, cultural and commercial knowledges: Michael needs to be able to move from the conceptual to the pragmatic and contractual aspects of spatial production.

Michael is a spatial designer employed by StudioFour, the case study practice for this thesis. StudioFour is an architecture, interior design and master planning studio based in London. With around 80-100 employees, spread across two office spaces, the practice is of a substantial size for the industry. It was founded in the 1980s by two architects who are no longer involved in the daily business, but whose "legacy" remains an important aspect of the studio's identity as "a good place to work" (Eleanor, 30.10.2014). Today, the practice is headed by three directors – two male architects and a female "practice director" who run the operations. Most StudioFour designers have completed (or are in the middle of completing) an architectural degree in the UK or abroad. But the workforce is also made up of interior and graphic designers, business development and HR managers, IT experts and people who take care of finance and accounting, quality management and so on. StudioFour position themselves as having "the expertise, experience and resources to deliver a wide range of projects across many sectors" (StudioFour website, 16.08.2015) and work on a range of national and international projects, typically of a large scale. Often, their projects comprise interior design, architectural, but also graphic design elements. The focus ranges from so-called mixed-used developments, leisure and hospitality spaces (such as hotels, restaurants and cinemas), to schools and colleges, student accommodation and master planning.

This thesis focuses on how designers like Michael operate across such different types of projects. It is an in-depth investigation of spatial design practices and seeks to contribute to an emerging sociological and anthropological scholarship on design. The study is ethnographically grounded in the professional practices of the StudioFour designers that have participated in this research. Analytically, it is based on an understanding of spatial design as conceptual, problem-solving and form-giving. At the same time, it emphasises the significance of *mediation* in design processes. This understanding is facilitated by a pragmatist approach (Hennion, 2016) to design. Hennion's (2016) notion of pragmatism works towards "getting sociology object-friendly" (p. 290) while avoiding a sociological constructivism that reduces objects to nothing but their social context (p. 297). It allows for a sociological take on design that is attuned to the role of objects how "actors themselves" define them (p. 292). This form of sociological (not philosophical) pragmatism sees mediation, contextuality and agency (of both people and things) as central for sociologically analysing how *cultural* phenomena are put together, i.e. phenomena that do not primarily

materialise through the notion of absolute truth or an absolute object (such the sciences [Hennion, 2016, p. 293]), but that rather are *emergent* and continually made and, more importantly, unmade (Hennion, 2016, pp. 294-2915) – such as processes of *design*. Informed by this approach, the purpose of this project is to analyse the complicated set-up of spatial design as creative, material and commercial practice in the context of the distinct competitive and regulatory environments spatial designers find themselves in. Here, the "market moment" provides the empirical window for investigating how spatial design is premised on linking up creativity, space and commerce. Based on this, the research analyses how StudioFour organise studio life and how they rationalise and carry out design production. It examines the processes through which spatial designers define and materialise conceptual space as their product and explores in detail what kinds of material knowledges and practices underpin this. The empirical discussion also centres around issues of market competition and calculation.

The sociological impetus for this research derives from the assumption that (spatial) design is a profoundly sociological matter. Today, "[e]very artefact has a designer, whether amateur or self-consciously professional", writes sociologist Harvey Molotch (2003, p. 22). Put simply, because we configure our social world with and through things, *design marks all around us* (Margolin, 2002; see also Reckwitz [2012] for a similar argument on design and creativity). Increasingly, design emerges as the intentional configuration of people and materials, conceptually glued together with projected uses, social narratives and commercial interests (e.g. the iPhone as both phone and mobile computer, building on the idea of increasingly mobile lives and the merging of private and professional identities which is disseminated through a global corporate network). These configurations are based on speculations about our collective past, present and future (see Dunne & Raby, 2013; Howells, 2015), and therefore necessarily involve notions of "the social" (Postma, Lauche & Stappers, 2012). Spatial design is no exception here, as architecture sociologist Robert Gutman (2010) summarises:

> Architecture is so essentially a social art that no architect can talk about his medium or about his schemes without reference to how they will be used by people; and a good deal of the conscious intention behind any design, as well as various decisions about its elements, is expressed in terms of its consequences for social behaviour. This social nature has been characteristic of the architectural medium since buildings were first planned and designed and there has never been an architect who was not, in some sense, a student and critic of society. (Gutman in Cuff & Wriedt, 2010, p. 156)

In other words, to make sense of society, design actors theorise within their practice (see Agid, 2012), often at the intersection of sociality, creativity and materiality. The point is that this kind of sociological theorising is a key element of the human intentionality that serves as an empirical framework for design practice, whether spatial or otherwise: designers are called in if there are problems to solve by way of plan-making and creation (Parsons, 2015), usually in a commercial context (Molotch, 2003). At the same time, designers are immersed in the social worlds that they share with design users, clients, the public and so on. Design production is always part of a larger social context. These conditions make design an important sociological area of study, both on an analytical and on a methodological level.

The importance of design as sociological area of study is also reflected in the momentum design is currently gaining as a topic in both academic and practitioner worlds. Design's significance has been linked to an increasing need for products to help stage certain lifestyles as part of product differentiation through appearance (Böhme, 2016; Lash & Urry, 1994) to propel consumption via marketing and branding. Additionally, it has been argued for a "design culture turn" that is characterised by design as a growing industry (Julier, 2006, 2014; Julier & Moor, 2009). The establishment of new design professions, from product to service, from brand to city, place and graphic design, are testimony to this development. Design is firmly moving away from a previous niche position (Molotch, 2003) and out of the realm of embellishment and beautification. This is not least due to design methods gaining momentum in non-designerly professions, such as policy-making and public management (Julier & Moor, 2009). Here, the rise of design thinking has had an impact on many industries and organisations beyond the cultural industries who aspire to do their work in a designer-ly way (Cross, 2011; Julier, 2000; Kimbell, 2011, 2012). The new significance of design has also been contextualised with the rise of a globalised creative economy (Svasek & Meyer, 2016) in which design is actively entangled with neoliberal capitalism (Julier, 2017). This increasingly forces creative workers into precarious and uncertain work conditions (McRobbie, 2016; Architecture Lobby 2016). It has been suggested that this is based on a physical and conceptual separation of design and production whereby design takes precedent over production (Julier, 2014). This is an important link to the spatial aspect of this thesis: we can find this separation of design and production in much of the global building and spatial design industry. There is a traditional division between those who conceptualise space – designers or architects – and those who, literally, build it through processes of construction – contractors. This is not to say that decisions made in design studios rather than on construction sites have less significance for

what ends up as a building, quite the contrary. Most decisions about a future space, whether that is a building, a development, a park or any other kind of space, are made and negotiated long before ground is broken. This means that the ways in which a future space is evoked in the present, how it is stabilised and materialised through a myriad of social practices and objects (e.g. concepts, plans, drawings, photographs, materials and so on) takes centre stage for the tangible outcome. A significant part of this is comprised of concerns focussed on construction (or "buildability", see Chapter 5). Therefore, the boundary between design and construction is one that must be continuously reaffirmed, or softened. It is not a given[3]. Here, as Molotch (2003) contends, those who do the conceptual work, i.e. designers, take on a special role, their "backgrounds, their mode of operation, and the way they organise their work all affect what stuff ends up being" (p. 23), as do "the constraints imposed by available technologies, gender relations, and other aspects of social organization" (p. 13). At the same time, the contexts in which *professional* spatial designers operate are framed in particular ways, they are indeed "*where* the cultural rubber hits the *commercial* road" (Molotoch, 2003, p. 23; emphasis added) in that they form the backdrop for design as a *professional* and *commercial* practice.

This thesis takes seriously the importance of the intermediary role of spatial designers and investigates how the conceptual work of spatial design is translated into commercial propositions prior to construction. This approach does not exclude construction issues or space users, but chooses to investigate them through the eyes of the designers. It also examines how the eyes of the designers are organised around a range of different aspects. It argues that investigating the entanglement of micro-economic and creative action in a studio setting is crucial for advancing the sociological study of spatial design practice. The novelty of this project lies in empirically illustrating the complicated work of defining and stabilising spatial design as conceptual, material and commercial work. In this context, I define four thematic directions: stabilising design organisation, conceptual space as product and process of spatial design, material culture as central element of spatial design work and market-directed practices. From these directions, the following research questions arise:

> How can spatial design practice be understood in terms of rationalising and organising the interaction between creativity and commerciality?

[3] For a series of discussions on the way in which new technologies complexify the relationship between spatial design and spatial fabrication in contemporary set-ups of spatial production, see Deamer and Bernstein (2010).

What are the processes through which spatial designers define, translate and materialise conceptual space as their product?

What kinds of material knowledges and practices underpin spatial design processes?

How do spatial designers navigate their market environment?

Part of the work of this thesis is to address the contention that "sociological explorations of architecture tend to be incursions" and have largely focused on abstracted space or large scale spatial formations while "*designed* spaces (…) have evaded sustained sociological study" (Wood, 2017; emphasis added). This thesis contributes to a closing of this gap by providing much-needed insight into the social organisation of professional spatial design. This in-depth focus and the commitment to empirical rigour are seen as part of the larger and ongoing project of advancing the sociological study of spatial design. Against this backdrop, the next section lays out the conceptual underpinnings of this thesis. Deriving from the empirical and sociological focus of this project, it builds on the notion of pragmatism (Hennion, 2016) to link up the important sociological concepts that comprise the framework of this thesis: practice theory, mediation, aesthetics and materiality as well as marketisation. These areas of work have rarely been brought together through empirical exploration. This thesis, on the other hand, is premised on the understanding that design poses an interesting empirical case for the discipline of sociology because it challenges the boundaries that can be drawn around sociological concepts. In other words, the case of design requires the sociological researcher to create a dialogue between theories of design, space and commerce. Against this backdrop, this thesis builds on concepts that are complementary[4] for analysing the specific case of *design* (for example, design as situated practice and design concepts as boundary objects) and that are woven together via pragmatism. Therefore, the next section will discuss the conceptual framework in two steps: first, it examines existing scholarship on architecture and design to position this project in a wider field of spatial design research; and second, it develops a pragmatist thread to weave together concepts of practice theory, space and design, mediation and politics, aesthetics and materiality and marketisation to arrive at a workable

[4] Some of these concepts can be seen as beginning from differing ontological assumptions about sociality. For example, I bring together Bourdieu's notion of social and cultural capital with practice theory and marketisation – the former can, very broadly, be seen as deterministic sociological concept, while the latter two see the social as emergent in relations between things and people. The point I am making is that these concepts work well together, despite their differing sociological history, when assembled to analyse *design*. For a similar and well-played make-up, see Entwistle (2009) who consolidates Bourdieu's notion of field with ANT's network-metaphor.

definition of spatial design that fits the remit of this study. Here, StudioFour provides a productive empirical case in which to explore these analytical positions.

Design, Space and Commerce

Despite a growing scholarly interest, design remains a term that is "full of incongruities, has innumerable manifestations, and lacks boundaries that give clarity" (Heskett, 2005, p. 2). It is "both indispensable and elusive" (Bissell, 2016) despite generating "vast quantities of material" (Heskett, 2005, p. 2). At the same time, design has also been described as "too variegated in its practices, far too widely deployed and far too diverse in how it is understood and used" to be framed by a single definition (Julier, 2017, p. 2). Against this backdrop, it is no surprise that, quite pragmatically, most design practices are commonly specified through the *thing* that they are tasked to design: examples include *product* designers, *graphic* design, *service* design and so on. *Spatial* design is no exception. It is concerned with *spatial* production, very often in terms of *architecture*. This perspective is clearly reflected in much of the existing empirical research on spatial design studios that discusses the interplay between design, space and commerce. This scholarship has done important work in opening up spatial design as a topic for social and cultural research. But when set against the backdrop of this study's research aims, it shows three overlapping analytical issues: first, it tends to construe spatial design practices primarily in terms of architecture, not design; second, it tends to take a particular critical position on the link between spatial design and commerce as starting point, whereas this thesis seeks to begin from a more value-neutral perspective; and third, it either leans towards over-emphasising or towards ignoring the role of materiality in design practice.

The first critique of construing spatial design practices *as* architectural is not new. For example, architecture has long been discussed as a contested field of contrasting and varying meaning (Harbison, 1991). And yet, much of the *empirical* work on spatial design is framed as research into professional *architectural* practice, albeit most studies acknowledge its increasing collaborative nature. Respective works range from explorations into postmodern architecture and the link between architectural styles and their societal narratives, to building on architect's own accounts of their professional status, economic interests, clients and so on (see Larson, 1993). Sociological groundwork has been laid through Blau's (1984) survey of 152 Manhattan-based architecture studios, before and after an economic recession, to understand how some firms could secure

economic survival and others failed. She provides an important contribution in her analysis of the social contexts in which "the design and production of architecture takes place" (p. ix). Significantly, she opens up sociological research into architecture as a profession *and* business, with a view to the marketplace as well as individual actors within design firms (e.g. junior vs. senior architects). Her study's emphasis is on architecture as both practice and process, rather than as built form. Its main theme are the contradictions and dilemmas in which architects find themselves as their practice is increasingly commercialised and their work environment becomes more competitive. This is also a focus in Gutman's (1988) large-scale qualitative investigation of US-based architecture studios. He provides an important contribution to the sociological study of architectural practice by describing how the growing diversification in the building industry as well as the increased scale and complexity of building projects has led to more intense competition between different design disciplines, between architecture and the construction industry, and between individual architecture firms. Particularly the professionalization of the construction industry and the growing sophistication of client organisations are described as having significantly increased the commercial pressure on architectural firms. Gutman (1988) also discusses how these changes have caused anxiety among architecture professionals who not only have to grapple with the loss of control and authorship over the building project, but also have to learn to share responsibility while developing a distinct set of commercial skills that help them sell their expertise in this new market environment. These are important observations that have provided a foundation for the sociological study of design as creative-commercial practice and that, therefore, give empirical and analytical impetus to this study.

A more open approach to spatial design practice is provided through Cuff's (1992) comparative study of three architecture studios in the San Francisco Bay Area, which states that buildings are never "natural manifestations of an architect's work at the drawing board" (p. 4) and thus architects are much less powerful in terms of "carrying their intentions into practice" (p. 2) than conveyed in architecture education. Cuff (1992) studies the customary practices and embodied knowledges of architects within their work environment as "culture of practice" (p. 5). While much can be learned about the organisational set-up of architectural offices and their working protocols in this piece, the analysis focuses on an individual/collective dichotomy to discuss architecture's struggle with maintaining individual artistry while it is collective work, which delivers a project (p. 11). This outlines a framework for problematizing the complexities and ambiguities of the everyday in architectural practice. It also provides crucial empirical data for analysing spatial design as professional practice. However, it leaves less room for investigating the ways in which

complexities and ambiguities might be intentional or even productive. By the same token, it is focused on providing a critical angle on the commercial constraints embedded in professional architecture (discussing issues like client-architect-relationships and budgets), but less is said about the strategies designers deploy to act upon the marketplace of spatial design. Equally, despite stating that "the design of our built environment emerges from collective action" and that "the everyday [of an architectural project] has an economic, an interactive, and a political component" (p. 13), there is little detail on what constitutes this "collective action" beyond the label "architecture".

That "collective action" necessarily entails some form of rationalisation of the decision-making process is the conceptual underpinning of Farías' (2015) ethnographic research conducted in 2009 in three successful Chilean architecture studios in which he provides a brief but crucial piece on how architectural work is characterised by dissonance. He discusses how architects value and de-value designs (in the broadest sense or as assemblage) in order to make and unmake fundamental design decisions. He also explores how spatial layouts of design offices (open-plan) encourage "causal engagement" among architects whereby questions and discussions arising from this spatial set-up are harvested as valuable feedback. Farías (2015) also investigates how review meetings provoke individual interpretations of projects and designs and how what he calls "project mediators" (such as sketches, models and plans) constitute "an ontological multiplicity, with each giving body to the project in a different way, so that fractures, gaps and discontinuities abound" (p. 283). He describes this "epistemic dissonance" as capitalising on individual perspectives to create a resource for new ideas and a flexible space for adaption to changing circumstances. This work is particularly significant here as it does not only argue for ethnography as an appropriate method for studying spatial design, but also provides an in-depth view on how architectural processes are organised around questions of creativity and pragmatism[5].

Farías' (2015) explorations into the architecture studio are complimented by advancements through the work of Rose, Degen and Melhuish (2014), as well as Degen, Melhuish and Rose

[5] It needs to be mentioned that similar themes have been explored by scholars of *organisational* studies. Here, the focus has been on investigating architectural practice as an example of "reflexivity-in-action" as the basis for any professional knowledge, contrasting it to "technical-rationality", with the goal of informing educational practice (Schön, 1983). Other studies in this discipline have looked at architecture practices in terms of a "knowledge-based organisation" to exemplify a new form of business (Winch & Schneider, 1993) or as a case for how power relations and hierarchies can further or lessen creativity (Brown et al, 2010). Even though developed from a different disciplinary angle, some of these works prompt important questions about spatial design as *work* processes, which will be picked up in the subsequent chapters.

(2017). They contribute an ethnographic study of architectural practice from a *visual culture* perspective. In particular, they focus on the processes through which computer-generated images (CGIs) for urban developments come into being, specifically in the context of a large development project in Doha, Qatar. Deploying Latour's (2011) notion of "networks", they approach CGIs as objects that "travel extensively through a network of different offices, servers, and screens" (Rose, Degen & Melhuish, 2014, p. 391). Simultaneously, the actions performing the CGIs constitute a series of interfaces that allow different systems to interact despite friction that can occur (Rose, Degen & Melhuish, 2014, pp. 391-392, 400). Their research also examines how these digital visualisation practices assist designers in producing "place atmospheres" and "creating experiences" via "virtual engineering of sensory experiences using a wide range of graphic effects" (Degen, Melhuish and Rose, 2017, p. 3). A central claim is that the "use of visualising technologies has become central to articulating an increasingly prominent concern with atmosphere in architecture" (Degen, Melhuish & Rose, 2017, p. 4), particularly in the context of the so-called experience economy (see also Farnham & Newbery, 2013; Pine & Gilmore, 1998, 2011; Sundbo & Sørensen, 2013) where "leading-edge companies (…) will find that the next competitive battleground lies in staging experiences" (Pine & Gilmore, 1998, p. 2). Here, Degen, Melhuish and Rose (2017) suggest that the visual culture approach to CGIs in architectural practice helps to deconstruct "the aesthetic side of capitalism and illustrate how in the experience economy, atmospheres can be actively produced to manipulate aesthetic perceptions" (p. 22). What is of conceptual significance here is the importance attributed to the concept of the experience economy: conceived and employed primarily by consumer psychologists and marketing experts, it is rooted in the goal of influencing consumer behaviour in commercial environments and not critiquing or empirically investigating such practices. As such, this framework provides little room for a more critical discussion with how design actors actually go about "creating experience" or "atmospheres" and beyond a description of what they say they do. However, Degen, Meluish and Rose (2017) press beyond this to make an important theoretical and political point in the context of their case study by outlining that "the digital-sensory fabrications that produce these atmospheres are shaped by a universalism that assumes a singular western sensibility" (p. 5). This essential critique provides the grounds for suggesting "architecture has become increasingly complicit in the commercialisation and branding of urban environments" (Degen, Meluish and Rose, 2017, p. 20). The commitment to theorising visual technologies and practices in architectural and urban design practice is a significant contribution to studies of design. However, it can also be seen as reductionist (see Julier, 2006). Therefore, this research is based on a more holistic approach that is premised on the understanding that designers use visuality as one tool among

many (e.g. materials) to engage in spatial production (which includes atmospheres and experience, see Chapter 4). It focuses on the mediating role designers take on in design interactions and how they speculate about our collective future beyond the visual technologies that they employ to do so.

That designers' backgrounds matter for this mediating role is also suggested by Stevens (1998). In his social study of architecture, he applies the Bourdieusian framework of field and capital to suggest that designers'/architects' intermediary position is elite. He argues that, in practice, this elite status weighs in much heavier than the notion of the individual genius, which permeates in the architecture profession. Important is that he describes how this understanding of the architect as single genius is perpetuated in the set-up of the architectural education, an understanding he shares with much of the practitioner discourse (see section above and also Chapter 3). But he also argues that it is equally propelled by contemporary commercial forces. He suggests that the growing influence of commerciality *on* design creates a dichotomy: there either is *good* design or design that impinges on the architect's autonomy in that it is commercially steered and heavily influenced by clients' needs and other sorts of restrictions (Stevens, 1998, p. 96). The approach taken in this project, however, seeks to take a different route, which is more open to exploring how designers pragmatically engage with these kinds of (restrictive) contexts.

What cuts across these works is a dominant engagement with spatial design *as* architecture. The crux being that such a framing is focused on significance deriving from a physical output (i.e. from *built* space) rather than forms of creative and *conceptual* work. This allows less room for design having significance before or even without an immediate tangible end-product, such as a building, and diverts attention from the practice of design to its product (i.e. it is rather "look *what* we have made" than "look *how* we went about doing it"). This is at odds with the significance design has without a tangible outcome. As design philosopher Glenn Parsons (2015) summarises: "Even if the structure that he has planned is never actually built, the architect has nevertheless designed something" (p. 9). This thesis, therefore, seeks to establish conceptual space as a significant cultural artefact, constituted through "project mediators" (Farías, 2015) such as drawing and writing (Colomina, 1994; Jacobs, Cairns & Strebel, 2012; Rendell, 2007), which is worthy of sociological study[6]. Furthermore, it argues that it is problematic to emphasise "the architect" as

[6] This, however, should by no means be read as an endorsement of the "elite" status architecture and particularly architects still hold (Kimbell, 2012; Larson, 1993), which is increasingly problematized (Luvaas, 2016; Stevens, 1998). The argument for the significance of conceptual space is deployed to shift focus *to* design *processes* through which we can observe how designers act as powerful (cultural) intermediaries.

the main author of conceptual space (see also Cuff 1992; Deamer, 2015b; Farías & Wilkie, 2016b; Stevens, 1998). French sociologist Henri Lefebvre (1991) critiques this tendency to accentuate single professions/professionals as "science of space" which "fragments space and cuts it up into pieces" (pp. 89-90) and enforces a "fetishization of space" which is cultivated by practitioners and analysts alike in order to claim legitimacy as trade or profession (p. 104):

> The *ideologically* dominant tendency divides space up into parts and parcels in accordance with the social division of labour. (…) Thus, (…) we fall into the trap of treating space as space in itself (…) to fetishize space in a way reminiscent of the old fetishism of commodities, where the trap lay in exchange, and the error was to consider 'things' in isolation, as 'things in themselves'. (Lefebvre, 1991, pp. 89-90; original emphasis)

In contrast, the actors at StudioFour themselves continually stated that they "are all designers" (field notes, 16.12.2014). They strategically mobilised different kinds of categories like "architect" or "interior designer" in various ways. These categories became apparent when designers described different design skill and design approaches. For example, it was explained to me that interior designers worked to make "spaces more magical and exciting", having a "strong narrative", a "spirit or mood", deploying a deep variety of colours whilst architecture was concerned with a "much harder palette of materials" (field notes, 16.12.2014). Whereas for Lefebvre (1991), spatial fetishism has a static connotation, StudioFour kept these definitions loose and rather broad, subsumed under the term "design" which allowed, for example, "architects" to work on scales which would commonly fall under "interior design" and vice versa. In other words, there is a discrepancy between the empirical and analytical use of the term "the architect" vs. "the designer". Therefore, it is part of the ethnographic aim and the contextual approach of this study (see Chapter 2) to not impose such categories on the field and the actors, but rather to investigate *how* and *why* they are enacted in a commercial context. This is why the notion of *spatial design*, in this study, takes precedent over *architecture*.

The second issue, namely that some of the existing research takes as point of departure a distinctly critical angle on the relationship between design and commerce, is rooted in critiques of the role of neo-liberal capitalism in architecture. These started as early as the 1970s with the work of Manfredo Tafuri (1976) discussing the relationship between architecture, the workforce and the economic system. Broader and more recent practitioner and academic debates also see spatial design and architecture as increasingly entrenched with the globalisation of capitalist production

(Adam 2012; Ibelings, 1998; McNeill, 2009) or post-modern consumption (Böhme, 2016), voicing concerns about the spatial, social and political consequences of this development (Sklair, 2005, 2006, 2010). Important contemporary themes in this context include regeneration and privatisation and their societal consequences (e.g. in terms of social inequalities in housing; see, for example, Madden & Marcuse [2016]). Prominently resonating with these concerns is another stream of research that takes an explicitly critical angle to see architecture (both in terms of buildings and in terms of practice) as *historically* affected by a capitalist economy (Deamer, 2013a). In this context, Deamer (2013b) describes an indirect relationship between capital and architecture whereby money is a "complex extra-architectural condition" which has "effects" on architecture (p. 2) in that it structures the supply of spatial products to capitalism's demands. At the core of this critique is the growing diversification in the building industry and architecture's increasing loss of control over the building product and process. Here, spatial fabrication through contractors is described as profit-focused and therefore complicit with the capitalist forces that are responsible for architecture's loss of practical influence. It is argued that this pushes architects to the margins of spatial production and into an elite domain (Ross, 2010, p. 9-10).

These concerns echo in the work of architectural scholar Keller Easterling (2005, 2013, 2014). Equally focused on critically theorising the relationship between space and capital, she discusses how global streams of capital build powerful networks of infrastructure that form the "overt point of contact and access between us all" (Easterling, 2014, p. 11). Central here is the notion of a global grid of "infrastructure space" that is comprised of buildings which she describes as "no longer singularly crafted enclosures, *uniquely imagined by an architect*, but reproducible products set within similar urban arrangements" (Easterling, 2014, p. 11; emphasis added), such as skyscrapers, container ports, shopping malls, industrial parks, resorts, fast food restaurants and so on. The key point is that this "infrastructure space" is not controlled by governments, but thrives under the control of players that are "extra-state" and gather their potency from freedom and power granted to them under neo-liberalism (in that sense, she argues, certain instantiations of infrastructural space, such as free trade zones, can even be interpreted as resemblances of the utopian liberal state [Easterling, 2013, p. 209]). Easterling does not focus on architecture per se, or on capitalism, labour and the production of value in architectural practice, but instead on what happens, supposedly, when architects are no longer involved in individualised spatial production (see quote above). Much like the analysis of Deamer and her colleagues, this builds on the narrative of an increasing construction/design divide that is fuelled by commercial forces.

The majority of this research is grounded in critical theory-approaches[7] and a "Marxist orientation" (Deamer, 2015b, p. xxxv). Deriving from this critical framing, architecture's loss of control and relevance in building processes is attributed to an increasing division of labour and the rise of the construction industry which – if set against the Marxist base-superstructure framework – "participates energetically in the economic engine that is the base" of (Deamer, 2013b, pp. 1-2) to increasingly replace the architectural expertise in spatial production (Ross, 2010). Here, the construction/design divide is amplified by the growing significance of new technologies in architectural practice (Deamer & Bernstein, 2010), which has led to a "rhetoric of immaterial production" (Ockman, 2015, p. xxiii) in spatial design[8]. This rhetoric is argued to have produced the common, yet crude, perception (within architecture and beyond) that "architects design, constructors build" whereby architects believe that "we do art, they do work" (Deamer, 2015c, p. 61). According to Deamer (2015c), this notion of architecture as art has produced architecture's "pathetic notion of design that isolates it from work" (p. 61). To critique this, the notion of labour (see Cayer et al, 2016; Deamer, 2015b, c; Deamer & Bernstein, 2010; Tombesi, 2010) is deployed and serves to describe architectural work as mostly laborious and uncreative (Deamer, 2015b, p. xxxiii) and focused on value-creation and monetisation (Deamer, 2015c, p. 72). It also forms the basis for discussions that highlight the labour exploitation within architectural practice where many architecture graduates find themselves in precarious situations as they enter the professional world of spatial design, often burdened with large amounts of debt (Deamer, 2015b, p. xxix).

The political and social dimension of architecture has always been part of the academic and public discourse (see, for example, Jones [2011]). The studies discussed above present analytically and politically important critiques of *contemporary* forms of architecture as process and product of capitalist and socially unjust spatialisation. They also do important work in theorising architectural practice in commercial contexts while remaining attuned to a range of sociological questions (such as the relationship between the economy and space). However, what is problematic is that the analysis is based on a framing of the construction/design divide that can cultivate a bifurcation between ideal spaces (led by architects) on the one hand and capitalist spatialisation (led by contractors and clients) on the other hand. Such a framing can evoke an understanding of "the

[7] Here, Deamer (2015b) describes Keller Easterling and some of her colleagues as part of an "anti-post-criticality group" who engage with the issues Tafuri mapped out but "redirect (if not reject) Tafurianism for a global, slippery, non-monolithic capitalism" (pp. xxx-xxxi).

[8] Whereby more recently, scholars have proposed that new technologies do the exact opposite and bring design (or designers) and construction (or contractors) closer together through "convergence" (Deutsch, 2017).

market" of spatial design as abstract and independent force as opposed to being configured through social practices (e.g. through processes of "marketisation" [Callon, 1998]; see also Julier [2017] for a discussion on how both "the economy" and "design" tend to be presented as coherent and separate entities). The chief difference to this study is that these works begin from a particular *critical* position – a *critique* – on the interrelationship between design and commerciality. The analysis within this research, on the other hand, promotes a more complex and nuanced approach to spatial design practice that is grounded in ethnographic *inquiry*[9] (see also Chapter 2). Implied here is the object of study being the design studio, not "architecture" or "capitalism", as a means to investigate how designers pragmatically link commercial, cultural, social and material concerns. This is an important contribution to the social study of spatial design in that it emphasises the "grubby stuff" of spatial design practice and provides current empirical data on the complex and ever-evolving relationship of design, space and commerce.

The third analytical issue, the treatment of materiality within existing architecture and spatial design scholarship, derives from a polarisation: there either is no mention of materiality in the spatial design process or an over-emphasis on it. In other words, much of the empirical research into spatial design studios has fallen short of investigating *how* material knowledges and practices are integral to the spatial design process: the focus is on organisational development and economic success (Blau, 1984), learning and reflexivity in architecture (Schön, 1983), economic pressures on the architectural profession (Gutman, 1988), architectural education vs. architectural practice (Cuff, 1992), architecture and/as labour (Deamer, 2015a) or the effect of global capitalist forces on architecture (Easterling, 2005, 2014; Sklair, 2005, 2006, 2010). It is not on how, quite literally, materiality features in professional design processes. Rose, Degen and Melhuish (2014) are a notable exception in that they argue for the significance of visuality as some form of material as a significant part of the materialisation process of a future space.

[9] The distinction between "inquiry" and "critique" and the description of how they differ via different objects of study is borrowed from Farías (2011). Responding to a criticism of the urban assemblages-approach by Brenner, Madden and Wachsmuth (2011), Farías crisply outlines that (Marxist) critical theory approaches to urbanism profoundly differ from urban assemblage-thinking and, more importantly, the goal of "inquiry" that underpins them. The latter is based on inquiries as a "more open and explorative form of engagement with the world" as opposed to critiques "based on a notion of power as a resource a ruling class possesses and of knowledge as an ideological construct that needs to be unveiled" (Farías, 2011, pp. 365-366). Even though this study is not about urbanism but rather spatial design, these points are helpful for conceptually positioning it in relation to the existing research on architecture and spatial design.

A more holistic stance to spatial design practice is provided by scholars in Science and Technology Studies (STS) and particularly Actor-Network Theory (ANT)[10]. Here, a substantial and relevant empirical study has been conducted by Yaneva (2009a, b, c) who contributes important *ethnographic* research on the architectural practices that comprise Rem Koolhaas' Office for Metropolitan Architecture. Looking at "architecture in the making" (2009c, p. 4), she deploys ANT as her own pragmatist approach to design to focus on exploring "the practices of designers rather than their theories and their ideologies" (2009a, p. 282) to avoid "the passage through the vague notions of society, culture, imagination, creativity which do not explain anything but need explanation" (2009c, p. 28). This angle provides an explicit opportunity to focus on materials and material knowledge as they are mobilised in the design process, e.g. by crafting models by hand (2009b, p. 113). However, by being methodologically and theoretically wedded to ANT, this type of pragmatist approach leaves no room for empirical structuralism as it emerges through the ways in which actors make sense of their environment and act upon it. In other words, Yaneva's pragmatist approach to design brings materiality into the picture, but leaves out how it is entrenched with strategies for stabilising design as a creative-commercial practice through precisely those "theories and ideologies" which she finds so problematic. This over-emphasises materiality and sits opposite architectural scholarship that has long theorised the relationship between materiality and sociality. Important works in this regard include Venturi's (1966) historical analysis of architecture and materiality, Pallasmaa's (1996, 2009) critique of architecture's privilege of sight and Zumthor's (2006, 2010) emphasis of architectural atmosphere and multi-sensory architecture. Also included in this body of work are architecture and design "manifestos" such as put forward by the Bauhaus designers or Modernist architects, or more recent commentaries such as by Koolhaas (1978) on architecture and culture, Correa's (1999, 2012) work on India's urban issues with regard to housing and Hertzberger's (1997, 2013, 2015) educational writing on structuralism and building sustainability. What we can see here is that theorisations play an important role in spatial design practice and scholarship. These may also include, or even heavily focus on, materiality. Social studies of spatial design, however, have either not paid attention to materiality as a crucial aspect of design practice, or have over-emphasised materiality in terms of non-human actors which can develop agency in networks (see Yaneva, 2009a, b, c). This study aims to close this gap by analysing how material knowledges, theories and practices underpin spatial design production.

[10] For an ANT-committed commentary on architecture (primarily in terms of buildings) see as Yaneva and Latour (2008) and the Science and Technology Studies' Special Issue "Understanding Architecture, Accounting Society" (2008), edited by Albena Yaneva and Simon Guy.

Design as Situated Practice

The section above shows that many theorisations of spatial design practice are put forward by architecture professionals. These figures have come to embody the role of architects-as-intellectuals and continue to occupy key positions in the public discourse around spatial design, providing important theoretical interventions (such as through "manifestos") from within, as it were, based on (sometimes politically and culturally charged) perceptions of their own professional self *as architect*. This thesis, however, does not only focus on *design* instead of architecture but also is motivated by a different form of theorisation which looks to sociologically theorise from what *designers do*, not primarily from what they say. As Shove et al (2007) prompt: "In writing about theories of design, we focus not on 'Theory' as developed and expressed in the manifestos of design groups and movements (…) but on the working understandings that permeate the profession and that are sustained and supported by practical skills and tacit knowledge" (p. 118). This matters for developing a sociology of design practice in that it allows one to investigate wider (social) structures of (spatial) design beyond semantics and performance (see also Chapter 2). Against this backdrop, and in the light of the three issues outlined above, it is paramount to position this research in the context of existing empirical social research into other kinds of design practices, not just architecture.

There is an emerging concern of anthropology with different forms of design. Here, design ethnography has been developed as a design-practice-informed way of doing in-depth fieldwork with participants, such as in the home (Pink et al, 2017), sometimes with the aim of accounting for the material and immaterial aspects of design (Pink, Ardèvol & Lanzen, 2016). Furthermore, design anthropology has both looked at and argued for the growing significance of ethnography *within* design practice (see Clarke, 2010) and the participation in real-world design processes (Gunn & Donovan, 2012; Gunn, Otto & Smith, 2013; Melhuish, 1996) whereby much of the scholarly discussion evolves around asking how the anthropological method can improve user-research. This is complimented by critiques that, for example, state that "instead of asking what it is that anthropologists have to offer the larger conversation *about* design—what anthropological insights can teach us about design—we should be asking what anthropologists have to learn *with* or *from* design" (Luvaas, 2016). This thesis, however, takes yet another route in that it is looking at how designers situate *themselves* and their practice in larger socio-economic contexts. As Kimbell (2011) puts it: "A future direction for research into designers' thinking and knowing, therefore, could take as a starting point practitioners' being in the world and their

relation to other social actors including artefacts and other social practices and institutions" (p. 298). This requires developing an understanding of *design as situated practice*.

The notion of design as situated practice is reflected in *social science* scholarship that explores design as "the interaction between understanding and creation" (Winograd & Flores, 1986, p. 4). Here, many critical investigations emerged in reaction to the invention of computers, whereby design has been placed centrally for understanding socio-technological change. These works have laid the groundwork for understanding design as situated practice, a notion that is based on contingency in design rather than design(ed) plans that prescribe use patterns (see especially Suchman [1987, 2007]). Even though this line of work is specific to the field of software/computer design and software or computer designers face a different set of challenges than spatial designers, the notion of situatedness in design is conceptually and methodologically important for this study: that design happens in a (socially, culturally, materially) situated moment highlights the importance of studying design processes in-situ (such in a studio, see Farías & Wilkie [2016a,b] and subsequent sections) and necessitates bringing specific contexts into the design discourse (for example space and materiality). In professional design, one of these important contexts is commerciality. In this regard, Molotch (2003) provides crucial support: he opens a debate about product design by asking the simple question "Where does stuff come from?". He remains vague about his theoretical underpinnings, but makes highly relevant conceptual and empirical points. He follows products to the market (i.e. he investigates designers in their daily work of being creative, working with clients and towards briefs, thinking conceptually and pragmatically about materiality, organising production and sales and so on). Not only does this empirical work give body to rather abstract notions of design that have emerged from technology-focused research, it also sheds light on design processes and, importantly, *the designer*. He argues that

> designers also bring their own professional values and experience to the work. In a realm where there is so much uncertainty as to what will succeed, specifics like designers' own biographies and individual tastes have opportunity to weigh in. (Molotch, 2003, p. 23)

The focus on the designer is premised on production processes holding a wealth of information on how "the social and material combine to make, depending on the circumstances, both change and stability happen in the world" (Molotch, 2003, p. 3). Moreover, materiality here is explicitly contextual (or situated): the "stuff" that gets made always relates to professional and commercial

systems, which have a say in the design (see Shove et al, 2007). The notion of designed things as profoundly related to commerciality and the significance of the (individual) designer are important advancements of design as situated practice, particularly in the context of this project's aim. However, it is important to not mistake the notion of design as (materially, commercially, professionally) situated practice for a deterministic notion of design. Based on their research on how products (e.g. dishwashers, plastic containers or cameras) are designed by professionals, but also how they both transform our daily lives and are altered by them, Shove et al (2007) deploy an explicitly holistic approach to design by illustrating the link between design and consumption or product and practice with a particular view for material properties/materiality (in their case: plastic). They build on practice theory (see next section) to make the important point that "users and consumers are designers in their own right" (p. 10) and that, therefore, "it is misleading to think of things as infinitely flexible carriers of ascribed meaning" (p. 7).

Shove et al's (2007) research is particularly helpful for this thesis in several ways. First, it focuses on design as practice by defining design as "ways in which practices and their constituent elements are contingently and provisionally knotted together" (p. 19), which supports the approach taken in this research. Second, their approach to materiality and material does not only refocus the analytical gaze onto "things in use" (p. 10), but also on how material properties gain meaning in design processes. Both of these aspects help to approach spatial design as a practice in which certain objects are treated in certain ways that are specific to *this* area of design. They also help investigate the role the properties of materials play in spatial design processes (see Chapter 5). And third, Shove et al (2007) acknowledge, albeit somewhat critically, the commercial contexts professional designers find themselves in (p. 9), which provides grounds to explore the ways in which this comes to bear in design processes. Despite these conceptual benefits, it must be noted that Shove et al (2007) focus on a different area of design, namely product design where designers are called in to add value to products and not necessarily design them from scratch. Spatial designers face a very different set of issues and are also much less involved in consumer-research, but tend to focus on working with clients as opposed to users (see Chapter 4). Furthermore, the study of Shove et al (2007) methodologically provides less insight into the role of producers in design processes because their research is focused on how consumers act as designers. This project, on the other hand, deploys design ethnography in the sense of "studio studies" (Farías & Wilkie, 2016a,b; see also next chapter) to examine design production.

Conceptual Framework and a Workable Definition of Spatial Design

The goal of ethnographically engaging in real world design practices requires a conceptual framework and a workable definition of (spatial) design. This workable definition needs to link to the conceptual advancements of the works discussed above, but also be open for the actors' own take on spatial design and how this manifests in their practices. Here, the analytical instruments should not overshadow the empirical contexts of design. Therefore, this section proposes a workable definition of (spatial) design that is based on a notion of design as both problem-solving and form-giving and that is rooted in Hennion's (2016) notion of pragmatism[11]. Grounding the analysis in Hennion's (2016) notion of pragmatism has three reasons: first, it promotes an understanding of objects (or materiality) as defined by the "actors themselves" (p. 292) which helps to work out the role mediation, agency (of people and things) and contextuality (whereby "content counts" [Hennion, 2016, p. 292]) play in design processes; second, it is built on the understanding that "things are themselves relations" (p. 302) which points to the notion of social practice (p. 299) and, therefore, can be read as an invitation to deploy pragmatism to link up other (sociological) concepts (e.g. space and design practice, mediation and politics, aesthetics, materiality and marketisation; see section below) that help understand *spatial design as practice*; and third, it is committed to the study of actors and, therefore, provides room for the kind of real-world pragmatism that designers exhibit themselves when they *pragmatically* go about their work when having to make ends meet as part of their mediating role[12].

Space and Design Practice

That design is focused on problem-solving is an established notion among design practitioners. "Design is not art" states well-known graphic designer Milton Glaser, "in truth, good designers are primarily problem solvers" (Glaser in Quito, 2016) and "promise solutions" (Shearer, 2016). This

[11] To underline an important point: Hennion's (2016) notion of pragmatism is different from Yaneva's (2009a) "pragmatist approach" to design (which is entirely wedded to ANT) as well as John Dewey's classical writing on pragmatism in philosophy, which focuses on the ways and consequences of gathering knowledge. This study builds on Hennion's (2016) pragmatism as an empirical focus developed out of a critique of ANT with a focus on mediation (see next section), not epistemology.

[12] It is this form of empirical pragmatism that is referred to throughout the thesis when it is suggested that designers do something *pragmatically*.

resonates with important thinking about design as conceptual work. As Parsons (2015) reminds us:

> [D]esign is essentially a conceptual or mental activity, distinct from the physical activity of making or building. (…) Design is the *intentional* solution of a problem, by the creation of plans for a new sort of thing (…). (p. 9, 11; emphasis added)

Moreover, design as a "mental activity" is not about choosing between different alternatives, but about "generating entirely new concepts" (Boland & Collopy, 2004 in Kimbell, 2012, p. 130). This is an important premise because it remains open to the distinction spatial designers make, dissolve and re-make between designing and constructing[13] space.

Design scholar Lucy Kimbell (2011) traces this notion of design as problem-solving back to the work of Herbert Simon (1969) and contrasts it with another dominating concept of design based on the work of Christopher Alexander (1971) which frames design primarily as focused on form-giving. While holding on to Parsons' definition of design as conceptual and intentional, here we must set these two notions against the backdrop of space. In its pre-material or conceptual condition, space in design is representational (Lefebvre, 1991) and could be described as typical Kantian thing-in-itself, a "noumenon" that lies outside of immediate perception and therefore is unknowable until it comes into being through the most obvious form of materialisation: construction. But this does not mean that it does not take form. As argued in this thesis, one of the main tasks of designers is to speculate about and materialise a future space as realistically as possible. For example, visualisations, material samples, drawings and so on are some form of prototyping (Wilkie, 2014) without actually creating a prototype (architectural models are probably what comes closest to that). In other words, spatial design is dealing with space both in terms of a process and a thing that depends on form-giving. Lefebvre (1991) provides a pivotal analytical translation for this condition. In his influential work, "The Production of Space", he combines the spatial metaphor with Marxist understandings of productive activity to state that all space is social (pp. 68-168). This allows him to speak about "space production" both in terms of social relations and users and in terms of professional expertise and practices (Lefebvre, 1991; 2009). For Lefebvre, "any space implies, contains and dissimulates social relationships" (1991, pp. 82–83) and is both "a product to be used" and "a means of production" (1991, pp. 84-85). The

[13] It is important to note the "constructing", here, refers to spatial fabrication and is deployed to mark the difference to "making", which is something designers routinely engage in (i.e. they "make" lots of things while designing, as will be argued throughout this thesis).

two "are inseparable sides of one process" (2009, p. 186), because space is continually "produced" through a set of social relations (see also Löw [2016], for similarly relational account of spatial constitution) regardless of whether it is conceptual space or an actual spatial setting. Here, representations of space, as emergent in and through design, have "practical impact" on, play a "substantial role" for and have "specific influence" on the production of space (Lefebvre, 1991, p. 42).

Understanding space as emergent has important empirical and analytical implications for this study. Empirically, it means "the challenge for ethnographies of studios is to seriously consider what it means to produce things that did not exist" (Hennion in Hennion & Farías, 2016, p. 73). Analytically, it means we must understand spatial design as a conceptual activity that both looks to solve problems and "create a desired state of affairs" and to create objects by being "centrally concerned with materiality" (Kimbell, 2011, p. 291). Bridging these two points is significantly facilitated by approaching (spatial) design from a standpoint of practice theory[14] (Kimbell, 2012): focussing on what designers *do* when they design is premised on an understanding of design as "situated" (Farías & Wilkie, 2016b; see section above), which allows one to circumnavigate dualisms such as subject/object (Kimbell, 2012, p. 141) and to account for the role materiality plays for constituting space as both process and product of design, both of which are crucial for the research aims of this thesis. Looking at design through the lens of practice theory has been suggested by design scholars for many years (Julier 2014, 2005, 2007; Kimbell, 2011, 2012; Molotch, 2003; Shove et al, 2007; Suchman, 1987, 2007; Winograd & Flores, 1986), not least because designers "make things" (Kimbell, 2011). But the "spatial" aspect of spatial design points us to a particular aspect within practice theory: *stabilisation*. Both Lefebvre's dual notion of space as process and product and the fact that spatial design tends to be detached from construction means that spatial designers have to *stabilise* design as a process that they deliver as professional service as well as space as their product. This points to Shove, Pantzar & Watson's (2012) notion of practice theory[15], which sees stability[16] as emergent from successfully reproduced practices as

[14] For a discussion on how designers themselves can use practice theory in their design work, see Julier (2007).

[15] It needs to be outlined that their notion of practice theory is committed to a focus on tracing "elements" rather than prioritising agency or structure: "By paying attention to the trajectories of elements, and to the making and breaking of links between them, it is, we suggest, possible to describe and analyse change and stability without prioritizing either agency or structure" (Shove, Pantzar & Watson, 2012, p. 22). The point with design, however, is that it is profoundly organised around agency and intentionality. This is why Shove, Pantzar and Watson's (2012) practice theory and Hennion's (2016) pragmatism are complimentary in the context of this case study.

[16] Throughout this thesis, the term stabilisation will be deployed frequently and should generally be read as reference to Shove, Pantzar & Watson's (2012) framing of practice theory.

"interdependent relations between materials, competences and meanings" (p. 24; see also Chapter 3):

> [S]tability is the emergent and always provisional outcome of successively faithful reproductions of practice (…) stabilization is not an inevitable result of increasing density of interdependent arrangements, rather, practices are provisionally stabilized when constitutive elements are consistently and persistently integrated through repeatedly similar performances (p. 13)

In other words, not only does it allow one to frame design as *both* problem-solving and form-giving, but it also provides a window for investigating *how* this stability is achieved in a creative, commercial and spatial context. Here, a notion of design as situated practice serves to investigate how and why designers may "fetishize" space (Lefebvre, 1991) as part of stabilising spatial production. It also provides a platform for investigating how designers create, enact and stabilise the *contexts* in which design production can take place (see Chapter 3).

The importance of stability links to another dimension of design, namely that it is not only conceptual, but also needs to be *creative* (see Farías & Wilkie, 2016b). As Scott Lash contends, "design is a lot about potential as is it is about creativity" (in Julier, 2009, p. 102). Furthermore, Farías and Wilkie (2016b) note that the individual ways in which creativity is developed in design remains under-researched (p. 3) whereby "the studio remains a peculiar and remarkable lacuna in our understanding of how (…) creativity operates as a situated practice" (p. 1). We must then ask how notions of stabilisation through practice allow us to understand how creativity is enacted in a studio environment and as part of spatial design practices (i.e. how we can open up the "black box" of creative work [Farías & Wilkie, 2016b, p. 3]). It has been noted that the notion of practice in design always entails *contingency* (Julier, 2007) which suggests that it plays an important role in addition to *stabilisation*. Farías' (2015) analysis of how architectural firms routinize dissonance (through spatial layout of their office, design reviews and sketches, plans, models and so on) as a source of new ideas, but also as a strategy to adapt to changing circumstance and narratives underlines this point. Therefore, a workable definition of spatial design must remain attuned to moments of stabilisation and de-stabilisation, i.e. (deliberate) contingency, dissonance and serendipity within routinized design processes. This is particularly important in the context of how the entity of a studio is held together as a commercial and cultural entity and how it organises its production process.

Mediation and Politics

As indicated before, deploying an understanding of design as "practice" allows one to look at the ways in which designers position themselves as "cultural intermediaries" (Farías & Wilkie, 2016b; Julier, 2014; Kimbell, 2012; Moor, 2008; Nixon & Du Gay, 2002; Smith Maguire & Matthews, 2014), i.e. "mediators [who] interpose themselves with their reasons derived from knowledge, from ideology, from meaning" (Lefebvre, 2009, p. 186) and who are "defined by their work as taste makers" (Smith Maguire, 2014, p. 19). In other words, "designers theorise" (Townsend, 2016) about people, taste, economic conditions, places, processes and so on in order to systematically and frequently move between different tangible and intangible forms of material, aesthetic, sensual and economic configurations of space. Thus, not only must we "acknowledge that design practice is shaped by designers' own theoretical and political commitments" (Fry, 2009 in Kimbell, 2011, p. 300), we also can and must note that theorisation, then, underpins design stabilisation. Additionally, these theorisations in moments of mediation point to Bourdieu's notion of different forms of capital: specifically "cultural capital" as non-financial assets such as skill, knowledge and educational qualifications or "long-lasting dispositions of the mind and body" as well as "social capital" as the "aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships" (Bourdieu, 1986). This is consistent with practice theory because it shifts focus to the humanist aspect of design as expressed in agency and intentionality (see Parsons, 2015). Spatial designers build up distinct sets of cultural and social capital to know how to practice design and *how* to build (theoretical) frameworks as part of mediation and stabilisation. In the context of their particular industry and profession, "what designers do, and how they go about their business is intimately related to the sort of expertise they lay claim to" (Shove et al, 2007, p. 138). Based on this, investigating spatial designers as cultural intermediaries provides a space for discussing how politics and power are played out in design practice[17]. As Gastrow (2016) argues, "design is inherently about world-making [and] the nature of this world-making is therefore fundamentally political". A studio-focus allows one to describe and analyse this "nature of world-making" from the bottom up. It acknowledges that designers' decisions and products are always mediated by a whole range of things, from briefings to individual and collective assumptions about users, to clients, budgets and regulations (for a

[17] There is an existing discourse on power, politics and design with works focusing on architectural theory (Swenarton, Troiani & Webster, 2008; Yaneva, 2012), urban design (Julier, 2005) landscape design (Mitchell, 2002), technology design (Marres, 2012) whereby the notion of politics and power here are very specific to their field. Because this body of work is so fragmented, it here is not discussed further and only serves as an indicator for the importance of individual contexts to unpack design politics and power relations.

discussion on architecture and regulation, see Imrie & Street [2011]). Therefore, looking at how designers strategically act upon these aspects does not only provide a window for acknowledging *that* design is linked to power and politics, but also *how*, which is an important aspect of this thesis (see Chapters 3, 4 and specifically 5 on cost-engineering of materials).

Aesthetics and Materiality

Designers' speculations of users and uses in the context of creative work point to a concept that is empirically and analytically crucial for studying design: aesthetics, the "elephant in the room" (Farías & Wilkie, 2016b, p. 12). Designing involves "aesthetics-in-action, of assembling, improvising and manipulating cultural artefacts in view of producing affective attachments to future users, audiences, spectators and publics" (Farías & Wilkie, 2016b, p. 12). German philosopher Gernot Böhme (1993, 1998, 2006, 2013) states that spatial design can best be understood as "aestheticizing" or "tuning" spaces. Here, "tuned spaces" can also be understood as atmospheres, which are "quasi-objective" and sit in-between subject and object as the "common reality of the perceiver and the perceived" (Böhme, 1993, p. 114). This points to a much broader understanding of aesthetics than is commonly advanced in that it goes beyond (analysts' and practitioners') notion of aesthetics as in terms of beautification or creating desire amongst individuals. We can find this broader and more useful notion of aesthetics in classical philosophical discussions where aesthetics designate the profound relationship between our material environment and perception and thus sociality. According to Baumgarten (1750/58 [1983]), whose "Aesthetica" is key to many subsequent discussions around aesthetics (including Kant's judgement of taste which Böhme [2016] claims is profoundly based on a notion of aesthetics *as* design [p. 81]), aesthetics need to be understood in their original Greek sense, as *aisthesis*, meaning sensual perception (German: 'sinnliche Wahrnehmung'). Baumgarten's "Aesthetica" was an immediate reaction to the discourse of his time in which ratio (logic) was dominant but problematic. Logic (ratio) always emerges from abstraction and therefore is based on nothing but loss (p. XI). He contrasts this with aesthetics as phenomenological, yet equal to logical thinking because both "Rationalität" (ratio, logic) and "sinnliche Erkenntnis" (sensual recognition, phenomenology) are necessary to achieve "Erkenntnis" (knowledge). Even though Baumgarten uses art as a central theme in his discussion, his aesthetics are not about artistry in a contemporary or conventional sense. Art, here, is synonymous to any productive activity and is deployed to describe aesthetics as evolving around *both* phenomenology and production because art as an activity entails both "sinnliche Erkenntnis" (sensual perception) and production (traditions of poetics and expression; Baumgarten, 1750/58

[1983], p. IX). Most crucially, Baumgarten's aesthetics were originally conceived to acknowledge the complexity through which (or despite which) we, in a very active (or "productive") way, make sense of the material world that surrounds us.

The more recent philosophical scholarship revives the classical tradition by discussing aesthetics in terms of phenomenology or perception (Dewey, 2005 [1934]; Dufrenne, 1964; Gell, 1998; Shusterman, 2006; Welsch, 1996a, b). At the same time, sociological thought has begun working towards overcoming the limitations of traditionally placing aesthetics in the realm of the arts as a way of separating the social and the aesthetic (see Born, 2010). This revival of aesthetics in sociology (see Born, Lewis & Straw, 2017), also called "aesthetic turn" (see Olcese & Savage, 2015), has equally focused on more explicit explorations of materiality, perception and social structures or structuring (see Benzecry, 2015; Hanquinet, Roose & Savage, 2014; Nettleton, 2015; Olcese & Savage, 2015). Moreover, aesthetics have become the focal point of an increasingly interdisciplinary scholarship on body-space relations (see Davidson & Milligan, 2004; Duff, 2010; Ettlinger, 2004; Rodaway, 1994). In this context, aestheticization processes have been conceived as practices that relate "the human psyche and physique" (Davidson & Milligan, 2004, p. 524) to geographies, materialities and experiences of place. In other words, they link up material environments with actual experiences or with assumptions about how these environments will be perceived by users. "Tuning spaces", or doing spatial design, evolves around speculating about precisely these relationships as basis for producing spatial concepts (which is different to just giving something an appearance to propel consumption, as suggested by much of the scholarship on aestheticisation in the context of consumption [see Biehl-Missal & Saren, 2012; Featherstone, 2007; Shusterman, 2006; Venkatesh & Meamber, 2008; Welsch, 1996a,b]). In other words, aesthetics are central to the practices and the discourse of spatial designers and help them combine their thinking of future spaces with their vast knowledge of materials. Therefore, aesthetics are mediators of economic, social and cultural concerns in professional design practice.

The centrality of aesthetics points to something that then necessarily underpins (spatial) design: material knowledges and practices. That is to say that spatial designers do not deploy aesthetics out of nowhere, rather their aesthetic/conceptual work builds on distinct ways of knowing about and operating on materiality. To return to the starting-point of this chapter, Michael's concern around bricks are diverse and complex, they evolve around material quality, sensuality and assumptions around the body, supply-chain concerns, cost and labour issues and so on. It has been widely acknowledged that the "study of design culture begins and ends with materiality" (Julier,

2014, p. 249), not least because design has historically been about "making things from materials" (Kimbell, 2011, p. 291). Clearly, spatial designers deal with stuff, even though they do not build anything. For StudioFour designers, much of their work was about "putting designs and materials together" (Charlie, 01.04.2014; see also Chapter 5). The importance of materiality and how it is operated in spatial design links to the notion of material culture in design practice (see also Clarke, 2010). Originating in archaeological studies, which base objects at the heart of speculating about past social structures, material culture studies focus on the role materiality plays for social life. This body of work first fully emerged to overcome a Marxist productivist bias and sought to think beyond consumption as entirely determined by production. Much of this scholarship, however, focuses on how consumers represent and interpret production scripts in their practices and therefore, equally, act *as* producers or designers (see Buchli, 2002; Lury, 1996; Miller 1998, 2005, 2010; Slater, 1997; Tilley, 2006). Much less has been said about the material culture of professional producers (here: designers), i.e. how they operate on user frameworks, but also integrate technical, aesthetic, pragmatic and political considerations into the material knowledges and the practices that structure their work. While we seem to have just separated "consumers" and "producers", it has to be said that material culture scholarship traditionally seeks to debunk this polarisation by stating that consumers can be producers and vice versa. In the spatial context of this thesis, this links back to Lefebvre's dual notion of spatial production (1991), which offers a way to understand the spatial production process (by that I mean design as well as construction and use of a space) as a continuum. Some scholars have described this relationship in a similar way (Julier, 2006; Shove et al, 2007) but existing material culture studies have focused on a particular point in this continuum, namely the one where consumers get their hands on products and alter them through use. Alternatively, this study focuses on another point: the one where designs are developed by professional (spatial) designers.

Marketisation

This introductory chapter has opened with Molotoch's (2003) statement that "design (…) is where the cultural rubber hit the commercial road" (p. 23), which brings us to the last fundamental element of a workable definition of spatial design: commerciality. Designers act as cultural intermediaries in commercial contexts and towards economic ends (see Heskett, 2008; Julier, 2017). What matters to them is not only *that* they create conceptual space but also that they can *sell* it. Spatial design studios are good examples of "creative organizations in which skilled professionals turn imaginative ideas into disciplined practices and practices into profits" (Brown

et al. 2010, p. 526). In other words, designers have to link up creativity and commerce to create different forms of value. As Julier (2006) argues: "The designer's role is in the creation of value. This most obviously is commercial value, but also may include social, cultural, environmental, political, and symbolic values." (p. 45). This means that designers are constantly involved in different forms of valuation (and de-valuation) processes (see also Farías, 2015). This is where we come full circle back to "practice". Value, in the context of design, does not reside in products or services nor in the meanings they signify, but emerges *through* design as practice (Julier, 2014). The cue of value takes us further to notions of calculation (Callon, 1998) as a means to bring together creativity and commerce.

Much like other creative workers, designers are faced with the challenge of having to calculate their conceptual work as a commodity. Here, creative industries' scholarship has investigated a range of professions that commercially carry out creative practices which would be considered "cultural" (e.g. fashion design [Entwistle, 2002, 2009; Entwistle & Wissinger, 2012; McRobbie, 2016], music [Negus, 2004], advertising [Nixon, 2003] or marketing [Slater, 2011]) to argue against a traditional divide between "culture" and "economy" and to advocate for a notion of a *cultural economy*. Here, it has also been argued that not only do *creative* practices bridge culture and economy but that a sociological take on markets implies a need to frame any kind of market practice as somewhat *cultural*, or at least *social*, and not just *economic* (Slater & Tonkiss, 2001; Slater, 2002a, b). As a profession that is both creative and commercial, spatial design can therefore safely be placed into the cultural economy context. That professional spatial design practices are entangled with market-making, however, also raises the question as to how this happens *other* than through modes of calculation. In other words, it is important to explore not just how spatial designers co-configure a marketplace, but how they explicitly act upon this marketplace (see Farías, 2013). That is to say that we have to ask how spatial design organisations do not only participate in but also position themselves in a marketplace and navigate a post-Fordist competition (McRobbie 2016). What is helpful in this context is to ask what kinds of "market devices" (Muniesa, Millo & Callon, 2007a, b) and what types of "calculative behaviours" (Callon & Muniesa, 2005) spatial designers put to work as part of marketisation (Callon, 1998). Here, market devices are tools (or assemblages of tools such as objects, narratives, languages and metrics) that help actors render things economic (Muniesa, Millo & Callon, 2007b, p. 3) which does not directly have to translate into numeric calculation and profit but can designate more vague things such as brand or identity (see Chapter 6).

The Pragmatist Thread

As mapped out in the beginning of this section, the thread to weave all these aspects together into the workable notion of spatial design is Hennion's (2016) framing of pragmatism. Because this notion of pragmatism highlights contextuality (see previous section), it can be related to Julier's (2006, 2014) notion of "design culture" which describes design as a process which is shaped by the "immediate contextual influences and contextually informed actions within the development of a design" as well as by pragmatic things such as "availability of materials and technologies [and] cultural factors that affect business activities" (2006, p. 70). Both contextuality and the pragmatic take on materiality which Julier (2014) puts at the heart of design culture are issues spatial designers face in their daily work and therefore highlight the importance of investigating studio life. But they also indicate that the notion of design pragmatism proposed here needs to be ethnographically (and sociologically) actionable. Here, Hennion's (2016) notion of pragmatism (also implicitly applied in Molotch's [2003] study of design) provides a good handle by advocating a "return of the object", whereby "objects have their agency that we make and that makes us" (Hennion, 2016, p. 299; see also section above). What Hennion (2016) puts forward through pragmatism can be read as a necessary critique of how ANT has been deployed in design research, especially by Yaneva and her notion of a "pragmatist approach to design" (2009a). Generally, ANT deploys the "network" as borderless structural metaphor for social interaction and connection and allows *stuff* to have significance for organising social lives across different kinds of boundaries and within networks. However, ANT also assumes that objects can be non-human actors and that agency is not the property of an individual, but evolves in a network between (human and non-human) actors. This is where Hennion (2016) positions pragmatism as a critique of ANT, starting from the issue that ANT's focus on object-people relation comes at the cost of diluting agency in a network between human and non-human actors. For him, pragmatism means "'socializing' objects, but not by emptying out their content" (Hennion, 2016, p. 299)[18]. This is an important point in the context of design as "the intentional solution of a problem" (Parsons, 2015, p. 11) in which the individual and reflecting designer (Schön, 1983) plays an important role and which always has some form of materiality as context: as Molotch (2003) reminds, design is about the "intentional use of cultural and *material resources* to create a worthwhile artifice" (p. 23; emphasis added) whereby designers take on roles as cultural intermediaries (Julier, 2014; Kimbell, 2012).

[18] Here, Hennion (2016) clarifies that a pragmatisation of empirical sociology means to trace social relations *with regard to objects* and not against them (i.e. reducing them to mere totems, which he accuses Bourdieu of [pp. 298-299]). This links into the notion of aesthetics as profoundly socio-material element in design (see section above).

Hennion's (2016) pragmatism assumes that "objects make demands" (Hennion, 2016, p. 302), which is based on *mediation* rather than translation (Hennion, 2016, p. 296). This is important because it dissolves the object-actor dualism[19] that is integral to much of applied ANT and that is so problematic for interpreting design as situated and material practice. It claims that the presence of something between actors is not necessarily tied to the *absolute* notion of an object whereby the object either is everything or nothing (Hennion, 2016, p. 294) – it can be something in between (such as representational space or "matter", see Chapter 5). Furthermore, the centrality of mediation in pragmatism provides grounds for investigating design as mediation and to account for the heterogeneity of actors and the unique situations they find themselves in. Most importantly, this allows one to capture the agency of designers in their practical context: "designers make choices in response to particular circumstances and situations and ignore other possibilities" (Margolin, 2002, p. 97) whereby "far from the binary opposition between humans and nonhumans, actors [are] of very different natures form each other" (Hennion, 2016 p. 302). Furthermore, the focus on mediation provides room for the kind of contingency spatial designers expect when dealing with pre-material conditions of space as Kantian "noumenon": it links in with the mediating role that designers necessarily take on in that it allows us to suggest that (pre-material) space only can have durability *because* of designers' mediation (see Benzecry [2015] who, like Hennion himself, focuses on music to develop a similar argument).

The last conceptual step that must be made, then, is to fully consolidate pragmatism and practice theory. Even though reaching out to practice theory, Hennion (2016) claims that it "is pragmata – thing-relations, plural and extended – that are at the heart of pragmatism, not practice" because practice "doesn't require anyone to challenge the grand divide between human actions and the things they act upon" (p. 301). While this is an interesting conceptual critique, the argument in this study is that, first, the empirical case of design shows how designers' mediation (*pragmatism*; Hennion, 2016) and stabilisation efforts (*practice*; Shove, Pantzar & Watson, 2012) are integral to one another and that, second, much of *their* work actually evolves around challenging "the grand divide between human actions and the things they act upon" (Hennion, 2016, p. 301) because their work is focused on "putting designs and materials together" (Charlie, 01.04.2014; see also Chapter 5). That is not to say that pragmatism and practice theory are the same thing, but that the particular case of spatial design lends itself to being explored through a *pragmatist* view on

[19] Similarly, Kimbell (2012) suggests that studying design as situated and located helps avoid dualisms such as subject/object (p. 141).

social practice as central unit of inquiry (Farías & Wilkie, 2016b). Implied in this is a humanist(ic) stance (both analytically and methodologically, see Chapter 2) that is based on a commitment that "people matter" (Du Bois & Wright, 2002) in processes of design. What is important to reiterate, lastly, is that "pragmatism" in this thesis has a double-meaning: on the one hand, it serves an analytical and ontological tool to investigate design processes, as discussed above; on the other hand, provides a window to describe how designers *pragmatically* organise their work and deploy their own form of pragmatism to make ends meet in their role as mediators.

Thesis Structure

The thesis is divided into seven chapters, four of which are entirely focused on the empirical case of StudioFour and emerge from a view on *what* is being designed at StudioFour and *how.* Each empirical chapter picks up on a sociological debate that has been outlined in the section above to address its respective research question.

Following this introductory chapter, the next chapter discusses the applied methodology of this study in detail, including the key elements of the ethnographic work conducted at StudioFour from April 2014 to February 2015. It argues for studio ethnography (or *studio studies*, see Farías & Wilkie [2016b]), and more specifically the extended case study approach, as the most suitable empirical approach for investigating the social organisation of spatial design. Here, as both exploratory and site-specific, the extended case study approach provides an intimate view onto "studio life" (Farías & Wilkie, 2016a, b) and therefore the ways in which designers stabilise their organisation, their product and their profession, but also how this entails contingencies. This chapter also narrates my journey in bounding my field and gaining access to StudioFour. It, furthermore, describes StudioFour in detail, portraying key informants and ways of accessing information as an "unskilled" researcher as well as research strategies and rhythms. The chapter also includes a discussion of the data collection process, gives an inventory of the collected material and explains the process of data analysis. The chapter closes by examining ethical issues arising in this study and by discussing the limitations of this research project.

Chapter 3 examines how StudioFour stabilises its organisation and production flow in the context of bridging creativity and commerce and leaving room for contingency and flexibility. It takes as point of departure the double meaning of "practice" in spatial design, which is deployed to signify

both *a* practice (as in a studio) as well as a profession. The first section investigates StudioFour's design organisation and work routines. Here, it argues that part of stabilising StudioFour's organisation rests on developing and maintaining social and cultural capital. The section also analyses how the studio has set up formal managerial responsibilities for senior designers and a group of supportive non-design staff, which underlines the collaborative element of spatial production. The next section investigates how StudioFour stabilise design production through "business development" and through a set of rules that rationalise the "production process". Here, mechanisms of internal discipline are discussed in the context of liability and the process of "issuing information". Against this backdrop, the discussion turns to creativity and analyses how design organisation provokes contingency as a source for inspiration and to make design decisions. Here, a pragmatist approach to design highlights the deliberate destabilisations as part of organising creative work and being able to adapt to changing circumstances.

Chapter 4 investigates how designers put concepts to work and to what ends. It begins with describing the different forms a concept can take to then map out two central terms for the conception and operation of spatial concepts: atmosphere and aesthetics. The first section discusses how StudioFour designers develop concepts to argue that atmospheres are put to work by designers and through concepts. It suggests that concepts work as "boundary objects" (Star & Griesemer, 1989) because they facilitate necessary iterations in design processes and have political, organisational and resource-related as well as disciplinary and legal dimensions. The next section examines how different kinds of briefings serve as a baseline for concepts. It also discusses how designers manage client relationships and work towards getting their work "signed off" so that the project and move forward and work can be billed. The next section discusses how designers articulate, materialise and price space as a product. It investigates how designers "do research" and how they act as cultural intermediaries to then investigate how materialised concepts are deployed as calibrated entity by designers to help them value and calculate their creative work.

Chapter 5 investigates the material knowledges and practices that underpin spatial design. Here, it draws on material culture work and notions of "matter" in anthropological scholarship to investigate the forms material practice and material knowledge take in spatial design. This provides the foundation to consider the (material) politics that are embedded into spatial design at large. The first section investigates how StudioFour's material culture centres on learning about materials and how this is part of the cultural capital of designers. It argues that material samples

in spatial design function both as objects and matter. It also suggests that aesthetics help designers to speculate about how material properties may affect bodies in future spaces and how this serves as a base for classifying user groups and making commercial and regulation-related decisions. The chapter also discusses how material culture in spatial design is co-constituted by technical aspects of materials that relate to standards of "performance" in construction as well as to pragmatic concerns. Arguing that spatial designers think about materials in a way analysts tend not to, namely in materialistic terms, the last section of the chapter addresses how this plays out in cost-engineering of materials.

Chapter 6 examines StudioFour's market-directed practices. In particular, it looks at the use of "market devices" (Muniesa, Millo & Callon, 2007b) as well as the actors' "calculative behaviour" (Callon & Muniesa, 2005), both of which help to render things economic and facilitate market-co-configuration. It argues that there is a tense, yet productive, link between internal and external stabilisation (i.e. between the way in which the practice holds itself together as a social organisation and gaining commercial momentum). To specify this, this chapter discusses the distinct competition spatial design studios find themselves in (characterised by constantly having to pitch for work) which points to the importance of branding, reputation, style and identity. The chapter builds on the notion of "controversies" (Latour, 2005) to narrate how product distinction and market positioning through StudioFour's identity and reputation work is complicated by the perceived need of branding StudioFour as well as their tradition of growth and development of specialism in reaction to available work. The last section of the chapter focuses on the calculative behaviours of StudioFour designers and explores the very particular kinds of business-savviness and strategic ways of presenting portfolios and modes of monitoring success that StudioFour designers developed to stay competitive.

Chapter 7 brings the thesis to a close. To draw out broader conclusions, it synthesizes the four thematic directions examined in the empirical chapters (stabilising design organisation and managing contingency in processes of design production; conceptual space as product and process of spatial design; material knowledges and practices as central element of spatial design practices; and considerations relating to the marketplace) into one analytical narrative. Based on this, the chapter outlines four concluding points: First, that we must retrieve a humanist element in sociological design research. Second, that the humanist framing of design practice underscores the notion of mediation and cultural capital. Third, that this points to the significance of materiality within design as creative-conceptual work. And fourth, that the study of micro-economic action in

design practice through studio studies provides empirically grounded alternatives to critiques of neo-liberal capitalism in architecture. Leading on from that, I reflect on the methodological framework that I deployed in the thesis. I end this concluding chapter by suggesting new areas of sociological design research, particularly with a view to an extended set of questions around the organisation of design in the context of wider power structures.

Conclusion

In this first chapter, I have introduced spatial design as the research theme of this thesis and have outlined the key elements that comprise its framework. I have first presented a StudioFour vignette to help illustrate the complex creative, spatial and commercial contexts which designers navigate. Against this backdrop, I have argued that design matters sociologically to position this thesis as an empirical illustration of the complicated set-up of spatial design as creative, material and commercial practice against the backdrop of distinct competitive and regulatory environments. Leading on from that, I have presented the research questions that encompass four thematic directions which are discussed in the four empirical chapters: stabilising design organisation, conceptual space as product and process of spatial design, material knowledges and practices as a central element of spatial design and market-directed practices. The next section laid out the conceptual underpinnings of this thesis by creating a dialogue between theories and works on design, space and commerce and examining the existing architecture scholarship to identify three analytical issues for this body of work when set against this study's research aims. These issues have been contextualised with existing scholarship on design more generally, beyond architecture, to provide a more fruitful context for the socio-empirical character of this project. I have then provided a workable definition of spatial design. Here, I have positioned spatial design as conceptual, problem-solving and form-giving to then link this with the current and relevant debates in practice theory, space, aesthetics, material culture and marketisation. To firmly tie these elements together, I have developed a conceptual framework that is built on Hennion's (2016) notion of pragmatism to acknowledge the importance of stabilisation, contextuality and agency in design as situated practice. Finally, I have described the thesis structure and outlined the content of the subsequent chapters. The next chapter will discuss the methods that were chosen for this project and narrate the analytical journey that I took.

Chapter 2
Situating the Site

> The main experience of a studio, I think, the one that we are talking about here, is that it is situated, in a very active way. (Hennion in Hennion & Farías, 2016, p. 74)

The Case for an Ethnography of Spatial Design

To investigate how spatial design is stabilised as a conceptual, material and commercial practice, I chose to conduct a studio ethnography as I found it to be the most suitable empirical extension of the conceptual framing. This is based on Farías and Wilkie's (2016b) call for the importance of *studio studies* for investigating the "specificity of the studio as an empirical site for the study of the distributed creation, making and invention of cultural artefacts" (p. 7), for example in the context of "material intimacy" (p. 11). Here, ethnography facilitates to empirically and conceptually attend to how design actors theorise their own practices and act upon the distinctions they make. Furthermore, and as Law puts it (2004), ethnography "lets us see the relative messiness of practice" (p. 18) and its "set of *practical contingencies*" (p. 13; emphasis added). This is because ethnography allows the researcher to put herself into the contexts of the participants' everyday (working) lives and to investigate their way of doing things from a "native point of view" (Spradley, 1979, p. 3), as opposed to creating an experimental, laboratory-like situation (Hammersley & Atkinson, 2010, p. 2).

In my case, hanging out in a design studio in order to experience first-hand "how the social is done or holds together" (Law, 2008, p. 147) opened up a window for an empirical exploration of what is stabilised and destabilised in what kind of way (such as design as a creative profession, StudioFour as an organisation, conceptual space as a product and so on). Because ethnography focuses the researcher on seeking meaning in the *flow* of social life (rather than in isolation), it explicitly opens up a window for exploring moments of *(de-)stabilisation against the backdrop* of this flux. It, therefore, facilitates an analysis of spatial design as a social process emergent from pragmatic and contextual stabilisation as opposed to being an outcome of given structures (see Shove, Pantzar & Watson, 2012). To emphasise an important point, it can be argued that an

ethnographic approach is in line with pragmatism in that it makes room for investigating how the practices of a whole range of actors (designers, managers, IT experts, business strategists and so on) link up with the *contexts* from which they emerge. This acknowledges the complexity that designers face in their daily work in which they "must somehow accommodate it all – technology and engineering, form and function, change and stability (…), individual tastes, corporate organisation and even some moral notions held by themselves and others" (Molotch, 2003, p. 21-22). It is these complex and (spatial) design-specific contexts which this study seeks to bring to the surface through ethnographic observation, experience and "thick description" (Geertz, 1973) to gain a deeper understanding of the social world that designers are immersed in.

To further examine the specifics of spatial design practice means to deploy the ethnographic gaze as a means to reveal how designers link up space with (commercial and conceptual) modes of production. Here, a studio ethnography helps to understand how the spatial element comes to bear in design work because it focuses on social processes in terms of the *how* and subsequently in terms of the *why* (whereby the *why* is a perspective often favoured by different kinds of sociologies (see Law [2008]). In other words, ethnography is an appropriate approach to disentangle the productive dimension of the "fetishization of space" (Lefebvre, 1991). It allows one to investigate, describe and analyse how designers stabilise and destabilise, categorise and enact forms of space and therefore helps develop what Lefebvre (1991) calls a "real knowledge of the production of space" (p. 91) as opposed to the "science of space" which "fragments space and cuts it up into pieces" (pp. 89-90). Therefore, the spatial element in this ethnographic study is based on how practitioners come to different spatial categories and why and how they strategically operate on them. It, therefore, is analytically consistent to avoid imposing pre-conceived categories such as "architect", "interior designer", "experience", or "materials" but rather uses the term spatial design/er as means to observe how the actors define spatial aspects of their work.

On the Relationship with Theory

The approach as outlined above, inevitably, calls for a reflection on the relationship between empiricism and theory in the context of this thesis, or, in other words, how the conceptual framework relates to *the ethnographic* of *this* research. Les Back (2007) notes that doing ethnography as sociologist, or, to "sociologically listen", necessarily is tied to thinking about and acting carefully upon the relationship between "the voices of the people" and one's own conceptual stance (p. 21). Therefore, this research is framed as an *inquiry* into the production of

conceptual space, as opposed to a *critique*. The former is a "more open and explorative form of engagement with the world" whereby the latter is "based on a notion of power as a resource a ruling class possesses and of knowledge as an ideological construct that needs to be unveiled" (Farías, 2011, pp. 365-366; see also Chapter 1 for a discussion on this rationale).

The studio focus of this research, furthermore, points to the notion of an extended case study (Burawoy, 1998, 2009; Gluckman, 1961). With a focus on investigating social processes rather than people (Glaeser, 2005; Gluckman, 1961) and grounded in the bottom-up modus of ethnographic exploration, the extended case method naturally lends itself to work that is exploratory and site-specific. It, therefore, provides a window for investigating how designers stabilise their product and their profession as well as the context (such as design organisation or processes of knowledge sharing) in which this happens. This helps to open up the black box of commercial spatial design while seeking to avoid an overly critical stance that can cultivate the conceptual bifurcation between idealistic and purely capitalist spatialisation (see Chapter 1). But more importantly, the extended case study approach interprets theory as an intervention itself (Burawoy, 1998, p. 21, 2009, p. 55). In my case, this is meant to focus on producing "thick descriptions (…) that theorize as they *describe* and describe as they *theorize*" (Back, 2007, p. 21; original emphasis) while, crucially, working to maintain reflexivity about my own position as a researcher and my own intellectual agenda. As Back (2007) reminds us:

> Conceptual and theoretical work should not climb to a level where the voices of the people concern become inaudible. Rather, theoretical ideas and concepts hover above the ethnographic ground in order to provide a vocabulary for its explication. (Back, 2007, p. 21)

In my case, this had two implications: first, it led to assembling a theoretical framework that uses pragmatism to link up a number of sociological concepts that strongly emerged from my ethnographic work (see Chapter 1); and second, it reminded me to take care not to fetishize my own terms and theorisations which had originally interested me and had brought to the field (e.g. aesthetics). This means that key terms and concepts appear in the analysis as they were brought up by the actors and/or became relevant for the sociological analysis.

The issue of theorisation in ethnographic research of design as creative and material practice inevitably links back to the positioning of this project as pragmatist and how this relates to how ANT has been deployed in design research (see Chapter 1). Not only do existing interpretations of

ANT in design research exclude the frameworks and theories actors come up with but it also expects analysts to not theorise and focus rather exclusively on describing associations while giving no priority to human actors over non-human actors. Alternatively, the pragmatist approach to design employed in this thesis uses the extended case study method (much in line with Back's [2007] quasi-humanist approach to ethnography) to acknowledge that spatial designers (as well as analysts) do and must theorise. It commits to exploring this process as part of stabilising the ways in which the conceptual work of spatial design (which includes materialities) is translated into commercial propositions. That is *not* to say that this thesis entirely ignores the conceptual and methodological achievements of ANT. Instead, it takes seriously "the problem with ANT is that, once inside (…) it is very difficult to get outside (…) going back to some early social theory is very difficult indeed" (Entwistle, 2009, p. 34). Contrary to a project fully committed to ANT, this thesis uses the extended case study method as part of a pragmatist approach to explore design as a "socio-material and collective process, in which no single actor holds all the cards" (Farías & Wilkie, 2016b, p. 5) to leave room for the theorisation efforts of both actors and analysts. And it is in this way that it remains "somewhat sympathetic to and commensurates with ANT and its developments" (Farías & Wilkie, 2016b, p. 5). This means that what can be considered typical STS/ANT terminology (such as actor, assemblage, translation, controversy or boundary object) will appear in this thesis without the goal to delve deeply into ANT-specific debates. Switching between these different terminologies is helpful in allowing one to stay loyal to the thick descriptions that are specific to StudioFour as an individual case study while not being drawn deeply into debates that end up being more about ANT than the empirical case. This strategy is rationalised by the argument that ANT is a "diaspora that overlaps with other intellectual traditions" and can therefore be used as a "toolkit for telling interesting stories" (Law, 2008, pp. 141-142).

Scoping and Bounding the Field of Spatial Design

Burawoy's (1991) interpretation of the extended case study method is committed to global ethnography and political economy interpreting the ethnographic site as potentially unbound and situated in a global nexus of practices, relationships and flows of materials and capitals. The interpretation of the extended case study method applied here, however, does not emphasise this unboundedness and rejects the strong analytical (and ANT-informed) stance that a studio has no outside (Farías & Wilkie, 2016b). Rather, it uses the extended case study method to emphasise

the situatedness of design practice. Here, the studio as an empirical site is seen as "more-or-less contained and bounded space" (Farías & Wilkie, 2016b, p. 7). However, my own ethnography still needed stabilising through "bounding" (Burawoy, 1991) and positioning in the very wide field of spatial design per se.

My first step in boundary work started early on by scoping out possible studios as research sites. The first decision that I took in this regard was to "work from home" (i.e. look for a practice to work with in London). The reason for this was twofold: first, London is home not only to a very vibrant creative industries scene (see Julier, 2017) but also hosts a substantial, diverse and successful architecture and (spatial) design industry. With more than 12,000 RIBA[20] members and over 1,000 RIBA Chartered Practices (RIBA Website, 25 October 2016), many of which operate globally (£500m of the annual revenue generated by UK firms comes from work abroad, see RIBA Business Benchmarking [2015]), as well as several highly acclaimed educational design and architecture institutions (such as The Bartlett or the Architectural Association School of Architecture), London holds a key position in the international arena of spatial design and architecture, not least because London-based studios generate the majority of UK's profit in this industry (55% of £2.4 billion profit in 2015, see RIBA Business Benchmarking [2015]). Given this rich and diverse field, London presented itself as an ideal field for my study. Second, staying in London had not only conceptual but also, second, pragmatic reasons. The prospect of not having to relocate for my research eliminated logistical dilemmas and allowed me to remain committed to several professional engagements at the LSE. However, with all that London had to offer as field for my research, it became a daunting task to find the "right" practice to work with, not least because of the fact that spatial design practices vary enormously in size, organisation and specialism, clients, sectors, geographical focus and so on. My strategy, therefore, was to establish the parameters for choosing a studio before embarking on the search for it.

My first parameter derived from the focus on commercial design work. I, therefore, decided that the ideal studio for my research would, first and foremost, be a London-based practice of a big scale so that I could be sure of a strong commercial element. The term "big scale" had three crucial elements to it that framed my efforts in finding my case study studio. First, it was about the size of the studio in terms of employee totals. I based this on categories defined by the RIBA Business Benchmarking Reports which define small studios as having 5-10 employees, medium studios as

[20] RIBA stands for Royal Institute of British Architects and is the professional body for architects in the United Kingdom (RIBA, 2017).

having 10-20 employees and a big studios as over 50 employees. With a larger number of employees, I was hoping to encounter a wider range of design actors (not just architects) and other experts (such as "technologists", who according to RIBA accounted for 10% of the workforce in 2013, see RIBA Business Benchmarking Executive Summary, [2012/13]). Second, "big" would also be a synonym for commercially successful (according to the RIBA Business Benchmarking Executive Summary [2015], big firms generate the majority of the UK revenue), which would help me to investigate the spatial design studio *as a business* in a wider marketplace. And third, big practices, as opposed to small- or medium-sized firms, tend to lead to bigger and more diverse projects (see RIBA Business Benchmarking Executive Summary [2015]). This was promising for me in that it could help me investigate how designers understand the different and diverse localities and social spaces they intervene in. It would also allow me to explore how designers' practices extend beyond the studio through working with professional clients (such as developers as opposed to private residential clients) and other experts in design teams (see Chapter 3).

Based on these parameters, I began to research firms online and, more importantly, I re-engaged with StudioFour (my MSc research site[21]) to pilot my research approach and to test whether the broader themes of my research would resonate with the field. Soon enough, my pilot research showed very strongly that StudioFour was the most suitable case study site for my PhD research. The firm had well over 50 staff and was involved in a whole range of very diverse, international and large-scale projects. Furthermore, it was commercially successful and its diversity in projects and professions would allow for exploring extended enactments and notions of design. What was also important was that StudioFour did not have a celebrity status in that it was not well known beyond its industry (unlike firms such as Herzog & de Meuron or Renzo Piano who are known for having designed buildings like Beijing's "Bird's Nest" or "The Shard" respectively) and therefore deflected from the glitzy high end of the industry which I was less interested in. This was also important in that it provided insight into the commercial design processes that bring about the buildings of our everyday life, as it were. Because it ticked all of my boxes, the most crucial decision I made in terms of scoping and bounding my field was to conduct my research with StudioFour. This also meant that I could build on my own established relationships with StudioFour's actors and therefore had to invest less time in negotiating access and gaining trust.

[21] My MSc research took place in summer 2012.

StudioFour

When I was conducting my research, StudioFour was comprised of a range of "sectors" (such as "Hotels and Leisure", "Education", "Residential", "Interior Design", "Cultural", "Offices", "Retrofit", "Transport" and "Masterplanning"[22]). It was based in Central London with a small office in another European capital city (which functions more as a local representation of StudioFour in that country, less so as a studio in which design work is done – this would all happen in London). With a core staff of 100-120, out of which almost 100% were London-based, it was substantially sized for the industry. Not all designers at StudioFour were architects (though most of StudioFour designers had completed, or were in the middle of completing, an architectural degree in the UK or abroad), some were trained in other kinds of design, such as graphic or interior design. Furthermore, the studio's workforce was also made up of people in managerial, administrative and supportive roles (i.e. business development and HR managers, IT experts and people who took take care of finance and accounting, quality management and so on). StudioFour was founded in the 1980s by two architects. When I conducted my research, the founders were no longer involved in the daily business but remained formal members of the organisation as "senior consultants". The practice was headed by three so-called "board directors" (or "practice directors"), with two male architects and a female "practice manager" who was in charge of running the operational side of the studio. The executive team further consisted of five "directors", one "head of interior design/hospitality", three "associate directors" and one "head of IT" (as of February 2016, StudioFour Website 02.02.2016).

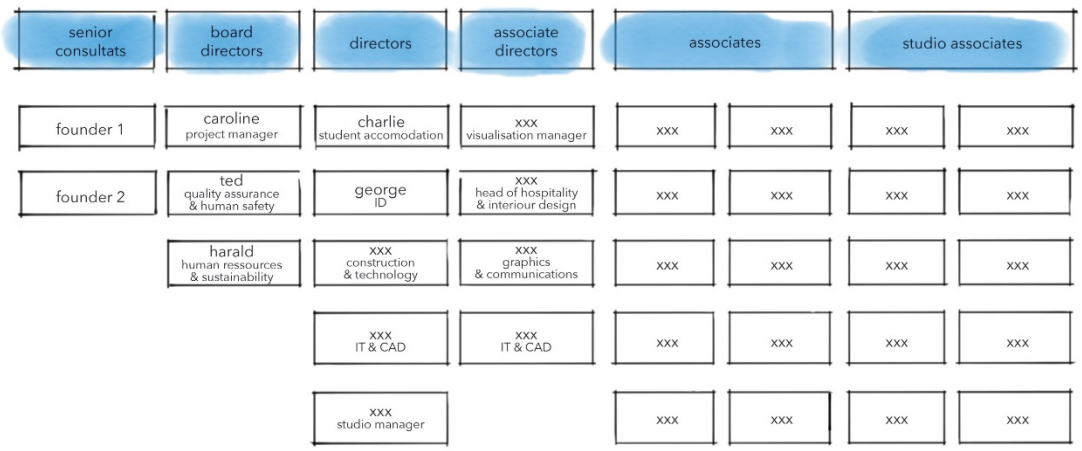

Figure 1: StudioFour organogram (source: author's sketch, 2017)

[22] Unfortunately, it is not possible to give examples of the projects StudioFour have completed as this would jeopardize anonymity.

There was a division of labour and responsibilities across the organisation. All "directors" were primarily responsible for networking and generating new work as well as interaction with clients, particularly with regard to contracts and invoicing. In addition, "directors" and "associate directors" also sat down with their teams to review project deadlines and outputs for various stages to ensure the day-to-day work went smoothly. In addition to their day-jobs as senior architects, some of the "directors" had additional responsibilities for operational aspects of the studio, such as legal aspects or IT and technology. Below the "director" level, there were "associates" and "studio associates" who worked to deliver projects on a day-to-day basis within StudioFour's different sectors. In both of these groups, the design employees focused on the daily coordination of projects, including liaising with external members of the design team and different types of collaborators (such as quantity surveyors[23], client representatives or technical consultants). They also focused on the production of "production information" (i.e. drawings, schedules and specifications; see also Chapter 5 and Chapter 6). As "associates", they could also lead projects and be "project architects" and therefore be involved in more than one project at a time. Those without design responsibility were also found in this group, such as the administrative and support staff.

The firm's substantial and diverse workforce was an important factor for my own research. Having access to the entire practice allowed integrating the diversity of the practices/professions involved in the production of conceptual space within the studio without having to resort to a crude distinction of creative vs. commercial work. In other words, StudioFour's make-up (or a "breadth of heterogeneity" which has been argued to be "relatively distinctive about the design studio" [Farías & Wilkie, 2016b, p. 29]) was a fruitful ground for the ethnographic and therefore contextual study of commercial spatial design. This would have been different in, for example, a smaller studio, because small firms tend to outsource many of the managerial and administrative processes for cost-reasons.

Spatial Specialism and Diversity

What was equally relevant about StudioFour for my ethnographic work was their set-up of spatial specialism. StudioFour claimed to have "the expertise, experience and resources to deliver a wide

[23] A quantity surveyor is usually employed by the client who finances the project to oversee the budget and continuously feed back into the design process. For example s/he is be in charge for stating what kinds of materials, constructions processes and so on are within the budget.

range of projects across many sectors" (StudioFour website 16.08.2015). This broad spatial specialism strongly related to the heterogeneity of StudioFour's client base as well as to the diversity of the UK's spatial design and architecture industry in general where only a slight majority of the revenue is generated from housing. Because StudioFour was focused on commercial and large-scale projects and not private residential projects, clients were usually corporations or institutions (i.e. StudioFour dealt with small teams representing these organisations, rarely with individuals). There were, of course, exceptions. The ID team, for example, also dealt with wealthy individuals as clients, such as hotel or restaurant owners. In general, however, clients ranged from educational and cultural institutions, to transport agencies, residential developers, government organisations and local authorities and corporations (for both retail and office space). A distinction StudioFour made in terms of their clients was "commercial" clients vs. "end-user" clients. The former designated clients who commission a space for profit but would not use it themselves (such as professional residential developers). The latter were clients who commission equally large-scale projects but *do occupy* the spaces themselves. Respective projects included office space for corporations, government agencies and other organisations, such as foundations. Both "commercial" and "end-user" clients commissioned projects in any of the "sectors" StudioFour offered. At the same time, clients were both United Kingdom-based and international and equally commissioned United Kingdom-based projects or projects abroad. StudioFour's definition of their spatial specialism via sectors continually changed. During my research, there was a constant shifting going on in terms of spatial meaning (for example, "Hotels and Leisure" and "Interior Design" sometimes overlapped and sometimes were separate, it depended on the context what exactly they designated). This meant that StudioFour designers and their practices were very explicit about how their spatial expertise and the spatial type of projects differed. This had a positive effect on my research in that designers were explicit about these different spatial categories in their daily practices and used terminology for these distinctions that I could comprehend as an outsider and non-expert.

Access, Studio Life and Key Actors

Re-gaining access to StudioFour for the PhD research proved to be relatively straightforward. As I had loosely been in touch with George, the head of the interior design team, I sent him an email to ask if I would be able to continue working with StudioFour for my PhD project and if he could introduce me to someone within the firm who was working on other types of projects. He introduced me to Charlie, who was leading the student accommodation team. I got in touch with

Charlie directly to introduce my research with a formal letter I had prepared (which carried the title, abstract and supervisor names of my project as well as my contact details). I did not ask for full-time access to the studio at the time. My experience told me to take things slowly and carefully and to focus on developing relationships. I, therefore, wanted to meet Charlie in person first. We scheduled a first interview in which I talked about my research and started asking some very basic questions about his way of working and designing, about StudioFour's processes as well as past and current projects. The interview went very well and produced rich data. I also had the feeling that we got along well. As we came towards the end, I asked Charlie whether it would be okay if I could come back for some more interviews with him and his team members and to hang out in the studio to shadow him and the other designers while also working with George and his team, which he agreed to – so this day marked my first day "in the field".

My primary group of research participants was comprised of members of these two teams (out of eight teams within StudioFour). First, there was Charlie's student accommodation team, which consisted of himself (he was a director and leader and mostly in charge of generating work, liaising with clients directly and steering all projects); a young female architect, Emma, who was in the midst of qualifying as an architect[24] (RIBA Part 3) and participated in collective (sometimes also individual) design exercises and was mainly involved in producing technical drawings; and Michael, who was a fairly junior but fully qualified architect and had already a few years of work experience under his belt and also worked as a project-architect (i.e. led the day-to-day work on some projects). Second, there was the interior design (hereafter: ID) team. This team was led by George (who also was a director and focused on winning work and liaised with clients directly) and comprised three (male) architects and five interior designers across all levels of seniority, ranging

[24] The route to qualifying as an architect in the UK (a title that is protected by law) is outlined in three stages: "RIBA Part 1", designating a three-year full-time study of architecture at a university for a BA or BSc in Architecture and encompassing "stage 1 practical experience" which is a year-long placement in an architecture firm (or possibly divided up into several placements at different firms); "RIBA Part 2", another two years of full-time university study to receive a BArch, Diploma or March, followed by "state 2 practical experience" to bring the total amount of practical work experience to 24 months. With this phase, students will continue to study wider aspects of practising architecture, such as management and law. These aspects will be tested in the last stage, "RIBA Part 3", the final examination that is comprised of 24 months of practical experience (which students have to have signed off by superiors and record online), a CV and "career evaluation", a case study, a written and an oral examination (RIBA website, 14.4.2017). Having passed all three stages, a graduate can register as an "architect" with RIBA. At StudioFour, there were always several designers who were in Part 1 or 2, especially given that the firm is very big and could provide opportunities in a wide range of sectors. Individuals who were not yet fully qualified, however, would typically not take on managerial tasks or a client-facing roles but they would be deeply embedded into conceptual and production processes. Things were slightly different for interior designers who could be architecture students or graduates but could also be coming in with degrees specifically in interior design or different kinds of design degrees.

from interns to very experienced designers (all of whom were women). In terms of the ID team, I primarily worked with George and Ryan, one of the more senior architects in the group. I also had three other primary contacts in the ID team: Lara, a senior interior designer, and Barbara and Ann, two more junior interior designers. In addition to working with these two teams, I also interviewed a range of individuals from other StudioFour teams. Some of those interviewees had non-design roles, such as the practice manager or the business development specialist. These engagements took the form of (usually quite substantial) interviews, less so of participant observation and shadowing.

StudioFour's London offices were spread across two office spaces which were only one block apart. There was the main office which was an old factory building that the StudioFour founders had converted into offices and flats that were rented out. There also was a second building which StudioFour rented as its employee numbers had exceeded the capacities of the main building – this was the building my two teams were located in.

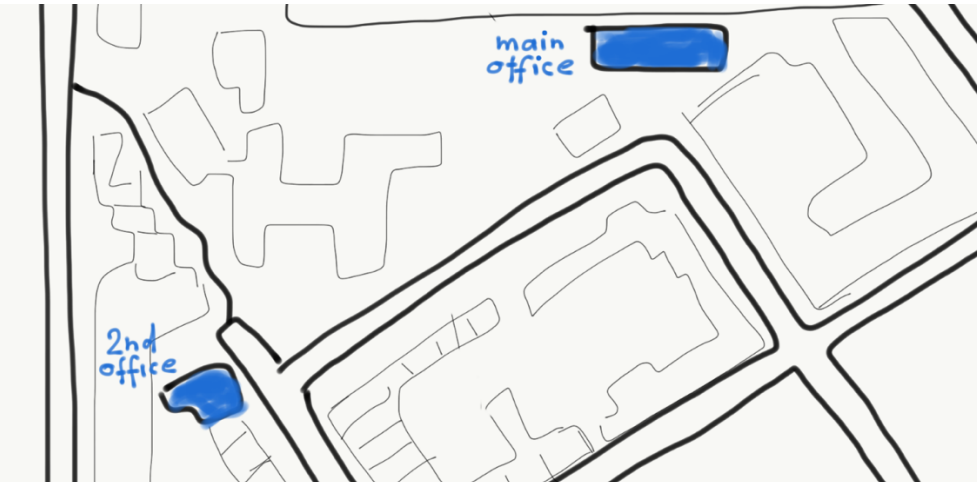

Figure 2: StudioFour's two office spaces (source: author's sketch, 2017)

On the ground floor, the main building had a reception, a smaller open-plan office space, a smaller office for the practice manager and her administrative team, an open-plan kitchen and a big long table where people had internal meetings and joint lunches. On this floor, there were also three meeting rooms equipped with big screens and computers for (client) presentations and international client calls as well as a small outdoor courtyard. There was a big open staircase behind the reception leading upstairs where there was one big open-plan office space with rowed desks and a printing room at the back. People sat according to their teams. There was no hierarchy

in terms of desk space. Instead, the “board directors” and “directors” were scattered across the space and had the same desks and work stations as everybody else.

The other smaller building one block away (my primary field site) hosted a few more teams, including Charlie’s and George’s teams, who shared a floor. This building was comprised of smaller open plan offices (with some bigger tables in break-out areas for internal meetings) on three floors and hosted the storage facility for the material samples (the “library”) as well as a smaller meeting room on the ground floor. I learned that people made a clear distinction between these two buildings. The main building was the older one and was considered more representational or official. It had always been in StudioFour’s possession. Client meetings always took place in that building. It was more modern and also more performative (e.g. some models of completed projects were exhibited there and there was a big board in the ground floor entrance area that usually showcased a current project). The building I was in, however, was not identifiable from the outside as StudioFour. Instead, there was only a little nametag on the doorbell. This office was the more informal one. As people said, it was not as polished (in fact, it was in need of refurbishment) and had smaller workspaces with more stuff lying around, such as material samples, books, drawings or other objects. While I was there, there occasionally was relaxing pop music playing, especially after lunch, when the designers were immersed in working by themselves on their screens. During most of my research, Charlie’s and George’s teams were located on the second floor of this building, both in the same office space. I was very lucky in that, after I had secured access, I was told that there was a free desk for me where I could sit during my research at StudioFour. The desk was situated right next to Charlie and opposite Emma and Michael and became a great base to observe and participate in StudioFour’s “studio life” (Farías & Wilkie, 2016a, b).

Figure 3: Impressions from the office space of where my two teams were based (source: author's photo, 2014)

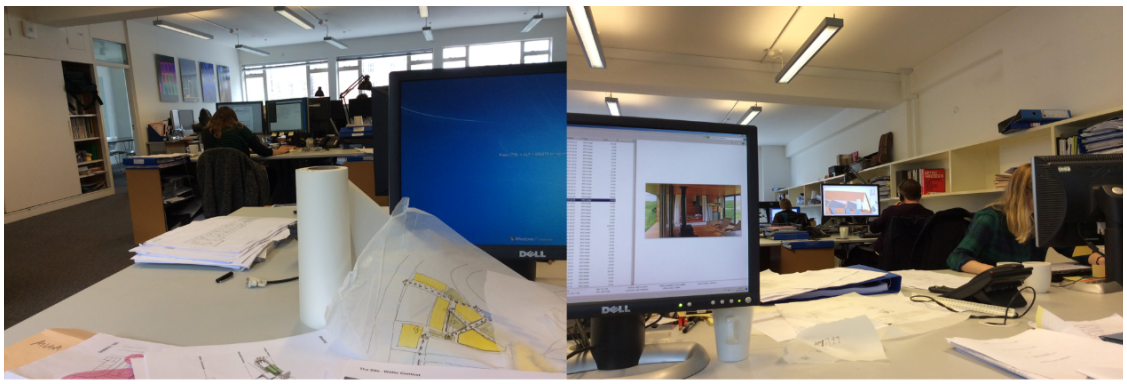

Figure 4: View from my desk (source: author's photo, 2014)

The term of "studio life" is significant here in that it does not only define a studio as locus of "variegated" people and practices, but is linked to notions of intimacy as not only the "interpersonal space protected from the public view, but also one in which individuals engage with each other in a comprehensive manner, not reducing each other to specific public roles" (Farías & Wilkie, 2016b, p. 11). In that sense, my desk became the physical and intellectual nexus for exploring the "intimacy" of StudioFour's studio life.

Methodological Tools: Holding Them the "Right Way Up"

As studio ethnographer, my methodological toolkit, therefore, had to be attuned to how the intimacy of studio life at StudioFour unfolded. Furthermore, it had to help me to "situate things", not just because "entering a studio is deciding to situate things", but because "then, on the basis of that, we can go elsewhere" (Hennion in Hennion & Farías, 2016, p. 74), i.e. start relating empirical material to conceptual frameworks. Here, I was not interested in finding some form of "truth outside of the telling" (Back, 2007, p. 164). My goal to learn about spatial design in a commercial context was not about *right* or *wrong*, it was about the *how*. Therefore, my ethnographic toolkit was primarily comprised of participant observation with planned and in-situ interviews. I found these to be the most appropriate tools because they allowed me to use them in a descriptive, non-prescriptive manner. In addition to that, because much of my fieldwork was based on hanging out, my work also involved aspects of visual and sensory research to record and analyse the visual and material aspects of design practice. However, as Back (2007) notes, we need to think carefully "about the analytical status of the research data that the tool makes or creates" and "in our craft as sociologists we need to know not only if we have the correct tool but also whether we are *holding it the right way up*" (p. 164; emphasis added). Clearly then, holding the ethnographic tools "the right way up" is tied to site-specific research rhythms and research strategies.

Overall, I had planned for my field research to take up to a year to ensure an in-depth engagement with the field (and not least because spatial design projects tend to take a long time, depending on the brief and the scope sometimes even years). My actual work with StudioFour stretched over eleven months in total (April 2014 – February 2015). Because I had already established a relationship with George and most of his team members from my MSc research, I could integrate myself smoothly into the work environment. George described this advantage as:

> [I]t didn't come from nothing. You did the background work over a period of two years. You can't parachute into the place and expect people to talk to you in an easy way. And frankly it's easier if you wander in and you can grab people. Sometimes if you make an appointment a week ahead, within that week, people will deprioritise you (…). So, you know, you've played in accidentally very well. I am sure some people think you work here. (George, 24.10.2016)

To avoid jeopardising this advantage, I had to carefully think about my research rhythms so as to not become disruptive or be a burden for my participants. After the first interview with Charlie, I had initially started with doing research two full days (around 5 hours/day) a week whereby I would often simply sit at my desk and observe or listen in on conversations, often too shy to engage in conversation with others (even when asked what I was doing at the office or being introduced to someone). Though initially helpful to immerse myself into the atmosphere in the studio and get a better feel for my field, this quickly became uncomfortable for both myself and my research participants. Not only did I feel that I was not really able to observe much by just sitting around, I also got the sense that people felt obliged to pay attention to me and to explain what they were doing to make sure I would get as much out of the visit as possible. I therefore adapted my research strategy. First, I decided to arrange the next visit in person or via email and to cut down my research time per visit to half a day (either mornings or afternoons, sometimes longer, depending on the individual situation). Second, I broadly attached myself to some of the current projects my teams were involved in (i.e. I tried to focus my inquiries to schedule research visits and questions to start conversations on these projects, based on that I could delve into other works that were happening). Not only did this always give me something to talk about with the designers, it was also a way to extend out and let the field unfold. This helped me with starting conversations/scheduling interviews with other StudioFour members (such as the practice manager or the business development expert) who both were not directly involved in the projects I was shadowing but who featured in conversations quite often. I picked up on that with my interview partners who usually introduced me so that I could schedule a follow-up interview.

I conducted unstructured interviews of roughly two types. First, informal in-situ interviews that had the character of informal conversations and tended to evolve around something specific, such as certain aspect of a project. These interviews could last from five minutes to well over one hour. Second, I used formal interviews with people outside of my teams to discuss their role within the studio. These interviews would typically last between 45 minutes up to two hours. My participant observation strategy was largely characterised by trying to immerse myself as much as possible into StudioFour's studio life. I was hanging out in the studio, having conversations with the designers, attending different kinds of meetings (both internal and external meetings). Additionally, I was invited to StudioFour's summer party, I went on a site visit with one of my teams, I helped tidy up the "library", I sat in mock-presentations and I generally tried to soak up as much as I could and talk to as many people as possible.

Despite Farías & Wilkie's (2016b) claim that "ethnographers of studio life (…) often cannot restrain themselves from becoming 'native' members of studio collectives and thus actively involved in creation processes" (p. 11), things panned out differently for me. That is to say that some of my research was challenged by the fact that I was neither a trained designer, nor did I have an active role in any of the design projects. Kimbell (2012) describes this circumstance fittingly: "Researchers do not have direct access to what goes on in designers' minds, so they are left with what they believe is going on (…)" (p. 130). In other words, the nature and rhythm of spatial design work challenged my ethnographic ambition. Like many other contemporary professional practices, much of a spatial designers' work is done silently and individually on a computer screen (i.e. through working with specialized software, writing emails, doing research online and so on). Just sitting in the studio at my desk without having a conversation or doing something that the designers were doing was, therefore, shutting me out rather than bringing me closer to the practices and conversations I wanted to observe. Here, the ethnographic and sociological "listening" (Back, 2007) became a really tough thing to achieve. In fact, the soundscape of the studio very often just consisted of the clicking sounds of the designers operating their mouse. However, I decided to try tackle this challenge head on and developed a range of strategies to "crack open" these processes for my research. First, when coming into the studio, I started to simply walk over to one of my contacts to get a sense of who was available and who was busy. To start a conversation, I would then ask them, "What are you doing at the moment?" Or, "What is this on your screen?". This proved to be a rather successful strategy because, if people had time, they would talk me through their current task and how it was linked to the broader context of a project or the organization of StudioFour. If not, then I could take a quick note and move on to another person and pick up that conversation later. Second, I made continuous efforts to bring myself ethnographically closer to the practices and processes I was researching. This was mainly driven by my asking how I could be useful to my two teams despite my lack of design skill. I also wanted to make my presence worth their while and to give something back. I managed to convince them to let me do little things that required no specific design skill, such as taking minutes in meetings, taking photos on a site visit or helping to carry things around. Following Ingold's (2013) call for doing research by way of "making", I was also ambitious enough to ask whether I could do even more designerly things to get a feel for what the designers were working on and with on a daily basis. Emma, the youngest designer in Charlie's team, was kind enough to meet me early before work to show me how to use the drawing software "SketchUp" and to let me play around with it. This was a rather sobering experience simply because I utterly failed and did not even manage to "draw" the simplest block over the course of 1.5 hours.

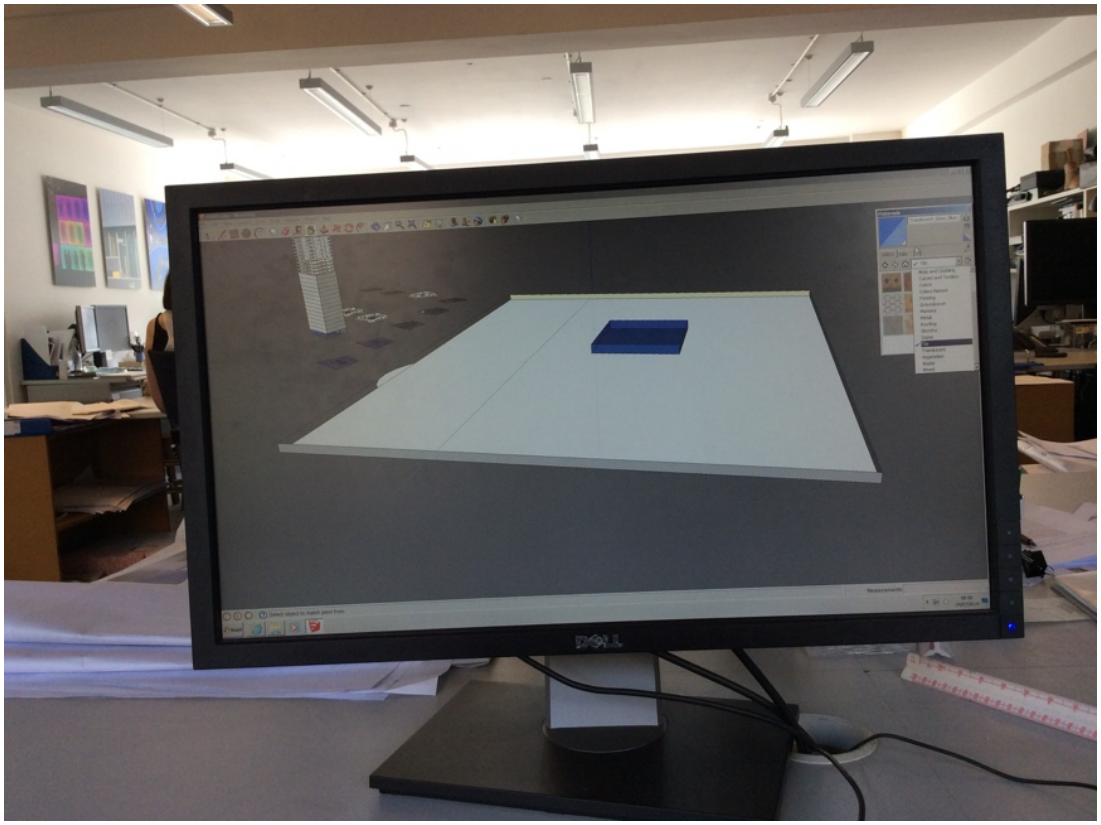

Figure 5: My failed attempt in drawing a building shape in Sketch-Up (source: author's photo, 2014)

This was a moment in which my research automatically brought about the reflexive science perspective as promoted in the extended case study method approach: in this moment, I very much recognised my own place within the field (see Burawoy, 1998) in that I was the unskilled researcher in a highly-professionalised field and once more realised that my ethnographic work heavily depended on dialogue and building relationships. Based on that, I did not further bother my participants to teach me architectural or design software. I acknowledged that my role, ultimately, would always be the one of an outsider when it came to "doing design" in the context of using specialist software or other very specific tasks. But I managed to support my designers with design work that was not dependent on these softwares. For example, I was allowed to conduct a Google image search for precedent images for one of StudioFour's new projects. I was tasked with searching for photos of "micro-architecture" and stored them in the active project folder on the studio's internal network. I then discussed these images with Charlie, who had given me that task, to see which ones were most fitting. Thus, I not only became a somewhat active member of that project but also was given the chance to develop an embodied knowledge of StudioFour's design processes. In addition to these enriching experiences, I can say that, as my

research continued, I generally became better at "listening" to design because I became more fluent in the terminologies designers were using which made it easier for me to follow the conversations and to understand complex contexts and processes.

Collecting and Analysing Data

As part of my role as ethnographer, I was trying to blend into the background when out in the field and not stand out as an outsider. This was so that people would not behave differently than they normally would. This was, actually, not as difficult as I had originally thought. There was no particular dress code a StudioFour. People would wear their normal day clothes, many of the designers were around my age (or at least not substantially older or younger) and most had the same ethnic and a similar socio-economic background as me. In short, when collecting data, it was easy for me to appear as one of "them".

When I started my work with StudioFour, I usually came to the office equipped with a notebook, a pen and my iPad Mini. Scribbling away with my pen while I was interviewing people, listening in on conversations happening in the office or observing situations was not difficult. I usually did not have a task myself and everybody else was taking some form of notes, too. I easily filled 3-10 A4 pages with detailed handwritten notes per visit, which I digitalised the next day. Subsequently, I found this very cumbersome and, after having filled three notebooks with (occasionally illegible) handwritten notes, I decided to exclusively use my iPad Mini in the field. This tablet proved to be a very handy research tool: I could take photos and videos with it and record interviews and conversations while taking notes and upload these files immediately into my designated Dropbox[25] folder to secure them. Having everything secured digitally in one place also allowed for an easier search process in the subsequent analysis phase. Furthermore, not only was it a very small device in a subtle grey colour, having a tablet in a meeting was not considered anything special and helped me to blend in the background. However, I sometimes had to hold it in a way so that my research participants could not read what I was typing for fear they would feel judged. In that sense, disguising my notes through messy and illegible handwriting had been much easier.

[25] Dropbox is a cloud-computing service.

As I went on with my research, the character of my notes significantly changed. Whilst I had started with focusing on recording as much as possible and as detailed as possible through rather rough and mostly handwritten bullet points, which I subsequently digitalised, I later developed a new strategy that I felt was more "attuned to the specific purposes of producing research knowledge" (Hammersley & Atkinson, 2010, p. 4). After having done my research and taken lots of notes digitally, I sat down at my desk at StudioFour and wrote long narratives of the research day. This typically took me around 30-50 minutes and produced texts of circa 1000-2000 words. Making this writing an integral part of my field research became very important to me, not least because it helped me develop some sort of routine in a "messy" field. It offered a good way to reflect on what had been going on that day and doing it while I was still "on site" also gave me a chance to include things and connections from my fresh memory that had not made it into the original notes because things had moved too quickly. In addition, I felt that I was doing my field more justice through this practice because it helped me to paint a fuller picture and it was also good training in ethnographic writing (i.e. balancing my voice with the voice of my actors and the one of my conceptual framework, which I later benefitted from when writing up). However, despite this development, I tried not to fetishize these field notes. During my fieldwork, I made a conscious effort to remain open to *what* emerged in the field, in an almost literal sense. This meant that my research was not only emergent rather than fixed but also that I considered everything to be data. I therefore ended up collecting anything I could get a hold of and was permitted to take home. In addition to the different forms of field notes (around 150 pages in total), interviews and conversations (innumerable unrecorded conversations and around 20 interviews/conversations that were recorded and transcribed[26]), I also collected,

photographs/images –	of the studio settings, of meetings, of project locations, of computer screens, of documents, of sketches or people sketching, of material samples, of models, of notes taken by the designers; as well as photos saved or sent to me directly, for example of precedent projects, design features, locations and so on
documents (digital and analogue) –	sketches, briefing documents from clients, presentations, drawings, schedules and specifications,

[26] All interviews were commissioned to be professionally transcribed by the company "Way With Words" in order to save valuable time. However, all of these transcripts then had to be double-checked for quality, i.e. I went through all of my recordings in detail again to make sure they were transcribed correctly.

	emails, StudioFour-internal documents/memos, material books and catalogues, regulatory information (sent to me directly by StudioFour designers or sourced from institutions such as RIBA), meeting minutes
material samples –	samples of very different kinds of materials for both construction and for interior design, such as concrete and brick as well as stone, fabrics and textiles, ceramics, wood, leather, carpet and so on

The role that *stuff* (material samples, but also sketches, photos, drawings, plans and so on) plays in the spatial design process is a core aspect of this research. In that sense, building up an inventory as above was crucial: it gave me the chance to link people with the things in the same way that I encountered them in the field and to bring that into the analytical framework. I also had the chance to try and "work" with these things in the same way designers did. For example, I used my substantial collection of material samples to re-assemble "palettes" (see Chapter 5 and 6) for presenting some of my research. I also, literally, immersed myself in my collection of *design stuff* in that I put drawings and sketches up the wall in my LSE office and decorated it with samples and books I had been given by StudioFour – to an extent that a colleague of mine, a former architect herself, walked in one day and said: "Wow, this looks like in an architecture studio!", which I, quite frankly, took as a compliment. However, this was all not to fetishize various forms of materiality or visuality that were specific to the practices that I was researching. Rather, I used this as a strategy to get used to these objects in a way that would make me more attuned to *how* they were being used by my actors and to not be distracted by their properties, in line with what Les Back (2004) notes: "it is not what they say, it is what they *show* that is important" (2004, p. 145; emphasis added).

At this point it is important to say a few words about the status of visual and sensory methodologies in this project. Even though materiality and visuality are central themes of this research, I did not see a point in singling them out *as* special methodologies. That is to say, other than many works promoting visual or sensory research as distinct *strands* of ethnography (see Pink, 2007, 2009), I would argue that this was not needed (or even desirable) in my case. The *stuff* that I encountered (whether visual or of another materiality) was so deeply entangled with my participants' social and professional worlds that I felt using visual and sensory methods would disengage it from its context and therefore would contradict my goal of doing a contextual

research. I did not want my own production of visuality or materiality as part of doing research (such as taking my photographs and analysing them in detail or drawing my own sketches to then analyse them) take centre stage. Data was collected to trace and understand the social flow of things and people (my photos and, very occasional, sketches were more to illustrate things that were also featured in my notes and in the interviews). Lastly, focusing on how my *actors* made sense of visuality and materiality was also important. In the field, I often encountered materiality and visuality as abstract and embodied knowledge or fractured into images, presentations or samples. Here, I had to ask the actors to make the links for me, which generated important data. The conceptual and methodological point I want to make here is that the *stuff* that this project features is rather ordinary and emerges in terms of "thick descriptions" (Geertz, 1973) without wanting to privilege semiotics over materials (see also Shove et al, 2007). That is not to say that I did not use my senses while out in the field, quite the contrary. For example, sensing material samples and looking at images was an integral part of my research, but it did not take a privileged position in my analysis.

The analytical categories were not pre-imposed or built into the data collection process but emerged in the process of research and data analysis. Here, I developed a three-step approach to put into relation all of the different pieces of data that formed the constitutive network of my research to uncover patterns and extract themes. First, for each research day I created a separate folder where I stored all of the material collected on that day: notes (if handwritten, they would be digitalised and also photographed), photos, documents, things (tangible stuff would also be photographed) and so on. This way, I quite literally could make the connection between all of the different kinds of data I had gathered that day/week/month. Furthermore, I wrote about half a page summary (usually bullet points) of the main themes per research day. These themes were condensed further into a spreadsheet that I called "Research Diary" where I tracked each research encounter (date, time, duration, type, participants and themes). Second, after I had completed my data collection through eleven months of fieldwork, I engaged in a larger coding exercise in which I coded all of my interview transcripts and all of my notes. Using themes extracted from my "pre-coding" (i.e. my daily summaries and my "Research Diary") as a point of departure, I went through all my data in detail. Here, the themes were fine-tuned, which ultimately brought about two-hundred codes (both descriptive and analytical), linked to quotes and notes. This process sounds straightforward but was quite lengthy and very complex, if not painful at times. Having been immersed in "listening" for almost a year, it felt uneasy to "chop up" the ethnographic narratives to substantiate them analytically through the process of coding. After this (necessary)

"surgery", I had to re-connect the patterns, themes and codes with their ethnographic origin and contexts (digital and analogue; semiotic and material). I therefore linked up my notes, interviews (both coded and uncoded), photos, documents, and materials into one document per day folder so that I could print them out chronologically and bind them into two very large folders. Binding my work in this way not only helped me to link things back together again but also had symbolic significance in that I had now, quite literally, bound my fieldwork and my data analysis and marked it as "done". However, even though these three steps were very distinct stages in the data analysis, I would not want to claim that analysis stopped with printing out my material (or anywhere, really). Quite the contrary, writing up[27], equally, was an analytical endeavour. I frequently came back to my printed and digital folders and to my "Research Diary" as writing for me was a process of intellectual exploration and positioning. It was part of *doing* the analysis rather than just presenting it.

Reflections: Ethics, Relationships and Limitations

Doing an ethnography and enacting methods inevitably must be a reflexive activity (Law, 2004), from scoping the field to writing up. An important aspect of being reflexive as a qualitative researcher is about being attuned to ethical issues that emerge for both the researcher and the participants and the social institutions they are part of. This means to acknowledge that research ethics are subjective and specific to the field and the research. For me as individual researcher, this first and foremost meant to familiarise myself with and make sure to comply with LSE's Research Ethics Policy. However, while this was a good first step in getting my head around the potential ethical issues while doing fieldwork, I also agree with Les Back (2007) when he says that,

> Ethical guidelines are often of limited use when faced with the unstable and fluid nature of the contexts of research. The regulatory approach to ethics adds little to our understanding or appreciation of sociology in action. (p. 114)

In other words, as an ethnographer doing "sociology in action", I had to get my head around what kinds of *specific* ethical considerations could/would arise in-situ and across time as relationships

[27] I want to note at this point that I have made a point of letting the actors speak for themselves wherever and whenever possible to integrate their terminologies not only into the analysis but also into the final written piece.

with research participants unfolded and work was written up (Back, 2007, p. 114). In the context of my field site, ethical issues emerged in one particular way that was very important to my actors: confidentiality. For StudioFour as an organisation, but also all my individual research participants, it was paramount that my research would be anonymous. Primarily, they were concerned that their inner creative and commercial workings, studio politics, internal document and client names would be made public, but also that I would disclose what they had said about other StudioFour members. As confidentiality was the main factor in the terms of access to StudioFour as my site, I drew up an informed consent form which confirmed that participation in the research was voluntary and that it could be withdrawn at any time; that all personal information was strictly confidential; that all material would only be used for the purpose of this research project; and that the identity of interviewees/participants would be made anonymous in the dissertation. The form also contained a brief overview of my project (abstract and contact details of supervisor) as well as the LSE Sociology Department. In my first interview with Charlie, we both signed this informed consent form (Charlie on behalf of StudioFour) and kept a copy for our records.

At this point, it is important to reflect on the use of a gatekeeper and the issue of an individual giving consent on behalf of an organisation or a group of professionals, especially if this group is (at least in parts) comprised of more junior colleagues. In my case, Charlie's team was comprised of two more junior designers, Emma and Michael and George's team consisted of eight further members of a wider range of seniority though George was the most senior professional in the team. When meeting Emma and Michael for the first time, I verbally reassured them of the confidentiality that was made explicit in the informed consent form. In very few subsequent conversations with them (most of them very early on), this topic remerged, usually in relation to issues with clients. On these occasions, I reassured them that I would preserve anonymity and offered to not take notes on this topic or speak about something else, which they declined in all cases. The situation was similar with George's team. George already was familiar with the informed consent procedure from the MSc research and at the beginning of my new research, I informed him that I had signed a new form with Charlie, which he seemed not even particularly interested in[28]. However, while I developed a close relationship with Charlie and his team and interacted independently with Emma and Michael, things were different with some of the members on George's team. He remained my main point of contact for the ID team, alongside Ryan with whom I also formed a close relationship. For specific questions or projects, George

[28] At this point it is worth noting that I successfully worked with George on preserving the anonymity of StudioFour in a peer-reviewed publication (see Sloane, 2014), so I suspect that he felt he could trust my ability to anonymise the firm sufficiently.

would send me to some of his other team members so that I could shadow them or interview them. Whenever I met someone new from his team, I introduced my project and described that the participation was voluntary, that data would be treated as confidential and that the practice and the individuals would be anonymised. I was clear that I did not insist on speaking to them, even though George had sent me over for a conversation. Here, some of George's team members were very comfortable talking to me while others (though very few) seemed less keen to engage. I could not solve the issue that the power relations within StudioFour had brought us together even though these individuals were not entirely comfortable with or interested in speaking to me. But I made sure to acknowledge this "vibe" and did not seek to re-engage with them, which proved to be a workable strategy.

Before interactions (such as meetings) with individuals who did not know me, I always introduced myself. Even though I wanted to keep myself in the background to observe and participate in my actors' social worlds without disruption, I never disguised my identity. I always identified myself as a researcher and gave my institutional affiliation and a few details of my project. If appropriate or necessary, I also reiterated confidentiality and underlined that there was a written agreement in place. Furthermore, I always asked people to confirm that they were comfortable with being taped before I pressed record. If conversations or interactions with participants who were not covered by the informed consent form (i.e. individuals who were not employed by StudioFour), I additionally would seek verbal agreement from them prior to recording. I never recorded meetings with clients or design teams or important internal meetings. I also applied this strategy for taking photos with my iPad: I always asked if I was allowed to take a picture. Furthermore, the ethical considerations of my thesis include the use of these photos. Here, I focused on using photos that did not show individuals. Where they did, I only used photos that did not reveal individual features, especially faces. Furthermore, I only used photos that showed studio life as specific to spatial design at large, i.e. images that could stem from any other spatial design studio, unless they were specific to a situation that I described (see, for example, the photographs of material samples in Chapter 5). Furthermore, for photos featured here, I put white bars over any logos or text in the photos that could give away StudioFour's identity or that were sensitive, this includes images from StudioFour presentations that were sent to me by participants. I never used material that was classified by my participants as confidential. When I created visuals (such as the above on studio hierarchy and location), I equally focused on only giving enough detail to illustrate the case without being too specific. I also took precautions in terms of storing my data: analogue notes were locked up in my LSE office or securely stored at home; digital data was stored in a

special Dropbox account which I secured with a two-step-verification, which meant that a text message with an individual access code was texted to my phone when I wanted to access it. I would also like to underscore that throughout my project, these ethical considerations were subject to discussions in my supervision meetings.

Conceptually, the importance of confidentiality and anonymity posed a distinct challenge to my extended case study approach and to producing "thick descriptions (…) that theorize as they *describe* and describe as they *theorize*" (Back, 2007, p. 21). When writing up, I had to balance describing StudioFour as a distinct and individual case study from which I "theorised", while making sure that neither the design projects nor StudioFour (or my informants) were identifiable. As with any case study project, this particular form of "sociological ethics", ultimately, was about balancing my own interests as researcher with the interests of my informants and our agreed terms of access. Here, writing up and doing my own conceptual work became a matter of what could be framed as "opening up and closing down". I found that the best way to do this was to work through this issue on a case-by-case basis and individually evaluate how much information could be given away in a particular context. Here, I often thickened my descriptions to help describe issues and situations with enough detail so that it would not matter anymore whether names or locations were given away or not.

In addition to ethical issues, part of the role of an ethnographic writer is to reflect on personal experiences in the field and how relationships with informants have formed. This is paramount not only as all research methods put people, things and social lives into certain categories, but also because ethnographies explicitly amplify the position of the researcher as locus of the production of scientific knowledge. Because my own research was so closely tied to a number of individuals within StudioFour, I feel it is important to reflect on how these particular relationships developed. In this context, it is key to recognise that what I *could* or *could not* do within StudioFour was linked to my relationship with my two most senior contacts, Charlie and George. If they thought it was OK for me to sit in a meeting, join them on a site visit, or come in at all, then StudioFour's door were wide open (with the potential to also talk to people beyond their two teams through introductions via Charlie and George). Conversely, if they thought it was a bad time, for example because their teams were very busy and should not be distracted, then the doors to my site remained closed. Even though generally StudioFour members were exceptionally nice and open and, theoretically, I could have floated around freely, I took this power dynamic very seriously and always made sure that I was very communicative and transparent with Charlie and

George about my current research schedule and objectives. This was not least because I was located with both in the other office building and not in the main building, it was more difficult for me to get in touch with the bigger group of designers in the other building. This dynamic softened and changed when both of my teams re-located to the main building when I was about one-third through my research (this was part of StudioFour's strategy to shuffle people around on a regular basis to encourage social exchange between teams, see Chapter 3). Consequently, being based in an open-plan space with more people made it much easier for me to walk up to new people independently and engage them in my research.

How power relations played out in terms of developing mutual trust changed over time. There were situations in which it became blatantly clear to me that indeed "researchers who claim a smooth passage to the ethnographic inside are fooling only themselves" (Back, 2007, p. 18). For example, keen on learning how to *do* design work and become more of an insider, one day I asked Charlie whether I was allowed to do a "design exercise" (which means to search for precedent designs, find suppliers or manufacturers and so on). I was very keen on experiencing this myself rather than just watching designers do it. Charlie agreed and gave me the task of researching designs for homemade concrete Ping Pong tables. Without much thought and happy to have been given I task, I embarked on this work enthusiastically and was busy with it for one or two hours. When I sat down with him to review my work, which was the usual step in the design process, it suddenly became clear that this was not for any StudioFour project, as I had asked for and assumed. It was for his private use, he wanted to build a Ping Pong table with his son in his garden. In this moment, I felt not only not taken seriously as researcher, but also exploited and therefore upset. However, despite this being an instance of a rough "passage to the ethnographic inside", it was a valuable experience, not only because I actually *did do* a "design exercise", but also because I learned how power relations between the researcher and informants can play out and confirmed that in ethnography, there is "inevitable unevenness of agreement, consent and participation" (Back, 2007, p. 18). The relationships I formed with members of both teams were very friendly and, specifically with Michael, Emma and Ryan, based on mutual trust. I had many very informative and open conversations with them and they made efforts to share information where they could to keep me closely in the loop about their project work, all of which increased the quality of my data. At this point, it should be noted that I became friendly with some of my informants, especially Emma, who is my age, and, for example, invited them to LSE events that I knew were relevant to their interests. However, I made sure that these relationships remained at a professional level at all times and did not develop into a private friendship.

Just like any researcher, I was filled with hopes and expectations as I began my fieldwork. However, I quickly learned that "research, like life itself, is unstable and risky" (Back, 2007, p. 113) in that the decisions of my informants had a profound impact on my own work, forcing me to prioritise pragmatism over analytical ambition. The most impactful decision some of my informants took was to leave StudioFour. I knew that high turnover was very common in the (spatial) design world and that particularly young designers tended to move between studios, often because they were employed as freelancers or on temporary contracts. But even though this was not the case at StudioFour, I had to deal with two instances of my key contacts starting new jobs elsewhere, both rather suddenly. When I had completed about eight months of research, my key informant Ryan (ID team) told me that he would be starting a job in another firm very soon. Because I had worked closely with him for months, this meant that I lost "touch" with the project Ryan had been working on. Furthermore, I came in one day and Charlie's desk was empty and I was told that he had taken on a more senior role at another studio. As I was in my tenth month of research, this prompted me to start wrapping up my fieldwork. It also should be remarked that today, almost none of my *close* contacts at StudioFour still work there. Charlie's team has completely been dissolved as Emma and Michael have also started new jobs at other offices. George and most of his team, however, are still in place (with the exception of Ryan).

Lastly, is has to be said that ethnographic work needs to be explicit about the fact that it, inevitably, is fragmented and ultimately subjective. This has implications for the framing of this research as *inquiry* rather than a *critique*. Even though seeking to begin from a more value-neutral perspective than some of the critical research into architecture (see Chapter 1), this study does not suggest that there is the possibility of conducting entirely value-free research (see also Farías, 2011). This project is clearly framed by my own positioning and bounding of what I have experienced, described and theorised. What I have not seen or listened to (Back, 2007), therefore, is not part of this project, which naturally limits its empirical and analytical scope.

Conclusion

In this chapter, I have argued for ethnography as the most suitable empirical extension of the conceptual framing because of its in-depth focus on social situations and processes, which provides a route for investigating both StudioFour's processes of work (design) and what they seek to produce (conceptual space). More specifically, I have outlined that the extended case study approach provides a fruitful backdrop for "theorising while describing and describing while theorising" (Back, 2007) in this project because it is both exploratory and site-specific and therefore lends itself to studying "studio life" (Farías & Wilkie, 2016a,b). In this, it provides a window for investigating how designers stabilise their product and their profession and deal with/create contingencies as well as the contexts and processes from which these products and processes emerge. Furthermore, I have described my own "boundary work" as an empirical researcher in terms of defining my rationale for choosing to work with StudioFour and my journey of negotiating access and entering the field. I have also described StudioFour in detail as well as how I positioned myself in the field as an "unskilled" empirical researcher, taking this as a cue to describe my key informants and how they are embedded into the wider studio-context. I have then argued for participant observation and interviews as the most appropriate ethnographic tools to discuss how they allowed me to study StudioFour's "studio intimacy" and how I had to adjust my research strategy and research rhythms in response to this "intimacy". I then described and discussed how I collected my data, giving an inventory of all of the materials I gathered, to discuss the steps I took to analyse my data. In the final section, I have discussed how I approached ethnical issues in my research as well as how relationships with my informants evolved to discuss the limits of this research.

This chapter worked to provide the methodological spine for this thesis and narrated my analytical journey. The next empirical chapter will turn more specifically to questions of stabilisation and destabilisation in the context of StudioFour's organisation and its production processes.

Chapter 3

Organising and Stabilising StudioFour

> Design is not art. (…) In truth, good designers are primarily problem solvers. They seek to understand the purpose, audience, technical parameters, and strategic nuances of an assignment before reaching for their Moleskine sketchpads or going to town in Photoshop. (Glaser in Quito, 2016)

Introduction

The term "practice" features prominently in the terminology of both spatial design scholars and practitioners, from Parsons notion of design as "conceptual activity" (2015, p. 9) to Cuff (1992) describing architecture's power deriving from its focus on "carrying intentions *into practice*" (p. 1; emphasis added). Doing spatial design work is often referred to as "practising" architecture or design, similar to the way in which doctors "practice" medicine or lawyers "practice" the law (for a similar discussion of architects as service providers with a "special status", see Bernstein [2015]). In equal comparison to the medical and juridical profession, the unit of a spatial design organisation very often is called *a* practice. And while this semantic similarity may seek to assert authority and relevance in the wider field of professions (Deamer, 2015c, p. 61), it also emphasises the *doing between people*. This reminds us of the importance of Shove, Pantzar & Watson's (2012) notion of social practices as "interdependent relations between materials, competences and meanings" (p. 24) that relate to one another (pp. 81-96) and must be stabilised (see also Chapter 1):

> A practice-as-entity has a relatively enduring existence across actual and potential performances, yet its existence depends upon recurrent performance by real-life practitioners. Accordingly, practices cannot be reduced to just what people do. Equally there is no such thing as 'just' doing. Instead, doings are performances, shaped by and constitutive of the complex relations – of materials, knowledges, norms, meanings and so on – which comprise the practice-as-entity. (Shove, Pantzar & Watson, 2012, p.13)

What is important here is the notion of as "practice-as-entity", both in methodological and in analytical terms. As noted before, if design is carried out commercially, it needs to be organised in a way so that it is stable as a business, but also so that its participants can find meaning and identity through it – or as Molotch (2003) describes it: "Every profession has its 'story', one needed to build an image in the outside world as well as provide some motivation to do one's work, even just to get up in the morning" (p. 23). Based on that, we can assume that design *organisation* as "practice-as-entity" is centred on facilitating the "recurrent performances" that are considered *right* for supporting its stabilisation. What is right in design in this regard relates to two main aspects: First, what kinds of practices facilitate creativity for the "creation of plans for a new sort of thing" (Parsons, 2015) and the "generation of new immaterial forms" (Farías & Wilkie, 2016b); and, second, which processes facilitate how these new plans, concepts and immaterial forms "hit the commercial road" (Molotoch, 2003). In other words, spatial design organisation is concerned with configuring creative processes alongside commercial concerns. In this context, despite inhabiting a seemingly privileged position (see Stevens, 1998), creative workers face increasingly precarious working conditions (see also Julier, 2017) enabled by an extremely volatile market environment that demands hyper-flexibility and -mobility from its actors. Here, whole creative industries sectors are almost entirely made up of "self-entrepreneurs" with "portfolio careers" (McRobbie, 2002; McRobbie, 2016) who engage in "venture labour" (Neff, 2012). It has been suggested that this post-Fordist flexibilisation of work has led to self-exploitation, particularly among young creatives who are forced to work under economically insecure conditions to gain professional experience (Deamer, 2015a; de Peuter, 2014). These issues are not exclusive to spatial design, but affect the whole range of creative industries.

As discussed in Chapter 1, an important stream of the scholarship on professional spatial design addresses these conditions and other issues around the relationship between design and commerce from a particular critical angle. A central concern is to establish the notion of labour in design practice to analyse an increasing division of labour that sees architects grow out of touch with construction issues, particularly as the construction industry takes over tasks that traditionally were completed by architects. The construction industry is described as profit-focused and complicit with the capitalist forces that are responsible for architecture's expulsion from practical and creative influence on the building project. This body of work suggests a commercial system that makes spatial design work laborious, uncreative and focused on value-creation and monetisation (see Deamer, 2015b). Here,

> cultural work is routinely presented as an arena of political struggle, principally in terms of how artistic desires for creative autonomy and independence exist in uneasy tension with capitalist imperatives of profit-generation and controlled accumulation. This division is deeply entrenched and appears to derive from the apparent incommensurability and relative autonomy of the categories of 'art' and 'commerce' (or more broadly, 'culture' and 'economy'). (Banks, 2007, p. 6)

Committed to an *inquiry*, rather than a *critique* (see Chapter 1 and 2), into spatial design practice, this chapter sets out to challenge such a dichotomy and is premised on the (non-)separation of creative and commercial concerns – it challenges the understanding that spatial design work is either commercial or creative. The important part, here, is that this is an empirical, rather than a theoretical issue: stabilising the way in which cultural/creative and economic/commercial concerns are linked up is a major concern for actors at StudioFour and largely determines how they organise their practices within the studio and beyond. This is the focus of this chapter. In this context, Slater (2002b) reminds us that,

> we both can and indeed must grasp cultural and economic action as internally related to one another. Specifically, when we look at the preeminent sphere of conventional economics – markets and market relations – from the standpoint of specific social actors, we find that economic and cultural categories are logically and practically interdependent: neither can be reduced to or separated from the other. (p. 59)

In that sense, studying "studio life" (Farías & Wilkie, 2016a, b) provides a platform for "listening" (Back, 2007) to how activities are enacted as commercial or as creative, or as both – with neither a creative nor a commercial imperative dominating. To link this back to practice theory and the notion of stabilisation (Shove, Pantzar & Watson, 2012): In spatial design's creative-commercial work, stabilisation plays as much of a role as contingencies and deliberate destabilisations to enhance creative production. To explore this mechanism through StudioFour as *a* practice, the following sections discuss how StudioFour stabilises its design organisation and design production.

Organising StudioFour

The United Kingdom-specific regulatory frameworks of spatial design and architecture formed an important context for how StudioFour organised their routines of design production. In relation to this, two frameworks were particularly significant: the "RIBA Plan of Work 2013" and RIBA's procurement policy. The RIBA Plan of Work 2013 organises the spatial design process into "the process of briefing, designing, constructing, maintaining, operating and using building projects into a number of key stages" (RIBA, 2013). It sets out to define and separate the different work elements as well as the deliverables and tasks for each stage. These stages also inform the specifics of contractual agreements between clients and design firms: they help define when the design team is required to submit what kinds of "product information" (see below) to clients or planning authorities (e.g. as part of applying for "planning permission"[29]) and, consequently, can invoice clients for completed work.

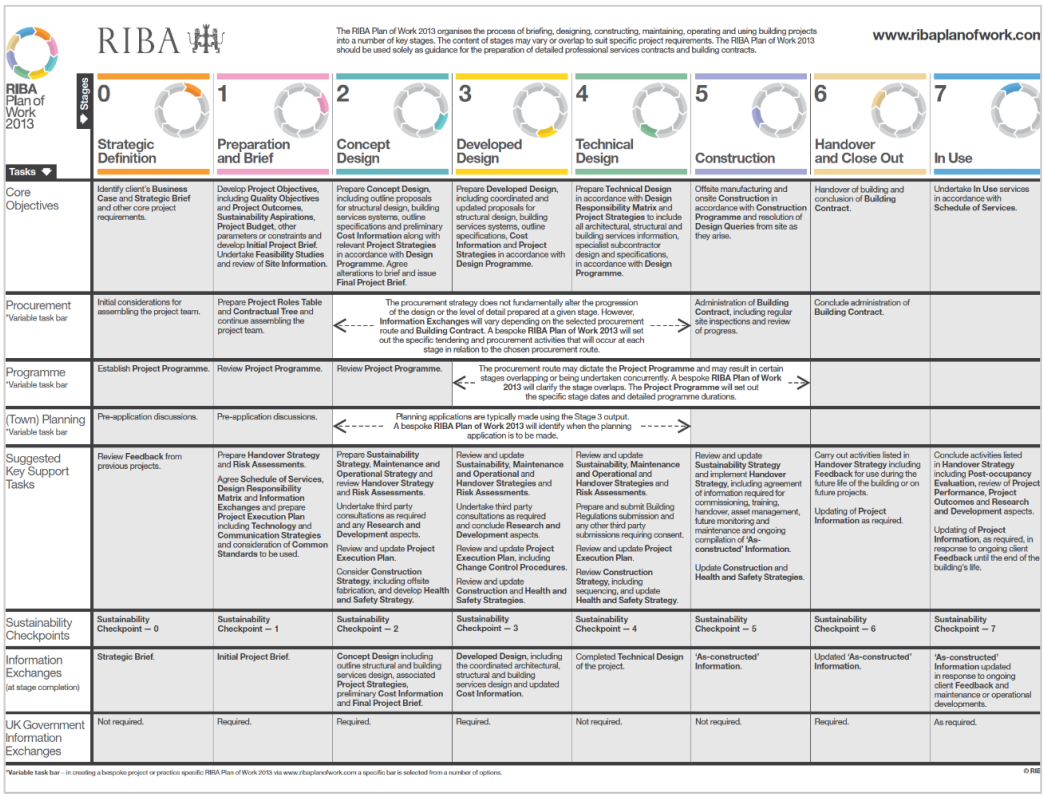

Figure 6: RIBA Plan of Work 2013 (source: RIBA, 2017)

[29] In the United Kingdom, "planning permission" must be given by local authorities as part of the Buildings Regulations 2010 to new building projects, major changes in existing buildings, or a changed use of a building (Gov.UK 2017; see also Chapter 1).

Contractual agreements[30] were also tied to RIBA's procurement policy which outlines several scenarios for the design and construction phases of a project. Out of these scenarios, two were the most common at StudioFour: "traditional" and "design and build". The "traditional" route sees the client appointing a designer for the conceptual and a contractor for the construction part of the project. Here, both are contracted by the client, who takes an active role in coordinating between the two parties, especially through hiring other consultants. Usually, before a contractor is hired, the "production documents" (see below) form the basis for "tender", a process by which contractors submit an estimated cost for construction based on these documents and are then appointed (see also Chapter 5). "Tendering" is closely linked to transferring liability for the project from one party (designers) to the next (contractors). In a "design and build" scenario, the client only appoints one entity, usually either the designer or the contractor, who share responsibility for the client and sub-contract with each other. Here, there usually is no "tender" process involved.

At StudioFour, contractual agreements were also based on set fees that were submitted as part of pitching. That is to say that StudioFour would pitch for a project with a concept and a proposed set of fees for delivering this concept, whereby delivery stages were specified further in the contract. This filtered through into the types of contractual agreements between designers and StudioFour: all designers (including senior designers) were employed on so-called "fee-earning" contracts (comparable to contractual arrangements in law firms or business consultancies) which meant that they had to record daily how much time they spent on which project in a personalised file that was accessible to the practice management. Usually, the majority of the fees that were charged to the client were set, so designers' daily work practices were structured by team-internal agreements specifying how much time each designer should roughly spend on which project. However, as projects could take unpredictable trajectories, it could happen that additional work needed to be done outside of the agreed set of fees (see Chapter 5). Here, recording individual project hours was a way to track the anticipated amount of work against the actual amount of work. This facilitated practice management, billing and helped to handle project volatility efficiently (see section below). Being on a "fee-earning contract" did not mean that designers' salaries varied in accordance to the time spent on projects and the income generated through them (as it would be the case for self-employed designers); they were all on fixed incomes and would be paid a bonus at the end of the year (see Chapter 6). Administrative and support staff

[30] Both the RIBA Plan of Work and contractual arrangements regulate stages in the design process and are complimentary to each other.

were employed on a different type of contract called “overhead contracts”, which meant that they worked for the practice as a whole. Like the designers, they had fixed salaries, which were covered by an accumulation of overhead fees that were integral to the project fees charged to clients.

Design Rhythms and Work Routines

The differences in contractual agreements affected the configuration of StudioFour’s work rhythms. While administrative and support staff were able to spend more time on tasks (see Angela’s and Clarence’s story below), “fee-earning” designers usually had to juggle a number of project responsibilities at a time, unless they happened to be assigned to just one project. This meant that their work routines were quite dynamic, even though they tended to work on individually agreed schedules. Between the two teams I worked with, these work routines were very similar. There were a lot of meetings, often with project collaborators or other members of the design team (such as client representatives, quantity surveyors, contractors or external design specialists such as lighting designers or sound experts). These meetings could also happen outside of StudioFour and entail site visits. There were also frequent internal team meetings, which happened rather spontaneously or would be agreed to in the beginning of the day. In these meetings, designers usually discussed a single project, often focused on a project concept (see Chapter 4) or building details. Meetings would always encompass materials, images, concept drafts, drawings and so on. And they were rather democratic in that most people would usually actively participate (even I was sometimes asked to give my opinion on things), very often through sketching (see Chapter 4), scribbling into drawings or engaging with the other materials. Another substantial element of the designers’ work routines was individual project work, almost all of which happened on the computer: designers would be tasked with “doing research” (see Chapter 4), preparing presentations and concept documents, and producing “product information” (see below). ID team members also focused on dealing with material samples and assembling them into palettes. Even though much of this work was individual, there was a lively exchange between team members and across teams, not least because of the open-plan office design (see Farías, 2015). Roles and tasks varied according to seniority: in their “client-facing” role, George and Charlie, the two team leaders, spent a lot of time on the phone talking to current and potential clients. More senior designers (those who were already fully qualified architects) also spoke on the phone with other project collaborators or suppliers but not to clients.

Against the backdrop of these work routines and rhythms, it is virtually impossible to pin down when staff are designing things and when they are not. In everything designers do, there is always some element of design, whether it is engaging in collaborative design processes in meetings, or producing presentations, drawings or palettes individually: all of these activities encompass different forms of creation. At the same time, however, they contribute to stabilising commercial design organisation, quite literally, as "practice-as-entity" (Shove, Pantzar & Watson, 2012, p. 13). What is key in this regard is the "breadth of heterogeneity" that is "distinctive about the design studio" (Farías & Wilkie, 2016b, p. 29). At StudioFour, this was mirrored in the way in which design organisation was set up and rationalised against the backdrop of its commercial environment. This entanglement showed particularly strongly in the role StudioFour's in-house graphic designer, Clarence[31], had taken on. He had originally started at the firm with a more traditional graphic design role, doing "much more internal stuff" (Clarence, 25.11.2014) like putting together brochures, presentations and newsletters that would be sent to clients and the wider StudioFour network. Over six years later, he was involved in contributing to the actual spatial design work of most StudioFour teams. In addition to continuing his studio-internal responsibilities (such as working on the design of StudioFour's website, on the Christmas cards and so on), he circulated in the studio to contribute his graphic design skill to the spatial design work of his colleagues. For example through his focus on important spatial elements such as the creation of so-called "feature walls" with printed wallpaper, or, for other projects, "helping with branding for a client to create a logo and visual identity" (Clarence, 25.11.2014).

[31] Even though a designer, Clarence was also employed on an "overhead-contract" so that he could circulate between projects while also attending to his general tasks as the in-house graphic designer.

Figure 7: Design development of leaf prints for a glass ceiling and finished printed glass ceiling (source: courtesy of StudioFour, 2014); *due to copyright protection, this image cannot be shown*

Figure 8: Design suggestions for a client brand for a luxurious residential development (source: courtesy of StudioFour, 2014); *due to copyright protection, this image cannot be shown*

This has analytical significance insofar as non-architectural expertise is important, made explicit and valued in the conceptual work of spatial design. In contrast, more traditional conceptions of spatial design processes emphasise technical and functional elements over "aesthetic, cultural and

civic values" and position "the architect" as key actor (see RIBA Procurement Policy [2001]). For Caroline, the practice manager, it was an important and positive development that Clarence had "more and more input in projects". She thought that his distinct skill was vital for improving the spatial products that StudioFour could offer "because the visual element of a building is so important" (Caroline, 30.10.2014). Equally, for Clarence, graphic design elements in a spatial product "can have a decorative aspect, but (…) I see them more as just being part of a building, part of the way it works, rather than purely decoration" (Clarence, 25.11.2014). This growing significance of visuality in spatial design production was entangled with wider socio-technical changes and respective shifts in the spatial design market. This had a lot to do with appearing interesting and attractive. As Caroline told me:

> [Y]ou know, it's how the world's changed. People go onto a website and they just flip through it (…) and look at the image. If they go like, oh quite good, I like it, they might look a bit more, but if you don't catch…you know. (…) you've gotta be really strong visually, because people are looking at these screens all day long and they are on Facebook they see this, they see that, you've gotta be strong on that. (Caroline, 30.10.2014)

StudioFour took this growing importance of visuality very seriously: while I was doing my fieldwork, they had hired two more graphic designers to support Clarence, who had, in fact, gotten very busy with supporting spatial design projects. Both new hires were experts in web design and their appointments were part of StudioFour's increasing focus on visuality and the goal to "integrate them more into the studio" for "raising our graphic output" (Caroline, 30.10.2014). And while this clearly indicates that the visual is an important constituent of the spatial (see, for example, Rose & Tolia-Kelly [2012]) and that product distinction through appearance is growing in significance (see, for example, Böhme [2016] remarking on this in the context of "aesthetic capitalism") this also tells a story about the strategic stabilisation of design organisation within StudioFour. Clarence and his new colleagues were not part of any one team within the firm but dealt with issues concerning the organisation (such as the website) and supplied their design expertise to teams and projects that needed it. In turn, this helped to position StudioFour well within their commercial environment. As such, they played a role in the stabilisation of StudioFour as both a creative and a commercial entity.

This sort of strategic activation and deployment of various types of design was not specific to graphic design. In general, individual StudioFour designers would support other teams with specialised knowledge when needed. Caroline described this organisational mechanism through the example of Barbara's role, who was part of the ID team:

> [Interior design has] grown, (…) we do a myriad of schools and residential projects and the architects will call upon Barbara, who is doing all the samples…you know: I need this sort of sample, I need to sort out the flooring or what's gonna happen in the bathroom, you know, depending on what project they are doing, so they call upon their expertise and their knowledge. (Caroline, 30.10.2017)

The "calling upon expertise and knowledge" within the studio was a matter of both enhancing creative performance and of being pragmatic. While Barbara tended to be asked to give creative input on interior design questions, other designers within StudioFour supplied other kinds of expertise. For example, I was with one of the designers on the student accommodation team one day, Michael, who was busy researching and "specifying" (see Chapter 5) a roofing system for a project he was working on. The roof of this project was flat in most parts, so Michael was concerned about drainage and leakage. I sat next to him while he was researching different suppliers and systems online, moving between sketching out the roof areas in question and clicking through what he found online. Eventually, he grabbed the phone and called over a colleague: "Peter is the technical god, he knows all about building stuff" (Michael, 22.10.2014). Peter quickly showed up at Michael's desk and they started discussing the issue, much of which involved sketching and scribbling layers into Michael's sketch of the roof. The discussion focused on a wide range of aspects of the roofing material. Considerations included liability concerns as this roof was planned to be accessible to the public, as well as cost of the supplies, maintenance of the material, available warranties and the reliability of different supplies. Different people dipped in and out of the conversation which happened at Michael's desk and ended up taking almost two hours, even though it was unscheduled and took valued time from the StudioFour designers who were constantly pressed for time. Quite clearly, and as Farías and Wilkie (2016b) suggest, the studio necessarily is "a humdrum and habitual workplace (…) rather than the domain of individual genius", made up of "routinized aspects of workplace activities" (p. 7). Michael, like other StudioFour designers, routinely called upon his colleague for support and, equally routinely, took the time he needed to resolve the issue at hand, despite usually being under time pressure. Against this backdrop, we must assume that this "performance", the "immediacy of doing" (Shove,

Pantzar & Watson, 2012, p. 7) would not have occurred if it was not an option within the constitutive "network" of the practice-as-entity (ibid). This internal network is made up of the flexible and fluid work patterns that characterise much of the creative industries organisation today (McRobbie, 2002; McRobbie, 2016; Neff, 2012). That is to say that there are design workers at StudioFour that "free-lance" within the studio and contribute their skills wherever needed, while others may be assigned to specific projects, but will still be called in and supply expertise to other projects if necessary.

Developing and Maintaining Social and Cultural Capital

Maintaining a certain organisational flexibility and fluidity was both a strong characteristic and a stabiliser of design organisation at StudioFour. This also played out in routines that StudioFour had established to develop and maintain a solid arsenal of contacts or connections as well as the strategic building up of designers' skill for creation. As a creative enterprise, StudioFour had no constant or guaranteed source of income. Even though they were a big firm, they had to constantly pitch for work (see also Chapter 6 on this topic). Here, they could pitch as part of a competition (see also Farías, 2013), or an open call for pitches, or be invited by clients to pitch (alongside other firms). This had several implications for StudioFour's organisation. First, as a big practice with lots of experience and capability in many different areas, StudioFour had to be up to date with the wide range of potential new "jobs" that fit their expertise and had the right scale (as an internationally operating firm, this extended well beyond the borders of the United Kingdom). As part of this, they, second, had to actively maintain what Bourdieu (1986) calls "the aggregate of the actual or potential resources which are linked to possession of a durable network of (…) institutionalised relationships of mutual acquaintance and recognition", i.e. social capital. In spatial design, this network primarily consists of past, current and potential clients and collaborators. To cultivate their social capital, StudioFour had implemented an important routine: every Friday, the senior management team (i.e. all "directors") came together to discuss current StudioFour affairs and share experiences, knowledge and, most importantly, contacts. Practice manager, Caroline, explained to me:

> [P]eople have been out, meeting and greeting, you know, "oh I met someone from such and such" and then someone says, "oh that is interesting because I heard such and such" and we try and join that up a bit to share the knowledge a bit. And we talk about any new inquiries that have come in, or if we have been

> shortlisted for anything, got on to the next stage of trying to win a project (…). (Caroline, 30.10.2014)

Here, "sharing the knowledge a bit" strongly related to mobilizing industry-specific connections that could lead to new projects[32]. Therefore, the weekly meeting was an institutionalisation of sharing this business-specific social capital with actors in the firm and, in that sense, played a part in practice-stabilisation. This was also evident in the way in which individual senior designers would embed strategies to continually establish key contacts among potential clients into their work routine. For example, when I got into the studio one day, Charlie appeared to be very busy with emails and telephone calls. When I asked him what he was doing, he told me that he had been out at a trade fair networking event the day before, so subsequently, he spent most of his time following up on the contacts he had made. He also told me that he had focused on mapping them mentally so that he could share them in the senior management meeting on Friday. He said that he would use the meeting to check if colleagues already had links to some of these contacts or whether it would be worth approaching some of these new contacts with more concrete project proposals, either from his own team or any other StudioFour team (field notes, 10.06.2014).

As part of strategically developing and sharing social capital, StudioFour also carefully selected who attended what kind of public events. For example, during my field work, the practice was hosting a prestigious summer party at one of the famous London outdoor sites they had been contracted to "retrofit". Even though the practice was hosting this event, just a handful of selected senior designers were allowed to attend. Here, the studio had invited important clients and valuable business contacts. To make the most out of this event (i.e. secure the highest possible return on this "investment (…) aimed at establishing or reproducing social relationships that are directly usable in the short or long term" [Bourdieu, 1986]), only two types of StudioFour designers were sent: senior management who had a client-facing role and were used to engaging with clients, as well as more junior designers who had expertise in the sectors the invited guests were active in. Both groups were set up to increase chances that new jobs would come in off of this interaction (field notes, 10.06.2014). As with other leads, these were then discussed in the senior meetings and diverted to the respective expert team, if necessary, or to StudioFour's internal business development expert (see section below). That is to say that making a good contact would

[32] This can also be read as an indicator for what Wittel (2001) has described as "network sociality". Here, "working practices becomes increasingly networking practices" (p. 53) which, in part, builds on the Bourdieusian notion that economic, cultural, social and symbolic capital are convertible (p. 71).

not necessarily have to be directly related to the area of expertise of one designer. Rather, they were expected to network for all of StudioFour, not just their own team. These formalised "investment strategies" (Bourdieu, 1986) set out to amass and circulate the social capital that is relevant for keeping the studio afloat as a business and are embedded into design as creative-commercial practice. As such, they also work as mechanisms to stabilise not only the studio as a literal "practice-as-entity" (Shove, Pantzar & Watson, 2012), but also for how spatial design is organised as a profession more broadly (i.e. it is not only StudioFour who must network and pitch for work, this affects all sorts of design organisations). The notion of design-specific social capital, therefore, seems to be relevant for studying how spatial design is organised in the context of creativity and commerciality.

Equally important in this regard, however, were StudioFour's routines that explicitly sought to build up designers' cultural capital, i.e. non-financial assets such as skill, knowledge and education (Bourdieu, 1986) to enhance their skill for creation. Creation is part of problem-solving in design (Parsons, 2015) and can, of course, take many different forms, some of which are discussed in the next chapter. What is important, here, is that part of organising design at StudioFour was concerned with building a fruitful base for *creativity* in creation by regularly pulling designers out of their work routines and exposing them to new ideas, skills and ways of approaching design processes. An essential vehicle for this was a practice routine called "practice half day'"(PHD). A PHD consisted of a monthly morning session which the whole practice, on a voluntary basis, took off to participate in "extra-curricular activities" that were "geared towards providing training and inspiration and sharing knowledge among staff" to help "people to think and communicate differently" (StudioFour website, 06.02.2016). PHDs always set out to enhance creative thinking outside of *spatial* design. The activities varied significantly, ranging from presentations held at the office by external experts on different topics, to site visits of completed StudioFour projects and design skill-oriented activities such as sketching in a museum. Some PHDs would become legendary and could also be found on the studio's website (e.g. the "Edible Architecture" challenge were different teams formed across departments had to build famous buildings from food). PHDs were organised by the senior team but the ideas for them came from employees across the board.

Figure 9: Different PHDs presented on the StudioFour's website (source: StudioFour website, 2016); *due to copyright protection, this image cannot be shown*

Some PHDs were also explicitly used to help designers develop new skills and share the expertise and knowledge that was available in the practice, as this vignette shows:

When I came into StudioFour one morning, the walls in the entrance area were covered with screen prints of different ornaments and symbols. While I was standing there and studying these prints, Michael, one of the designers I worked with, came by. He stopped and explained to me that they had had a PHD the day before where they had made these prints. He told me that this PHD was led by Clarence, the StudioFour graphic designer, so that the other StudioFour designers could learn about and experiment with graphic design principles and processes, such as colour and typography (field notes, 25.11.2014). When I spoke to Clarence about this later, he explained to me that he had also wanted to teach his colleagues about the different thought and design process that underpin graphic design. He explained:

> [U]sually, architects are trained to think in three dimensions and (…), graphic design works in a way that what you do is what you get, what you have on your screen gets printed in some way or another, (…) while architects do drawings to instruct people on how to do what they think. (…) so, it's a different thought process, (…) it's quite interesting for architects to think in another way, to think of what they do as being translated directly into what they did on the computer (…). It's really simple and yet that has a huge impact. (Clarence, 25.11.2014)

Here, Clarence referred to the educational element of the PHD and its function for practice-internal capacity building. Therefore, the PHDs can be seen as mechanism to develop and maintain sets of cultural capital that are seen as crucial for design practice.

Figure 10: Figure 2.4: Screen prints from Clarence's graphic design PHD (source: author's photo, 2014)

However, beyond this educational ambition, there was also another element to the PHDs. For Caroline, the practice manager, a significant part of the PHDs was to "mix up people (…) so you are not with the people you work with you are not with the people in your same building" (Caroline, 30.10.2014). In that sense, PHDs worked to improve informal links between colleagues so that people would not "silo off" (Caroline, 30.10.2014) and stick to their immediate team members. In other words, they were important for maintaining a sense of (comm)unity. For Caroline, it was an issue that the studio worked out of two office spaces, only a block apart from each other with meeting rooms and other facilities used across both buildings. In a very pragmatic sense, this set-up challenged the "daily proximity and spatial overlapping" that are characteristic for a studio (see section above on calling upon expertise from colleagues) and that "provide important points of contact for casual engagement in a joint exploration of options, possibilities and alternatives" (Farías, 2015, p. 278). One of the two buildings, the main building, was

commonly perceived as the heart of the firm. Therefore, designers based in the other building were feared to feel left out or to get immersed in their office space as somewhat separate to the rest of StudioFour. This was not unsubstantiated. When I asked my participants about how they felt about the difference between the two office spaces, they said they liked being away from the business of the main office and that they felt freer being a street away from the operational heart of StudioFour. Against this backdrop, for Caroline, PHDs posed themselves as welcomed opportunities to "keep the spirit of two buildings as one" (Caroline, 30.10.2014) and to maintain a sense of (comm)unity among all StudioFour designers.

These vignettes indicate that the routine ways of sharing cultural (skill, knowledge, education) and social capital (contacts, connections) are important strategies for stabilising design organisation – or StudioFour as *a* practice. They support institutional flexibility and capacity building and help to maintain a sense of StudioFour as a (comm)unity.

Formal Responsibilities and Spatial Careers

In addition to these routine practices that were part of enacting studio life, there was a network of non-design staff who helped stabilise StudioFour as a commercial organisation. The day-to-day work of these non-design workers played an important role, ranging from Caroline's role as practice manager, to the PR manager, the IT manager, the technical manager, the business development expert, the quality assurance expert, the receptionist and to a range of administrators supporting areas such as HR and finance on a part-time basis – all of them were instrumental in bringing StudioFour to fruition as creative-commercial endeavour. Caroline described the significance of one of these positions:

> [W]e have a technical manager who, he has gotta make sure when a new building reg comes out he exactly knows the impact of it, he shares that knowledge or gets someone in to talk to people because legislation changes in the construction world, we have to know what is happening and when it is happening. (Caroline, 30.10.2014).

Of course, most of these roles, such as HR, PR, IT, business development or administration are standard elements of any corporate organisation. But the point here is that, despite being non-design positions, the roles these individuals filled encompassed the strategic configuration of

creative and commercial concerns at StudioFour. Occupying high ranks in the organisation, they were not only an indicator of the heterogeneity that is so distinctive about a (spatial) design studio (Farías & Wilkie, 2016b), but were deeply and strategically embedded in the formal organisation of design.

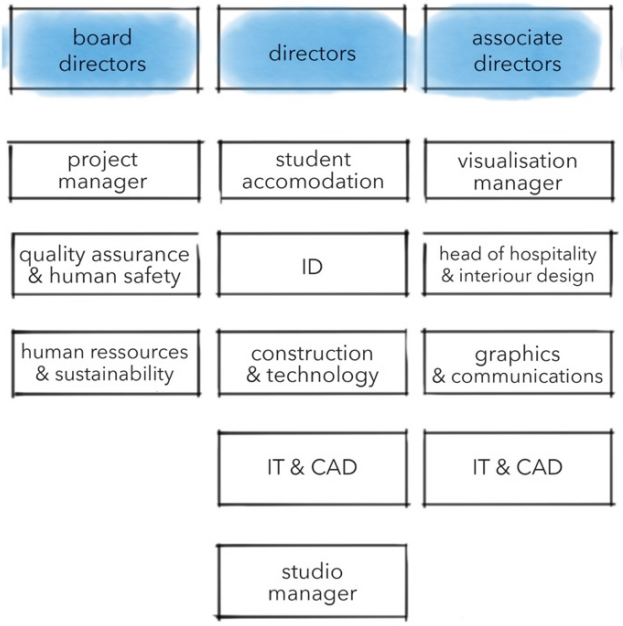

Figure 11: Cross-organisational responsibilities at StudioFour (source: author's sketch, 2017)

What this graphic shows is the formalisation of putting together creativity and commerce through the distribution of interdisciplinary responsibilities for senior designers. Here, the three "board directors" at the top of the organisation, the "associate directors" and "associates", all had additional operational responsibilities. In other words, their creative responsibility was tied to a managerial role so that areas such as insurance, technology, IT and so on all were covered. At the same time, this set-up reveals a range of operational and strategic priorities that are not static, but in constant flux. This is reflected in Clarence's case or the popular importance of "sustainability" as responsibility of a board director. But more significantly, it was shown in the case of IT: the nature of architectural and design work now being utterly dependent on IT infrastructures and robust software had catapulted the "head of IT" into the director's team.

On top of that, other directors or associate directors had the additional responsibility for the core software and processes such as CAD[33] and BIM[34]. As Caroline explained:

> [W]e've got an IT manager, (…) we've got a BIM expert and we've got Ronald, who's an associate who is heavily involved in the CAD and BIM (…) It's vital, and we are trying to be sharp and leaders and you know, we've got very robust systems that work very well for us, and you know, it's a huge bit of [StudioFour] because everyone depends on it. (Caroline, 30.10.2014)

There are several points here that relate to the question of how design organisation was stabilised at StudioFour. First, practical and organisational flexibility was an important factor in stabilising StudioFour as a design organisation that encompassed both creativity and commerce. Some of this can be related to the contingency and volatility that is inherent in much of the creative industries. Here, being able to respond to newly emerging market dynamics (such as the growing significance of visual representation and IT infrastructures) and the formal and informal sharing of expertise and skills were established as successful strategies at StudiFour. Such strategies distinctly inform and are informed by the "recurrent performance by real-life practitioners" that help stabilise "the practice-as-entity" (Shove, Pantzar & Watson, 2012, p. 13). Because this is so strongly related to real-world concerns and pragmatics in the context of wider commercial and technical environments, stabilising "practice-as-entity" relates to both the unit of StudioFour's organisation, but also to (spatial) design as a professional practice more generally. Second, these practices and structures highlight the interdisciplinary character of spatial production, not only across the marketplace, but also within the unit of a studio. In other words, the spatial product necessarily is the result of highly collaborative work. As Deamer (2015c) reminds us: "Increasingly, architectural work is distributed and dispersed, collaborative and entrepreneurial, knowledge-based and open-sourced, specialised and flexible" (p. 72). In other words, spatial design practice is clearly characterised by the increasing division of expertise in designerly/conceptual tasks which

[33] AutoCAD, or CAD, is software that facilitates digital architectural drawing. It is one of the most commonly used software for architectural work. It has been criticised as both an opportunity to "expand the designer's ability to solve technical problems, to deliver accurate plans, and to exhaust every possible imaginative angle" (Ross, 2010, p. 11) while also reducing plans to mere calculations rather than drawings in a more traditional sense (p. 12).

[34] BIM is short for Building Information Modelling and is a process "that involves creating and using an intelligent 3D model to inform and communicate project decisions" (Autodesk Website 04.02.2016). BIM software becomes increasingly important for designing, constructing and maintaining different kinds of physical structures.

is not only a typical feature of creative industry organisation, but also negates a narrative of architect's single-authorship of space.

But by the same token, some aspects of professional spatial design practices can and must be attributed to the fact that they are spatial. First and foremost, this shows in the way in which StudioFour organised its project work into spatial categories or sectors, ranging from "Hotels and Leisure", "Education", "Residential", "Interior Design", "Cultural", "Offices", "Retrofit", "Transport" and "Masterplanning" (see Chapter 2 and organogram above). Much like the rest of the design organisation, these sectors were not fixed but fluid and their stabilisation sometimes prompted controversies in relation to market positioning (see Chapter 6). At the same time, they were based on the spatial specialism StudioFour had developed and cultivated over the years and, as such, were deeply intertwined with the spatial expertise of staff and their individual career paths. How closely these individual skill sets and professional trajectories were linked to efforts to stabilise StudioFour as commercial-creative-spatial project shows strongly in the following vignette:

In a long conversation that I had started with the simple question, "What is your story?", George told me that he had been with StudioFour for over 20 years, "which is unusual in a lot of jobs these days, (…) but the reason that's happened is that, you know, purely luck and good timing" (George, 28.10.2014). He told me that after he had finished studying architecture in the mid-1990s, he had a hard time finding a job in the recession. He said:

> I came down (…) to London and I tried to find a job and I wrote letter after letter (…), I had a call from [the founder of StudioFour]. He had something immediate that he needed to be done, so he's called on me, really, because I had immediate availability, not because I was great. I think I saw him on a Tuesday and he said if you can start tomorrow, you've got the job. So I started the next day (…). (George, 28.10.2014)

George told me that his first six months with StudioFour were characterised by uncertainty due to the precarious economic climate at the time. Every week he was told that this would be his last week but, as he described, "I made myself busy, those kinds of people, you know, like sweepers who sweep up all the bits and pieces, you can sort of make yourself really indispensable" (George, 28.10.2014). As part of keeping busy, George got heavily involved in doing "executive architectural

work"[35] for a "very well-known boutique hotel". And at that time, "the whole landscape of hotels was changing (…) in New York people were using hotels in lots of different ways, so the entrance lobby wasn't just a place to check in, it was a place to meet" (George, 28.10.2014). And as, along those lines, the idea of the highly individualised and up-market "boutique hotel" was materialising in the market, George and StudioFour had "learned something about hotels" (George, 28.10.2014). Based on this experience, StudioFour later successfully pitched for the architectural and some of the interior design work for the first "boutique hotel" in London – "nobody had ever done anything like this, except us" (George, 28.10.2014). George was part of and, by chance, ended up leading this project and then quickly became a specialist in hotel and interior design:

> I was on the team and there was six or seven other people. There were two people above me, one of the guys left just before it finished and one of the other guys, who was more senior, was removed off it, so I became the guy running the job. I was a site architect, (…) so I spent three years working on what turned out to be one of the most famous hotels in the world at the time and learned everything I possibly could about construction and design of hotels (…) And there I was, suddenly I was a specialist in a field and having finished [the boutique hotel] which was very famous and very successful, we were able to get more work from [a large hotel operator] and all kinds of other people. (George, 28.10.2014)

The serendipity of George's personal interior design success and specialism then translated into a commercial focus of StudioFour, which helped establish the ID team in the form that I witnessed. As Caroline explained:

> [W]hen I [came to StudioFour], we didn't have an interior design department. (…) It came out of a… we won a project and decided that we could do the interior design, so we had to jump around and start it up, you know, we started with one person. And it's grown (…). (Caroline, 30.10.2014)

[35] The distinction between "executive architects" (also "architects of record") vs. "design architects" is made when two spatial design firms team up to deliver a project, whereby the latter are responsible for the design concept and the former focus on liaising with local authorities and regulators and producing the construction information (American Institute of Architects 2014). This often happens in international projects.

What we can see from this story is how individual career trajectories are tied to *a* practice. They may be less planned and are at best serendipitous for both the individual and the organisation. This is related to spatial design being heavily based on personal contacts, or social capital, and the sometimes informal ways of securing jobs. It also suggests that serendipity and contingency are as much a part of stabilising a design spatial studio as commercial-creative entity as the facilitation of "recurrent performances" (Shove, Pantzar & Watson, 2012), such as set design protocols. Finally, it shows what is distinct about spatial design: different aspects of space (such as type of space, location, spatial work conducted, i.e. "architectural" vs. "interior design" work, and so on) play a crucial role for the development of individual and institutionalised design specialism. By the same token, this is linked to the way in which spatial specialism is made relevant in the co-configuration of the wider marketplace of spatial design (see also Chapter 6). Clearly then, spatial design is not only a professional manifold practice, but also a diverse industry in which ever-evolving assemblages of (individual and collective) spatial specialisms establish themselves beyond and above single-authored "architecture".

Managing Design Production

At the beginning of this chapter, I have set out to explore the non-separation of creative and commercial concerns in StudioFour's practices as an empirical issue. And while the facilitation of "recurrent performances" (Shove, Pantzar & Watson, 2012) in design organisation plays a crucial role here, there is a particular challenge that designers face in the context of having to connect spatial, creative and commercial elements: they must deliver conceptual space as their product (see also Chapter 4). Consequently, the organisation of design production was a major concern at StudioFour, especially in the context of a volatile market environment and the contingent character of design. Here, StudioFour had formalised processes that sought to strategically stabilise the studio as a business, particularly in terms of securing continuous project influx, dealing with project volatility, rationalising, enforcing a standardised production process and a routinely destabilised design work to improve conceptual output.

Stabilising Project Influx and Dealing with Project Volatility

Usually, the first instance of any kind of production process in spatial design is pitching for a new project. Here, design firms either pitch freely (such as in an architecture competition), or are

invited to put in a pitch or proposal based on their previous work, their general portfolio, or through their connection with the potential client. But design firms can also be appointed directly by clients. Here, the firm still has to pitch their concept but they are not in competition with other firms. In either case, design production usually kicks off with agreeing with a (potential) client to present a conceptual idea. Consequently, securing a steady stream of opportunities that would lead to such opportunities was the basis for keeping StudioFour afloat as a commercial organisation. As discussed in the section above, a substantial amount of the necessary relationship grooming with potential clients was shouldered by the most senior design staff at StudioFour. However, in addition to that (because senior designers also had to focus on delivering on existing contracts), StudioFour employed a so-called "business development" expert, Angela. She only came in six days per month and her job was to maintain existing relationships and forge new ones on behalf of the practice, such as by attending events, or by cold-calling. In other words, she was entrusted with doing the legwork that was needed to establish and cultivate StudioFour's ever so important portfolio of contacts. As Angela described:

> It's relationship building the whole time. And it does work. Most of the… a lot of the jobs in here are, if not directly from me, from being in touch with people. (…) [It is a] much longer termed strategy of building up relationships and creating an atmosphere where people can comfortably come see you and talk to you in your job. (Angela, 10.12.2014)

Angela was very clear that her job was different from marketing, which she saw more in terms of "advertising [and] sending out brochures" and sales where "you're going up streets and knocking on doors and selling" (Angela, 10.12.2014). One of the ways in which Angela scoped out new opportunities was through the StudioFour website: when someone downloaded the brochure from the website, she would receive a notification and the email address of the person who had downloaded it. She would then research this individual and her/his affiliations and, with great endurance, seek to get in touch. She narrated a particular case:

> [T]his one, I noticed, was a chap from [XXX], which is a great big (…) construction company and development company. And I found out who the chap was, I did some research (…) I went onto the internet, I found out what [project] they were doing, (…) I phoned up this chap and I kept phoning him up and eventually he spoke to me. I said, "Look, I know you've moved to [a London location], great, can

> we come see each other there?" He said, "No, send me some stuff." Which I did. (…) [After] sort of, two or three months, this original guy came back to [the board director], and said can I come in, we need to chat, I've got this opportunity. And that was through, although he'd downloaded the brochure, it was the keeping touch, it was the phoning up, (…). (…) [H]e did say to [the board director], you know, Angela kept doing what she was doing and that kept you high enough in the forefront of my mind. (Angela, 10.12.2014)

According to Angela, this long-term approach was particularly crucial in spatial design and architecture, which she felt were quite "personal", meaning that potential clients would want to "get to know you and what you do and how you operate" (Angela, 10.12.2014). What she meant by that was that the firm's reputation was a crucial element of commercially successful design production. She also was clear that her explicitly outward-facing role might have an impact on this reputation. For example, it could work to make StudioFour look like they were "stalking" new clients vs. appearing as a "sound practice". As Angela explained:

> [B]ut you had to tread that fine line between enthusiastic marketing and stalking, because otherwise you'd piss them off, you know, they get really hacked off if you're phoning up, phoning up. (…) I sort of use that: 'No, I don't want to stalk you, but I really don't want to miss an opportunity'. And people appreciate that. (…) it's the growing levels of contact which reaffirmed that it's a sound practice in taking things forward. (Angela, 10.12.2014)

Building up these "growing levels of contact" through just six days of work per month was based on a different temporality than the work routines of the designers, who were all employed on a "fee-earning" basis (see above) and "don't have the time to phone somebody up", especially as "it's not just a case of phoning somebody up, you know" (Angela, 10.12.2014). Like other support and administrative staff, Angela was therefore employed on an "overhead contract", meaning that she had "the time and diligence, the tenacity (…) to phone somebody up, especially if I think there's a sniff of a job" (Angela, 10.12.2014).

But despite these strategic elements and roles, the stabilisation of spatial design within and beyond StudioFour was significantly challenged by the inherent contingency of the design projects. Particularly, StudioFour's projects would vary hugely in terms of scale and time frame

(see Chapter 1). Between my two teams alone there could be projects that were completed within a few months (especially by the ID team) whereas others could easily take years. Most of the projects I witnessed while conducting my research extended beyond my research period and were still going on when I left. Despite this long-term trajectory of spatial design projects, there could be enormous temporal volatility within them. This posed a very pragmatic challenge to maintaining a smooth production process: it was difficult to staff across all of these individually volatile projects. Projects could be "tracking along quite happily, and then something happens and it either stops completely or it is put on hold for a bit" (Caroline, 30.10.2014). This was highly challenging from a managerial point of view because "you can't have people kicking around, so you always have to hope that you have the work to allocate them somewhere else" (Caroline, 30.10.2014). However, at the same time,

> a project comes and then it goes on hold and then they phone us up and say, "Ok, start on Monday" and then we say "wowowowo". We did not have that team sitting around doing nothing for the past month. We had to re-allocate people so we need some time to re-mobilise and get a team sorted out, so it is difficult. (Caroline, 30.10.2014)

Part of the reason why the executive team met weekly was "to talk about just that (…), about where projects are going, to talk about who's got time" and

> then we talk about resourcing. So, we have a chart and we look at, as I say, who is firmly embedded into a project that is going on and on, who might be coming up, who has got a bit of free time but then will have to go back, and we try and juggle it accordingly. (Caroline, 30.10.2014).

These staffing efforts, however, did not only consider the most efficient use of existing skills and expertise within the practice. When allocating designers to different projects, Caroline and the executive team also focused on making sure that StudioFour designers could build expertise in certain areas by working on similar types of projects. They would also consider people's preferences to maintain StudioFour as "a good place to work" (Caroline, 30.10.2014), but also to avoid "silo-building" to keep the workforce flexible and able to work across the different sectors represented at StudioFour. This, however, could occasionally conflict with the preferences of the individual sector leaders. As Caroline explained:

> [Y]ou know, we've got different sectors (…) they can put a wall around and not want to share people and you can understand why because people are learning and growing and say they get quicker and more efficient. But, sometimes just doing a bit of transfer amongst the different sectors is good for the people. It's good for the projects. (…) [I]t is hard to manage and you can never be completely prescriptive because things can change so quickly. (Caroline, 30.10.2014)

Therefore, a substantial part of managing design production involved allocating designers to projects against the backdrop of project volatility and the individual contexts of projects, their leaders and the affiliated designers. These kinds of uncertainties and instabilities are not necessarily specific to StudioFour, spatial design, or the creative industries more broadly, because in all professions, "as the tasks change, so will the demands for usable knowledge, and the pattern of task and knowledge are inherently unstable" (Schön, 1983, p. 15). At the same time, however, strategies to successfully tackling this challenge were explicitly contextual and in tune with StudioFour's internal logic; it was "more of an art than a science, certainly the way we operate" (Caroline, 30.10.2014). This "art" can therefore be understood as the "effective use of specialised knowledge" (Schön, 1983, p. 15) or "competence" (Shove, Pantzar & Watson, 2012, p. 23) that design actors develop as part of their professional practice.

Rationalising the Production Process

As part of materialising conceptual space as a product, StudioFour deployed a clearly defined production process. It could roughly be divided into two parts (which were interrelated): the concept development part (see Chapter 4) and the subsequent phases in which the practice would produce "production information". "Production information" is directly related to the (rather literal) form-giving aspect of spatial design in that it provides all of the necessary information planning authorities require to approve a building project via planning permission and what contractors need to price construction and fabricate a space. More specifically, it is a term that refers to three types of documents spatial designers are required to produce as part of any project they take on: drawings, schedules and specifications.

Drawings designate the plans of a building or space, usually produced with CAD-software, which include all infrastructure, such as pipes and wires. Drawings are technical plans for construction with details of what contractors need to be build and how.

Schedules are directly linked to the drawings: they are lists detailing all of the items that can be found in the plan (such as numbers and types of doors; see also Chapter 5). They also detail what quality – or "performance" – the items needs to "achieve" (like being soundproof). Schedules are about quantification and can get as detailed as specifying products or manufacturers.

Specifications (also called "specs") are documents that outline materials and their quality to be used for construction (including the interior), as well as with what degree of skill they need to be handled. "Specs" are about qualifications (for example, they outline the thickness of the glass for the windows), while considering the relevant regulation.

Rules as to how StudioFour designers were expected to go about producing these three sets of documents were spelled out in StudioFour's so-called "Production Information Manual", an internal document:

> This manual is concerned with the clarity, efficiency and consistency of working drawings, schedules and specifications issued by [StudioFour]. (…) Always remember that working drawings, schedules and specifications are a means to an end. Ask the question, 'Could someone without previous knowledge of this project get a complete and accurate picture of what it involves from the set of information that we have produced?' (StudioFour Production Information Manual, 2014)

StudioFour's rationale for their production process – "clarity, efficiency and consistency" – came through in both the manual as well as in the many conversations I had with the designers: they were very focused on creating production information that was clear to all involved, leaving little or no room for interpretation. This was particularly prominent in the context of the "construction document" (i.e. production information for contractors, see also Chapter 5):

> '[C]onstruction' documents will have to be issued under instruction and this should be done very carefully. (…) [F]irst thing a contractor will do when construction documents land on their desk is go through them with a fine-

> toothed comb looking for items that could be considered to be variations, leading to extra money and time. Therefore, if there is nothing in the contract/tender set asking for shadow gaps around all doorframes, it is unlikely you will be able to put them in the construction drawings without extra cost. (…) Check beforehand whether there will be a cost of time implication to what you are about to issue, and, if there is, agree with the client beforehand. (StudioFour Production Information Manual, 2014)

Clearly, it was very important for StudioFour to avoid vagueness as it could lead to time that would have to be spent on correction. This was significant as spatial design contracts are based on agreed sets of fees for agreed sets of hours (see previous section). If the practice had to spend extra time on a project beyond these agreed hours then they would not be able to bill them. This shows that cost concerns were a key aspect of how design production was rationalised and enforced at StudioFour. As important as this rationale was in the process of issuing information. Issuing information meant delivering packages of production information to clients, collaborators or contractors at agreed points in time. This was considered important in the production process. Much like the fees, respective milestones would be contractually agreed to beforehand (i.e. the practice would agree to how many of these packages of information would be produced and delivered). Drawings, schedules and specifications would consequently be marked as to which package they belonged to so that they were not mixed up.

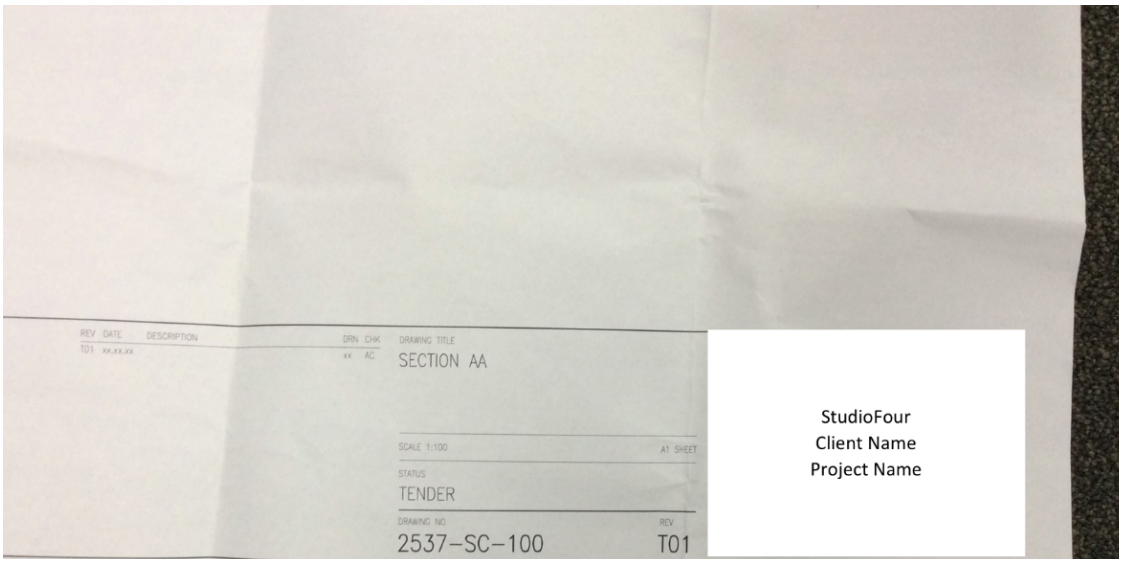

Figure 12: Detailed document marking on printed drawing (source: author's photo, 2014)

This meant that issuing information was a highly formalised and carefully monitored process. It was designed to leave a paper trail and therefore proof that a particular piece of design information had reached the correct recipient and that StudioFour, therefore, could not be held liable if these instructions were not taken into account. All this happened digitally, which meant that, in practical terms, the practice assembled the respective documents in a secured-PDF-format[36] and e-mail a download-link to the recipient. The sender would be notified when the recipient received the email and had downloaded the documents. After having downloaded the documents, the recipient would receive a co-called "transmittal document", which spelled out all of the details and context of the documents submitted: project number, subject, purpose, date, transmittal ID, sender and recipient details (name, company, e-mail address), remarks and description of contents (number, title, scale, date, description).

Figure 13: Transmittal (source: author's photo, 2014); *due to copyright protection, this image cannot be shown*

[36] Documents in a secured PDF-format are "locked" and prevent users from copying or editing the document.

Issuing information was also highly formalised internally: the "Production Information Manual" stated that issued drawings, specifications and schedules should be archived as PDFs in the project folder on the studio-internal drive so it would be clear to all team members that this design information was now official and therefore fixed[37]. Both the "Production Information Manual" and the technologically formalised processes of issuing information stabilised design production by manifesting the firm's work routines and articulating a StudioFour-specific rationale (i.e. being "clear, efficient and consistent" in the design information documents) and discipline (i.e. "issued information makes us liable and cannot be revoked").

Pragmatic Creativity

What remains an important element within these formalised processes of design production is creativity: it fuels designers' imaginative work, which is at the very heart of the conceptual product (see next chapter). But being creative while productive is a difficult balancing act. That is to say that much like any other creative industries organisation that is confronted with the same issues, StudioFour's stabilisation efforts had to encompass deliberate moments of contingency and uncertainty as part of providing space for creativity, though in a somewhat orderly and disciplined way. A key mechanism in this regard was the work with "precedents". Usually, "precedents" were polished photographs of projects the studio had completed. These images articulated StudioFour's style, expertise and experience and were stored in the so-called image vault, a practice-internal database everybody had access to. They were an important tool for client interaction:

> You often use precedents to make a client think outside the box when they come to you with a pre-set idea of what they want, but that we don't think will be successful. Quite often you can use them to show them there's other ways of achieving what they need. And very often they've never thought of them, never seen the fine ideas, it's easy for materials, a lot of the precedents are around the materials that get used (…). (Michael, 20.01.2015)

These photographs were sometimes used alongside other images as part of "doing research" in the creative process of design (see next chapter). They provided part of the visual vocabulary

[37] This was also important because there could be many different designers working on the same document at the same time.

needed to take a concept further. But also, and more importantly, "precedents" were used for client presentations and external communication. As Ryan explained to me one day: "[the image vault] is more for PR and finish photography" (Ryan, 07.08.2014). In this function, precedent images helped both designers and clients to understand StudioFour's style as it manifested in completed design projects and image aesthetic.

Figure 14: Typical image vault photos (source: StudioFour website, 2014); *due to copyright protection, this image cannot be shown*

The image vault was central to the practice of the practice, as it were, in that it both left room for creativity and imaginative work but also had a disciplinary function: the images of previous projects would left for imagination for clients and designers alike, but simultaneously indicated direction. The image vault helped to keep the design process contingent while also providing predictability and assurance. This was a way of systemizing the creative practice (see also Dorland [2009] on systemizing creative work) whereby creativity must be disciplined, but not overly disciplined (in a similar way in which Star & Griesemer [1989] state that scientists have to be disciplined, but nor overly disciplined [p. 47]; see Chapter 4).

Another important mechanism for deliberate destabilisation in design for the sake of creativity was the "design review". A "design review" was a meeting between the senior staff (from the associate level upwards) where teams would share design work on a project to receive internal feedback before submitting it to the client. During my fieldwork, I was invited to one of these review meetings which focused on a hotel project I had been following with the ID team, which involved both interior and architectural design. This meeting saw more than ten senior staff members in attendance, among them associate directors, directors and two board directors.

George, head of ID, gave an overview of the project, mostly talking about the brief and the client, as well as the geographical location (which was marked out in GoogleMaps on a very big screen in the main meeting room). He then started the presentation of the current concept for the project, focusing on linking the client's needs and demands to the "design narrative": the hotel was at the heart of a bigger redevelopment and the client wanted it to become a "signature building" and a "destination". George said that the hotel would be the "billboard" for the whole development. Therefore, the concept suggested the shape and materiality of the building being iconic, with a golden crown and a copper façade.

Figure 15: Façade design with a "golden crown" (source: courtesy of StudioFour, 2014); *due to copyright protection, this image cannot be shown*

After the presentation, the team received extensive feedback from the group. Many questions and comments were focused on the shape of the building, asking if it could not be taller and more efficient (i.e. more rooms could benefit from the infrastructure that would have to be put in anyway), as well as comments on the façade, which needed "more articulation". This discussion was very visual. Designers drew new suggestions for the shape of the building and its façade. Some even asked for fundamental design alterations and suggested new ideas. George and his team took extensive notes and took comments and concerns on board to make their design clearer and to bring it more in line with StudioFour's style. Review meetings, clearly, are a means to "fine-tune the project planning (…) explore alternatives, and make decisions" (Farías, 2015, p. 280). They deliberately destabilise existing creative-material configurations to provoke "epistemic dissonance" (Farías, 2015, p. 281) and "review complex chains of decisions" (Farías, 2015, p. 282). As such, they are an important element in enhancing the capacity for creation other than through design-specific cultural capitals (such as through PHDs, see above) and they play a central role in rationalising and managing design production.

These utilitarian ways of being creative, however, sat somewhat opposite to narratives of creativity in design education (see also Julier, 2017). This was an empirical issue and came through

in conversations I had with the two youngest architects in one of my teams: Emma was still in the stage of qualifying as an architect (RIBA Part 3, see Chapter 2) and Michael had just fully qualified as an architect and had started to take on more responsibilities within his team. Both of them were explicit about the discrepancy between the notion of creativity perpetuated in design education and the way in which it "really" worked in practice:

> At uni, you're not taught "this is how you do it." You're taught to think about these broader issues and find your own position on a scale. (…) It's not engaging the real world (…). (…) It's all imagination, you just make up your client. And if you want this and your client wants a big window there because you want a big window there, you know, you're not tied to that. It's a dream world and then back to the real-world constraints. (Michael, 07.10.2014)

> And (…) also at uni, the positions are often more theoretical anyway, a lot easier to go towards a sculptural building (…). (…) it is the beauty of this one building and I don't think they even take into account the contents of that area. It's just this piece of land to make something pretty on. (…) But I do think it is like that at uni because it's a hypothetical situation. (…) [Y]our engagement with whoever is using it is a lot less real. (…) If you are in architecture at uni you've got a piece of paper and you just do whatever you want. And then in the real world it's a tiny little box to make the same design in and make it work. But just with (…) a lot more things to manoeuvre around. (Emma, 07.10.2014)

The criticism that spatial design pedagogy rests on a narrative of hyper-creativity and spatial artistry vs. the practical realities of creative-commercial work is something Emma and Michael share with some of the architectural scholarship (see above and Chapter 1; also L. McCormack, [2005]). But rather than struggle with an ideology of architecture as art (see Cuff, 1992), they were quite matter-of-fact about the difference between design education and design practice. Here, the former, as Emma said, is "more theoretical anyway" (Emma, 07.10.2014). This illustrates that doing design in practice is about being creative in a *pragmatic* way. We may relate this directly to the "pragmatist thread" holding the framework of this thesis together (see Chapter 1): in design practice, contextuality (e.g. what is feasible in the context of particular briefs and regulations) and agency matter (e.g. what does the client want; what do we want?). Both play an important role in analysing how design projects are put together. At the same time, design actors themselves

pragmatically go about navigating the constraints that may impose themselves upon their creative-conceptual freedom. For StudioFour actors, doing their job as designers meant to be able to be creative despite real-world restrictions (which often were rooted in commercial dynamics) and often entailed finding creative solutions for pragmatic problems.

This navigation work requires particular knowledges and skill. For example, the ID team was working with many well-known hotel operators to design hotels (both architecture and interior design). Many of these operators had so-called "brand guidelines" which outlined the aesthetic, spatial and material standards that were expected in the hotel design, ranging from the height and layout of the rooms, to the design of the façade and the selection of materials for the interior and so on. They were,

> a way of controlling your design (…) if you're building in Africa and in Asia and people say, "Well, we need to build a room that's only this high." You need the brand standards that have been written, which have actually informed the contract for operations. (…) If you went to an Ibis or a System M or one of these guys, it's absolutely rigid and strict. And you go to System M down at Southbank by the Tate Modern, you'll see that's pretty much identical to the one in Amsterdam or all the others which are happening. (George, 28.10.2014)

At StudioFour, being pragmatically creative when working within brand guidelines meant to know precisely how to design (and be innovative) within these brand standards while also being aware of all of the other constraints that are part of doing spatial design, ranging from cost concerns to planning restrictions and a whole range of technical standards. For example, the hotel design that was subject to the design review was designed along such brand guidelines. Here, StudioFour's team put specific effort into designing the building's façade according to the style of this particular hotel operator.

Figure 16: Façade and elevation studies in the context of branding guidelines and an example of an existing building by the same operator (source: courtesy of StudioFour, 2014); *due to copyright protection, this image cannot be shown*

Whereas for the untrained eye, these two façades look almost identical, there were distinct differences. This left a bit of room for the designers to be creative within the constraints of the brand guidelines. For example, as the image above shows, this could be a difference in pattern of the façade or in the distribution of the windows (which could affect the amount of light coming into the individual rooms) as well as the material chosen for the façade.

Michael and Emma were very clear that discovering and claiming these pockets of creative autonomy while remaining pragmatic was something they learned "on the job":

> [Y]ou need to learn to apply it. (…) So, I just did my degree but to learn to apply all of that thinking into real world content just takes a lot of time (…) to get to the point that you can do something if you wanted to. Like we were looking downstairs there for example and saying, "I want to do [this but] it still needs to be within the budget to clients". So, you knit and develop that up from the bottom again. Slowly I think. (…) Yes, just slowly, get a feel for it. (Michael, 07.10.2014)

That is to say the empirical issue here is not about ensuring art or the maintenance of artistic freedom and single-authorship of spatial products but rather about the way in which the mundane practices of spatial design merge creative and commercial concerns. Michael and Emma hoped that learning how this was done in spatial design in general, and at StudioFour specifically, would enable them to be "reflective-in-action" and "deal well with situations of uncertainty, instability, uniqueness and value conflict" (Schön, 1983, p. 50, 54). However, this interpretation of design should not be read as a dismissal of the issue of (self-)exploitation among junior designers as raised

by creative industry and design scholars through the labour discourse (see Chapter 1 and introduction to this chapter). Self-exploitation, certainly, was also an issue at StudioFour. To gain professional experience, Emma and Michael put in very long hours to complete their project tasks. And, when working towards a deadline (e.g. for submitting a planning application) many of StudioFour's designers also came in on weekends to work (not least because getting all of the materials together for a planning application or a big presentation was dependent on a range of other collaborators and their work patterns). For Emma, work experience was particularly crucial as she had to gather 24 months of practical work experience to fully qualify as architect (see Chapter 2). However, Emma and Michael were employed on permanent contracts and benefitted from relatively secure economic conditions (such as a stable salary) and did not have to be self-employed workers as it is common in a lot of other creative industries and areas of design. In fact, even though "cash flow is the number one reason why architects go under", Michael stated that even when not being paid on time for a job, StudioFour was able to "absorb it because we're being paid for other projects at the same time" (Michael, 30.09.2014).

Conclusion

This chapter has investigated how StudioFour rationalises and stabilises their organisation and production processes in the context of having to bridge creativity and commerce. It was premised on the (non-)separation of creativity and commerce being an empirical and not a theoretical issue: it is a central element in how the actors organise (spatial) design in the studio context and beyond. The discussion has taken as point of departure the double meaning of practice or practice-as-entity (Shove, Pantzar & Watson, 2012), which can signify both *a* practice (as in a studio) as well as the profession more broadly. Both interpretations emphasise the doing between people and both have to be stabilised through "recurrent performance by real-life practitioners" that are "shaped by and constitutive of the complex relations – of materials, knowledges, norms, meanings and so on – which comprise the practice-as-entity" (Shove, Pantzar & Watson, 2012, p. 13).

In the studio context, stabilisation focuses on balancing out creativity, commerciality and different aspects of space. Here, flexibility, contingency and deliberate destabilisations provoke "epistemic dissonance" (Farías, 2015) and form an integral part of enhancing creative production and navigating spatial design's distinct commercial environment. StudioFour's design rhythms and work routines reflected this: the regulatory frameworks that had bearing on the contractual

arrangements between clients and the studio formed the basis of the flexible work patterns of designers as "fee-earners". Furthermore, the "breadth of heterogeneity" that is "distinctive about the design studio" (Farías & Wilkie, 2016b, p. 29) was utilised in StudioFour's design organisation to keep up with new market dynamics (such as the growing importance of visual representation in project work) and facilitated the flow of expertise across teams. As part of putting organisational flexibility and fluidity to work as stabiliser, StudioFour had also established routines that aimed to develop and maintain social capital in the form of personal and institutional contacts and to build up designers' cultural capital (Bourdieu, 1986) to enhance skill for creation. This happened particularly through the so-called "practice half-days" (PHDs), which were set up to maintain a sense of (comm)unity across all teams and the two StudioFour office spaces. The stabilising effect of these creative-commercial routines was reinforced through a myriad of administrative and supportive roles and managerial responsibilities of senior design staff. These emphasised the role of non-designers in spatial production. Furthermore, individual skill sets and professional trajectories (for example, as interior design specialist) build on spatial specialism that is developed off the back of project experience. This, then, entangled with the strategies that were deployed to stabilise StudioFour as commercial-creative-spatial project (i.e. building on past project experience and skill to pitch for new projects).

StudioFour had put in place several processes that rationalised and strategically stabilised design production in the context of volatilities of both the market environment and spatial projects as such. Here, the role of "business development" focused on securing a steady stream of new projects and building StudioFour's reputation as a "sound practice". At the same time, volatility in project temporalities challenged a smooth production process by causing staffing complications. These were managed through weekly discussions of staffing and by circulating designers between projects, which was also an instrument to build up designers' competencies. In addition, a set of rules that rationalised the production process and organised information was set up and enforced. Within that, StudioFour balanced out being creative and productive through provoking moments of contingency and uncertainty as part of providing space for creative freedom in an orderly way. Here, working with "precedents" and engaging in "design reviews" were key mechanisms for provoking such moments. But at the same time, they also caused young designers to articulate a detachment between idealistic spatial design pedagogy (especially in architecture) that emphasises artist-like creativity over pragmatic concerns, such as cost constraints, which dominate professional practice. However, these designers also were confident that becoming a

spatial designer would mean that they would learn to be pragmatically creative on the job, finding pockets for being creative within design production.

The relationship between creativity and commerce in design practice brings about tensions which are recognised by analysts and practitioners alike. Based on the data presented in this chapter, however, it can be argued that practising design encompasses both creative and commercial concerns, imaginative and pragmatic considerations and translating conceptual work into more hard stuff like "production information". Looking at this interplay through the lens of the studio as the locus of design practice has provided a fruitful ground for understanding how spatial design actors interpret and enact their creative-commercial work. Furthermore, the vignettes discussed in this chapter also show that some of the work of architecture and spatial design is uncreative and laborious (see also Deamer, 2015b) as well as restrictive. This systematization of creative practice, however, is not an issue for design practitioners, it is part of their job. Here, the pragmatist (and contextual) approach to design has revealed that design practice is a lot about being able to adapt to changing circumstances, which always entails both involuntary and deliberate contingencies that form an integral part of how creative work is organised. At the same time, the focus on real-world design contexts and conditions has shown how designers *pragmatically* make sense of their professional practice and keep up their work-flow.

While this chapter has looked at the stabilisation of design organisation and design production, the next chapter will turn to how concepts serve as both products and processes of spatial design.

Chapter 4

Concepts as Processes and Products of Spatial Design

What we're drawing here is an experience.
(George, 28.10.2014)

Introduction

As "a *conceptual* or mental activity" (Parsons, 2015, p. 9; emphasis added), and much like most other creative professions, spatial design centres on producing concepts. The essence of spatial design work is to develop and materialise conceptual (and in that sense pre-material) space as product. In this process, "the concept" (which StudioFour designers also referred to as "design concept") plays a fundamental role: it functions both to determine and to articulate shared understandings of a future space and to leave enough room for negotiation and adaption. At the same time, concepts manifest different knowledges and work as strategies that organise, rationalise and discipline different actors and practices and, therefore, "participate in a metafield of cultures of knowledge, negotiating not only what is known, but ways of knowing, how, and by whom" (Drazin, 2013, p. 42). They facilitate necessary iterations and have political, organisational and resource-related, as well as disciplinary and legal dimensions. This bears a strong resemblance with Star and Griesemer's (1989) definition of "boundary objects"[38]:

> Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual site use. These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is a key

[38] See also Julier (2014) for a discussion on designed artefacts as boundary objects (pp. 232-233).

> process in developing and maintaining coherence across intersecting social worlds. (Star & Griesemer, 1989, p. 393)

In StudioFour's design processes, concepts were substantiated via a range of materialisation processes that, on the one hand, sought to generate the "common structure" that made them "recognizable (…) across intersecting social worlds" (Star & Griesemer, 1989, p. 393), and on the other hand, helped designers to qualify and calculate their imaginative work. In their most common form, concepts materialised as a collection of documents that functioned much like reference books defining a future space by outlining its shape (via drawings, plans and visuals[39]) and material make up (specified through precedent images, photographs of materials and later material samples).

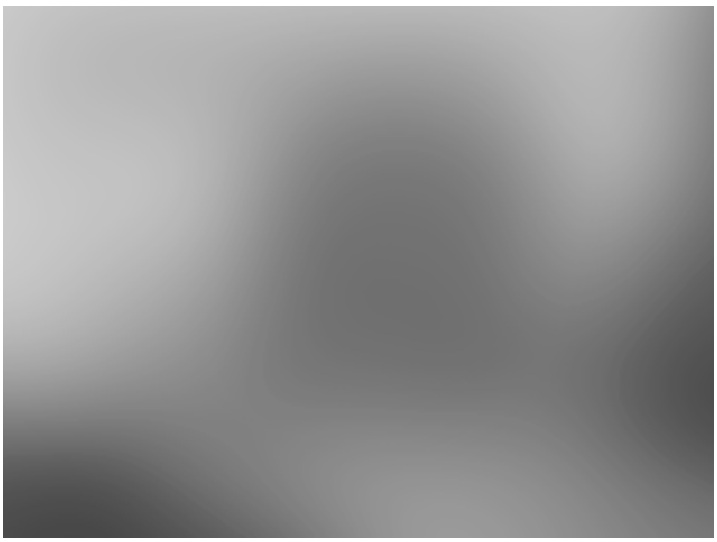

Figure 17: Building shape proposal for a hotel in concept phase (source: StudioFour website, 2017); *due to copyright protection, this image cannot be shown*

[39] A visual is a word most StudioFour designers used for CGIs, i.e. computer-generated images that give a "real impression" of a future space and are very detailed.

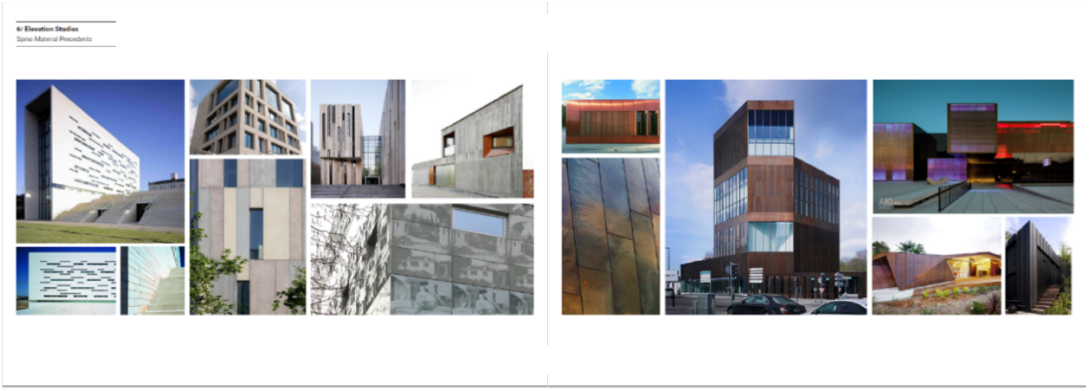

Figure 18: “Elevation studies” in a concept document showing precedent images of façades (source: courtesy of StudioFour, 2014)

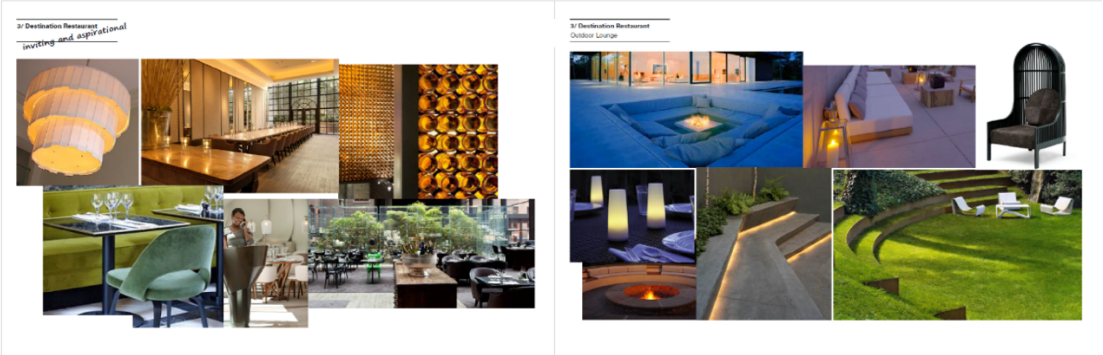

Figure 19: Images supporting the “design narrative” in a concept document (source: courtesy of StudioFour, 2014)

Figure 20: Plans of a hotel and restaurant plot and technical drawing for a “typical” guest room in an advanced concept (source: courtesy of StudioFour, 2014); *due to copyright protection, this image cannot be shown*

Figure 21: “Visual” of a restaurant interior (source: courtesy of StudioFour, 2014)

As the physical and conceptual fix of a future space, concept documents facilitate designer-client interaction. In this role, they are particularly important because spatial design is a design discipline that cannot work with prototypes. Unless a “mock-space” or a “marketing suite”[40] is built, concept documents simply are the closest it gets to a built spatial setting. This importance of concepts in design underlines their significance as the site and object of cultural production (see Drazin, 2013). But by the same token, it is a gateway to studying differences within the growing canon of design disciplines. In other words, we could state that the way in which different kinds of design practices deal with concept development is what identifies them. What is distinct about *spatial* design concepts is the centrality of atmospheres. StudioFour designers rarely, if ever, spoke about producing or designing space themselves, but about “creating atmospheres” or “experiences”. The notion of atmospheres, then, serves as an axis to curate meaningful assemblages of material, social, cultural and economic considerations that do the work of a boundary object in that they are “robust enough to maintain a common identity across sites” (Star & Griesemer, 1989, p. 393). At the same time, they can morph into atmospheric objects which are not only actionable for a

[40] A mock-space is usually used for large-scale interior design projects, such as hotels. Here, a room is outfitted with the respective design elements and materials so that the client can get a “real feel” for the space. A marketing suite is the same but for consumers who look to buy property “off-plan” (see subsequent section).

range of design actors, but that also help designers price the extensive imaginative work that is part of doing design.

The way in which designers deploy the notion of atmospheres for making concepts work as boundary objects diverges from much of the current scholarly debate on atmospheres, even though the term has a longstanding tradition in social science research: Kant (2011 [1790]) elaborated on "the sublime" and Benjamin (1977 [1936]) spoke about "aura" in his work on perception and authenticity. Newer works on the topic are infused with philosophical thought and emphasise the socio-spatial aspect of atmospheres. As eluded to in Chapter 1, an important concept of atmospheres is put forward by Böhme (1993, 1998, 2006, 2013) who describes design as "aestheticizing" or "tuning" spaces which become "tuned spaces" that are "quasi-objective". Such an understanding emphasises notions of phenomenology and perception (see Merleau-Ponty, 2013 [1945]) and the "being" in the world (Sloterdijk, 2011, 2014). This resonates with two streams of research on atmosphere. On the one hand, with spatial research and architectural scholarship that has discussed atmospheres in the context of built space (or place) and the senses (see Bille & Sørensen, 2016; Blum, 2010; Griffero, 2014; Pallasmaa, 1996, 2009, 2014; Stewart, 2010; Zumthor, 2006). And, on the other hand, with social science research, and particularly cultural geography, that has increasingly focused on questions of emotion, embodiment and space, especially in the context of "affect" (see Anderson, 2009; Bille, Bjerregaard & Sørensen, 2015; Edensor, 2012, 2015; D. P. McCormack, 2008, 2014; Rauh, 2017; Thrift, 2004). Atmospheres have also been discussed as part of the "weather world" that surrounds us (Ingold, 2010) and therefore as not only fundamental to everyday life (Thibaud, 2015), but also as having subconscious powers (Borch, 2014; Kraftl & Adey, 2008). Edensor and Sumartojo (2015a) expand upon this scope and call for a focus on "the ways in which atmospheres are designed by a range of affective and sensory engineers" (p. 251) to provide discussions on how atmospheres are co-constituted in actual settings (e.g. in commemoration events or the home)[41].

What cuts across these works is a focus on actual atmospheric settings as unit of inquiry. When spatial designers talk about and engage with atmospheres, however, they are focused on processes of planning atmospheric experiences for the future. Little research has been conducted into this kind of making of atmospheres and has instead focused mostly on interior design (see, for example, Sloane [2014] and Whitehead [2017]) and on architects' use of digital technologies

[41] For an expanded discussion on this, see the Visual Communication Special Issue "Designing Atmospheres" edited by Edensor and Sumartojo (2015b).

and visualisation strategies (see Rose, Degen & Melhuish, 2014; Degen, Melhuish & Rose, 2017). The latter is an important empirical contribution and has advanced the theorisation of visuality in design practice, but, as argued in Chapter 1, has given too much attention to the framework of the "experience economy" (Pine & Gilmore, 1998, 2011) which deploys a market-centred narrative of creating atmospheres as method for sensual manipulation in the context of consumption (see also Mehmetoglu & Engen, 2011). This is no surprise, given that business administration scholars have traditionally linked atmospheres to consumer experiences in the context of marketing and sales, specifically for retail environments (see Biehl-Missal & Saren, 2012). More recently, this has evolved into "neuro-marketing" which traces the neurological processes of buying decisions and sensual stimuli in consumer situations (see Reimann & Weber, 2011; Walliser, 2012; Wells & Foxall, 2013). The point here is that a discourse that explores the making of atmospheres via "sensory engineering" and through a lens of the "experience economy" resonates with an important argument of the affect discourse: namely that atmospheres may exert subconscious powers, such as feelings of seduction (Allen, 2006) or security (Adey, 2008, 2014). Here, the focus is on the atmospheric experience as a unit of inquiry to argue *that* (affective, sensory) power is exercised. There is less insight into *how* and *why* this may derive from human agency and processes of design.

Therefore, the discussion in this chapter is premised on the significance of investigating *how* the affective/atmospheric qualities of a space are configured in spatial design, particularly in concept development. The focus is on the sets of agency that come to bear in concept development where designers materialise atmospheric ideas which serve as spatial product. Concepts are built on the theories, ideologies and agencies of design actors while also serving as strategic tools in the design process (e.g. to help generate value for clients, manage uncertainties and organise work). This has a range of analytical implications for how we can think about atmospheres and concepts. First, concepts do not and cannot equal atmospheres. They are two different things, even if designers may deliberately blur this line. Concepts help designers articulate and materialise atmospheric qualities of a future space, but they are also plans in a much broader sense. They must be enacted and negotiated while encountering a wide range of conditions and mediations. Commodifying atmospheres is a crucial fixing point in that process, but it is not the only one. This, second, prompts new questions around aesthetics, mediation and power in design practice. Here, looking at how concepts are developed in processes of design can generate a more nuanced insight into spatial atmospheres that extends beyond interpretations of atmospheres as simply exercising affective power.

Developing Concepts

During my time at StudioFour I learned that atmosphere design and concept development are profoundly relevant for the actual spatial setting. As Emma told me: “it’s just, you know, how you go into a space” (Emma 07.10.2014). It also frames the part of spatial production that firmly rests with the designer. Here, coming up with and safeguarding the integrity of a spatial concept helps spatial designers to distinguish themselves from other professionals involved in the building project and to assert the relevance of design, despite the growing division of labour in the industry (see Chapter 1). Therefore, not to “compromise on the design” (field notes, 09.07.2014) was very important to the designers. Charlie exemplified this one day as we stood in the office. He pointed out of the window to a newly built tower in the distance which looked like a woven basket but gave a monolithic impression as it was painted grey (see photo below). Charlie’s interpretation of this building was that the responsible designer got “quite a bold structure approved” but then some stakeholders wanted to tone it down, which was why it got painted grey and now was a “compromised design” (field notes, 09.07.2014).

Figure 22: The basket building, a “compromised design” (source: author’s photo, 2014)

To avoid having to compromise on their concept, designers work hard in concept development to get everybody on the same page. This work starts in the first phase of a spatial design project, called the "brief" (in the RIBA Plan of Work 2013, it is defined as stages 0-1), and then evolves further as the project moves into the concept development phase (RIBA stage 2: "Concept Design"; see Chapter 3). Within the brief, designers learn about the client's needs, expectations, visions for a project, background information (including information on the town planning background and budget information) and what they are expected to deliver. During my work with StudioFour, I learnt that despite the guidance and regulation from RIBA through the "RIBA Plan of Work", both form and content of a brief can vary enormously. It can be a meticulously compiled briefing document, or a simple phone call – and anything in between.

Official Briefing Documents and Tacit Knowledge

At StudioFour, concept development very much depended on being able to filter key information out of the various briefing situations the designers were confronted with. The following vignettes illustrate how different these briefings could be and what kinds of different reading strategies they required.

On one of my very first days at the practice, Charlie showed me an official briefing document from a London council for a new development at a riverside. We had spoken a lot about how he and his team generally approached a new project and he seemed keen on showing me a document which he had found particularly helpful as some sort of best practice. The said document, he explained to me, was "very good, because it gives the history as well" (field notes, 28.04.2014). It was clearly structured and gave extensive context for the planned development scheme, touching upon a whole range of different aspects from "site history and archaeology", to "community context", "existing land ownership and current uses", "transport connections" and so on. Furthermore, this official briefing document situated the proposed project in a distinct policy context that defined "regeneration" in terms of "business", "employment" and "community regeneration" (in that order). This was followed by many pages of "development principles" which gave details on the scale, height and massing of the development and also outlined different "strategic goals", such as: "A high quality urban regeneration scheme for a mixed use, employment-generating development" or "Establish a coherent urban structure on the site enhancing the connections

with the surrounding communities"[42]. The briefing document was filled with site images and drawings detailing the plot and had lengthy appendices containing policy documents. Charlie would read all this against the backdrop of his wider planning policy knowledge:

> [A] lot of local authorities have their big plans, sort of long-term visions for an area (…). That's their vision for creating policy. So that when a developer comes forward, with any ideas, they can look at their policy to look at if it meets their policy. So, we, as the designers, (…) are always looking at (…) the planning context as well. (Charlie, 01.04.2014)

What he means by this is that reading a briefing document and translating it into some workable information for design requires a tuning into the political and policy sentiment of a local council – and the briefing document is key here. In that sense, a briefing contains not just a design task (i.e. *what* should be done), but also a rationale and wider context (i.e. *why* and to *what ends*). Being able to read briefings in their particular context and to bring this information to bear in the design process is an essential element of spatial design practice. Often, this context is policy-centred. Here, StudioFour designers showed extensive knowledge on current planning policies and strategies (which, in London alone, can vary significantly from council to council). Charlie explained this to me in the context of London:

> So, you've got the London plan, if you know it? You have to read the London plan. What that does, it gives a London framework and then each council has their own framework. So, we very much look at those for an area. (Charlie, 01.04.2014)

However, part of being creative in spatial design practice would equally involve "breaking" these frameworks to put forward a novel idea:

> So, there are lots of strategic documents that are very, very good… sort of master plans pulled together for organisations that then create the policy and the framework within which we operate; or try to break…. Or have good argument to break. (Charlie, 01.04.2014)

[42] This information has been directly sourced from the original briefing document which is freely available on the council's website. However, due to concerns of anonymity, it cannot be quoted here as it would reveal the site and the identity of StudioFour.

Clearly, briefings and briefing documents are not just about conveying information. They are an essential part of design practice (especially as they often replace a site-visit, at least in the early stages of concept development) and are integral to the ways in which spatial designers construe and perform creativity.

However, not all briefings manifest in meticulous documentation. They can derive from informal conversations, industry expertise and what Polanyi (2009 [1966]) calls "tacit knowledge". This became clear in one of the smaller projects I followed which was about producing a "design manual" for the refurbishment of a series of offices for "sort of trust fund investment clients" (Emma, 07.05.2014). This design manual the client would "then take and say, right, every single building will be refurbished to this standard" (Charlie, 07.05.2014). For this project, there was no briefing document as described above. Charlie had known the client from "way back when" (Charlie, 07.05.2014). This longstanding relationship and his knowledge of this client enabled him to derive enough information to kick off the design process. He explained to Emma, who was tasked with developing a first conceptual idea for this project:

> [The client] is very interested in something a little bit, but not too, splashy in colour, but a little bit bolder than the standard flat grey stuff (…). So, this is a process that we're going to go through. (…) We need to engage with her and see whether or not it's something she wants to have. That's on a typical floor-plate. In the bathroom areas and the reception areas, I think we should have different options for (…) limestone, or ceramic tile, or (…) carpet. (…) You know, I'm not sure whether she would want to have wood (…) going forward (…). (Charlie, 07.05.2014)

Charlie, here, translated what he had learned from his conversation with this client into design requirements. This translation was facilitated by his professional experience in engaging in these kinds of discussions with clients. However, his instructions to Emma were more descriptive than definitive – "something a little bit, but not too, splashy in colour, but a little bit bolder than the standard flat grey stuff" – it was difficult for him to articulate what he knows about what the client wants. In other words, Charlie knew more than he could tell. His methods of deciphering and translating client needs into design briefings were based on his tacit knowledge (Polanyi, 2009 [1966]) as a creative-commercial actor.

But what also shines through in this conversation is the deliberate flexibility Schön (1983) describes as integral to any profession: "We need to engage with her and see whether or not it's something she wants to have" (Charlie, 07.05.2014). Because Charlie could draw on a substantial amount of design-relevant tacit knowledge, it was not difficult for him deploy vagueness as part of reflexive and processual design in concept development. In that sense, we can consider this kind of tacit knowledge as an important building block of design-specific cultural capital. This is also underlined by the fact that for Emma, who was much more junior, such a reading was more difficult. The following dialogue is from a meeting between her and Charlie where she presented her early design ideas. This meeting was a rather rushed conversation, following a much longer meeting with a bigger group of people on another project. All day, Emma and Charlie had tried to find a time to discuss what Emma had come up with. Briefly staying on after the longer meeting seemed the only opportunity to have that conversation, since, as always, everybody was incredibly busy with different projects and deadlines. This meeting between Emma and Charlie only took about ten minutes, but it was key for Emma to learn more about the client's needs:

Charlie: [T]his is a proper design manual rather than a pitch, we're being paid to do this. So we (…) what we need to do is, I think firstly, we look at three or four different types. And what we've done is, we've launched into one solution, across the board.

Emma: Yes, definitely. Yes, yes.

Charlie: And that may not be the right solution.

Emma: Okay.

Charlie: So, what I would do is find three or four typologies, different designs for reception areas that we can pop up, and say, "Okay, one's a very much a limestone and glass. One's a timber led orientated approach" and whatever else you can find.

Emma: Okay, yes.

Charlie: So, I think what we need to do is to start the design process…

Emma: At that point.

Charlie: At that point. Rather than launch a solution for it, because we haven't got to that point yet.

Emma: Okay.

Charlie: So the fallout of everything that you've done here is a solution, and I think we're missing a step. (…) There's so much here, that when we talk about

> colours and palettes and furniture, they should always refer back to the base vision that we have. (…) So, maybe stress less about the components at the moment, and get the concept clear.

This conversation reveals several aspects of design practice. First, it indicates the pragmatic approach designers take when doing creative work. It shows that concept development is not just about producing a solution right away, but about approaching design as an *iterative* process (see also Kimbell, 2012). This organises and rationalises design work. In this case, through defining "three or four typologies" to find "the base vision" and "get the concept clear". Concepts, then, fundamentally work as boundary objects (Star & Griesemer, 1989; Star, 2010) in that they are "weakly structured in common use, and become strongly structured in individual-site use" (i.e. Emma moving from an informal briefing situation to a canon of more refined approaches) and, most importantly, work as a "means of translation" (Star & Griesemer, 1989, p. 393). Second, this vignette illustrates how internal power relations that are characteristic for a design studio can complicate said pragmatic approach: as a junior designer, Emma did not have a "client-facing" role, she would usually not have direct contact with clients. And yet her task was to develop conceptual ideas to solve a specific client problem without any formal brief. Here, not only did she have to rely on Charlie to obtain the relevant information but also building her own set of tacit knowledges (specific to concept development, i.e. knowing what a client needs) took a lower priority than Charlie's maintenance of his social capital (i.e. personal links with his long-standing and valuable business contact).

Negotiating Needs and Signing Off

During concept development, the relationship and the line of communication between designers and clients take centre stage. In that sense, concept development is an inherently social process that extends far beyond the design team and the studio and has organisational and resource-related consequences. This shows particularly in the way in which designers work toward understanding and negotiating client needs. Here, an important aspect of design skill is to be able to engage with heterogeneous clients while simultaneously moving the project forward. As this vignette shows:

Melanie, a designer who was circulating between different StudioFour teams, told me about a project she had been working on for a while. This project, entailing new offices for a small family business in the outskirts of London, was of such a small scale for StudioFour that, under normal

circumstances, they would never have taken it on. The client were two brothers who owned a business and needed a new head office. Melanie told me that they had cycled around London, looking at office buildings, and learned that StudioFour had designed most of the buildings they liked. Eventually, one of the brothers rang up one of the founders of StudioFour and asked them if they could design their new building. StudioFour was originally very hesitant to embark on this project as it was too small to be commercially interesting. However, the brothers were persistent and the founder liked the story of the brothers cycling around London and admiring StudioFour work, so the firm finally agreed to take on this project. For Melanie, however, it was a practical challenge that the two brothers were not a professional client, which "delays everything" (field notes 12.06.2014). For example, Melanie's steady progress with concept development for this project was challenged by the fact that the two brothers did not know much about current building regulation (such as for bin storage), so she continuously had to explain why certain spatial arrangements were or were not feasible. In other instances, they would push for a certain colour of paint on the fence which in Melanie's eyes did "not fit the overall design" (field notes 12.06.2014). Furthermore, the two brothers were not professionally organised as a client unit, but acted as individuals. Melanie told me that they appeared to have very different understandings of their design problem and the input StudioFour received from them varied depending on who they dealt with. One brother was very "design-y" and the other one "very practical"; one wanted StudioFour to follow through with their design whereas the other was keen on cost-engineering it (field notes, 12.6.2014). Melanie said that, on the one hand, she enjoyed this close relationship with a client because she "learns a lot", but on the other hand she had to spend lots of time "holding their hands" and organise her own work accordingly (field notes, 12.06.2014). Because the brothers could not nail down in a professional brief what they wanted from the design team, it was up to StudioFour to help them figure out what their needs were while also educating them about important regulations and the feasibility of design ideas and adjustment against the backdrop of design coherence and budget restrictions.

As a fundamental process of design, concept development is of a heterogeneous nature and evolves around the manifestation of complex and changing social relationships (Drazin, 2013). As the preceding vignette has shown, "the client" is a heterogeneous entity that is constrained in various ways and it is the role of the designer to work with the possibilities and restrictions arising from that. Ted, one of StudioFour's directors, explained to me:

> [D]ifferent factors make up the client team (…) and increasingly, we are also working through other people for the end client (…) so quite often [we work] with the project

> manager or the contractor (…) They might be given very narrow fields of constraint that they are to work within, one of which is the budget, of course. The other one is the timing and then (…) what kind of building will be accepted in terms of urban planning (…) I think the most important thing is always trying to get to the bottom of the brief. (Ted, 26.02.2015)

This depicts both the complex set-up of the client and a range of design constraints (time, money and policy), all of which must be navigated in concept development. This, however, does not solely rely on information that comes in through documents or (in-)formal briefings. What Ted meant when he said "the most important thing is always trying to get to the bottom of the brief" (Ted, 26.02.2015) is that spatial designers have to deploy an array of methods and strategies to simultaneously help clients define their (design) problem and develop a solution for it. This is "a huge communication thing" (Michael, 20.01.2015) and forms a core element of spatial design work. Within that, tacit knowledge about working out clients' needs and extracting relevant information for moving forward with the design process forms an important part of design-specific cultural capital.

Acquiring this cultural capital was a continuous process at StudioFour. It was not only characterised by dealing with time, money and policy restrictions, as Ted described above, but also by dealing with (spatial) visions of clients. How these visions play out in practice became particularly apparent in one of the ID team's projects. This project, a hotel project in Australia, was one of the main projects I followed during my time at StudioFour. It was a development just outside of a major city which was planned to be comprised of a hotel, a conference centre and a big flagship restaurant. The initial vision of the client, in this case a corporate developer, was to focus on the restaurant as a "flagship restaurant". The rationale behind this was that a restaurant would be a viable centre piece of this development because the respective city was perceived as a very "foody" city. To make the restaurant space commercially viable, the client set out to build the hotel and conference centre around the restaurant. StudioFour built on this clearly articulated vision and developed a concept that saw the restaurant as the heart of the whole space, taking up a significant amount of the total volume. Then, one day, as I sat in one of the weekly client calls, the client revealed a sudden and significant shift of spatial priorities. Even though they had been very keen on emphasising the restaurant, they had unexpectedly concluded that this plan was no longer commercially viable because of the (spatial) distribution of different social activities (hotel, restaurant, conference space) in relation to generating income per square metre: conceptually

placing the restaurant at the heart of the space would not reflect how much income it could generate per square metre. In other words, to subsidise the restaurant, the conference centre had overtaken the restaurant in size and design effort. Therefore, the client decided that the full conceptual focus should be on the conference centre and not on the restaurant, so the two priorities were swapped. This sudden "changing a brief on the go" (Ryan, field notes 24.07.2014) meant that the initial concept had to be revisited. For StudioFour, this generated substantial amounts of new work, especially because the client was keen on keeping with the original schedule despite the changes. The logistical consequence of this was that StudioFour had to go back and re-negotiate additional pay for additional work (see also beginning of Chapter 3 for details on contracts).

At another point in time, the same client had trouble "signing up an operator" for the hotel, conference centre and restaurant. "Operators" in the "hotel and leisure" sector usually are companies that routinely run hotels and/or restaurants under their brand name, such as hotel chains. This issue brought the project to an almost complete stop, forcing StudioFour to pull assigned designers from it and to allocate them elsewhere. Subsequently, the client signed a contract with a hotel operator but not with the one that everybody had anticipated. This had far-reaching consequences for the design concept because now StudioFour's design had to incorporate the brand guidelines (see also Chapter 3) of this new operator. As a result, the project picked up pace again and it was "all hands on deck", as it were. Here, as part of the concept development, StudioFour had to respond to the changing spatial visions of their client, not only creatively, but also logistically. Despite these challenges, the core concept, the shape of the building and the layout, prevailed.

This vignette points back to the significance of understanding concepts in (spatial) design as boundary objects: the concept helped to maintain coherence across these contingencies because it facilitated (spatial, commercial, conceptual) change and adaption while maintaining "a common identity across sites" (Star & Griesemer, 1989, p. 393). Consequently, we must recognise concepts as boundary objects and boundary objects as crucial for spatial production. However, as part of commercially stabilising spatial design in the context of these contingencies, the process of concept development also had a disciplinary and legal function to cope with situations like this. As described earlier, the RIBA Plan of Work outlines project stages and every stage is formally completed with a so-called "sign-off" where clients approve what has been delivered for each stage. The "Concept Design" stage (RIBA stage 2) is about developing "really just a broad idea, and

showing how, you know, having agreed the brief" (Michael, 15.02.2015). At the same time, it articulates an agreed schedule of actions, deliverables and so on. As Michael explained:

> [T]he brief develops through the concept design until you get to the point where you've kind of drawn something, they react to it, whatever is not right you change it, you go through the process until the point, oh yes that captures what we need. And you kind of sign it off and say we're going to design that off in a bit more detail (…). (Michael, 15.02.2015)

What is crucial, here, is the term "signing off". It refers to the client approving the work completed for a milestone/project stage, usually in line with what has been agreed contractually. Getting concept elements signed off, therefore, is legally consequential in design practice. It also affects planning resources and scheduling work (see also Chapter 3). In other words, it is for spatial production what Star and Griesemer (1989) describe as the "obligatory passage point" (p. 396). This passage point is particularly crucial if there are a lot of design actors and stakeholders involved. Emma explained such a situation in another project for which StudioFour had to coordinate with other designers and a very heterogeneous client group consisting of a range of stakeholders:

> [In the old design] there are a lot of lines, it is a really silly… and it just wasn't well designed. Like, it had the things in the places that they wanted it to but if they just moved walls around (…) so it has been a big process (…). So just trying to get that decided. They need to sign it yesterday or today. (…) Everyone needs to sign-off. (Emma, 07.10.2014)

Getting a design signed off is the designers' responsibility. Here, they have to pull all information together and liaise with all the actors involved. In other words, they take on an important mediating role in the overall design process. What has a particular significance in this regard is the sign-off by the planning authorities. This is because once a concept is approved by the authorities, it has a very explicit disciplinary function: building something that falls out of the lines of the approved design would be illegal. If significant changes (have to) occur, a previously approved concept can be amended and resubmitted for planning permission. However, this usually delays a project significantly and can increase project costs.

Signing off, furthermore, is of commercial significance for the practice because it usually gives the green light to issuing an invoice. By the same token, it gives designers leverage in potential conflicts. It helps them to charge additional fees for any extra work on the design concept beyond the sign-off stage (see also Chapter 3). Michael explained this in the context of a current project:

> With design work, you have design iteration so you make a first stab at meeting the client's brief with the design. (…) You get to a point where you are both happy with it. You sign it off and that sign-off point means you don't re-visit those elements of the design again. (…) [Y]ou get your planning permission and the client would be in agreement with the design at that point.
>
> [With this project] now we're into the next stage of design and they want us to revisit something before we signed off with them basically. They will say it's design development because it's just a change to the design that is already existing but it's moving something from a signed off position (…) So they request just little bits and bobs that they ask you to do. Which don't have huge implications on the design but they all take you three hours here, four hours there, a day's extra work there. Before you know it, you've lost two weeks of your time. (Michael, 30.09.2014)

In this context, designers must rigorously keep track of the completed work (see Chapter 3) as well as any changes they are asked to do post sign-off. Michael illustrated this:

> So, we track them (…) so that at the end, when they come back and say, "You haven't done this properly. You haven't done this properly." We say, "Yes, but we've done all of this for free for you". We list them all the hours of the extra work that we've done additional to the scope that they originally asked for. (Michael, 30.09.2014)

This shows that concept development is inextricably linked to formal and legally binding processes, but also works to achieve commercial stability and generate leverage for possible conflict later down the line. This legal dimension also derives from issues around liability in relation to the "performance" of materials and the need for production information to be impervious to prevent unexpected costs in construction (see Chapter 5). Here, informal agreements were as consequential as contractual ones: signing off a concept, for example, via an email had the same legal significance as a formal contract. At the end of my field work, I learned from Emma that one

of the main projects I had been following had been running without a formally signed contract, just on the basis of the legal significance of signing off:

> [I]t's so confusing, but we don't have an official contract with the client. We have emails, written information. (…) I mean, it's technically the legal definition of a contract, so it's fine, so we have written letter representation and they pay us, so, we're in a contract with them. (Emma, 10.02.2015)

In fact, not signing a formal contract and basing the job on a concept sign-off also was a strategy to manage the relationship with the client. As Emma contented:

> The client, I think, has been reluctant all along to have a contract. I don't know, I don't know. I'm not sure that all the directors would've made sure that happened. I guess it's like trying to manage your client relationship (…) (Emma, 10.02.2015)

This particular project unexpectedly got complicated and StudioFour was forced to put more hours into revisiting the design concept. In retrospect, the studio would have been in a better position to negotiate additional pay for this extra work had there been a formal contract that outlined "a very clear deliveries list" so "the company could negotiate more time and more money to do those things" (Emma, 10.02.2015). In other words, insisting upon formal contractual arrangements as opposed to informal agreements through sign-off would have put StudioFour in a better position to navigate risk and the obligations attached to design work. Thus, even if signing-off the concept is "technically a legal definition of a contract", it was not sufficient for the designers to make it work disciplinary in terms of claiming pay for additional hours. What this shows is that concept development, and the rationalisation and formalisations strategies attached to it, form the core element of spatial design work. Furthermore, not only does it help to organise creative-commercial work, it also helps to mediate the complex social relationships designers have to navigate and the regulatory requirements they have to meet.

Materialising Concepts

This chapter began with setting the scene for unpacking concepts as processes and products of spatial design. As discussed above, the development of concepts is characterised by getting to the

bottom of clients' design problems through the brief while maintaining a coherence in design as well as commercial stability. As discussed, this highlights the mediating role designers necessarily take on as professional problem-solvers. In other words, it underlines their role as cultural intermediaries whereby they act in commercial contexts and for economic ends. In spatial design, they deploy the notion of atmospheres to imagine future spaces and experiences based on practices of aesthetic distinction and theories of taste and culture.

Creating Experiences, Crafting Atmospheres

The notion of atmosphere is key for much of the imaginative work conducted in spatial design. It also has an ontological function in that it is fundamental to how designers approach and comprehend a future space. At StudioFour, thinking about a spatial concept was about "people, (…) about the way people live (…) and what they prioritise in terms of experience" (George, 28.10.2014). Theorising about the relationship between individual perception and spatial settings is key here. George gave me a detailed interior design example (a restaurant) of the importance of spatial experiences for designing:

> [Design and environment] crossover here, so one might enable the other, (…) the black narrowy jacket that the waiter's wearing is part of the environment although it's actually part of the service (…) those two things come together in equal experience. And *that* is what people care about. (…) [I]t all comes together to make an impression, (…), *the designed environment, which is the experience*, which is how you feel when you come in and how you feel when you leave. (George, 28.10.2014; emphasis added)

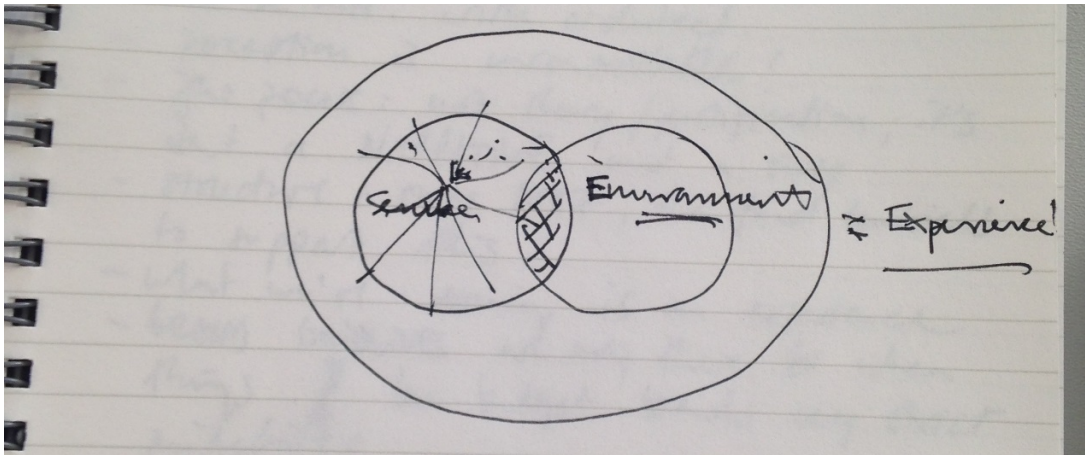

Figure 23: George's sketch in my notebook illustrating how he saw the interplay between service, environment and experience (source: author's photo, 2014)

George, here, underlines that "making an impression" that lasts beyond the immediate spatial experience is one of the most important aspects of his job as a designer. It, therefore, is deeply entangled with the concept. According to George, spatial experiences were so central that they would structure subsequent conceptual work "because you've described it to begin with in terms of the experience". Therefore, for George, there was no point in "seeing something nice and then post-rationalise it" (George, 28.10.2014). Spatial experiences formed the basis of the concept and were tied to its broader design narrative or story. This nexus of narratives and experiences would continuously evolve while determining subsequent design decisions, such as incorporating "materials to support that story" (George, 28.10.2014). In other words, the imaginative work that was conducted by thinking through a future space via experiences necessarily was unique to a design project. This clearly resonates with Böhme's notion of "tuned" or "aestheticized" spaces that are characterised by atmospheres as "quasi-objective" (1993, 1998, 2006, 2013).

Interestingly, depending on the team, project, or area of work, there was a different terminology and emphasis with regards to spatial experience. For example, projects that included interior design would articulate the atmosphere via stressing "the narrative" or "the story" while designers working on projects of a larger scale (such as in housing developments) would rather speak about "place making":

> [E]arly stages of design are about personal experiences and then all of the tools and techniques that we're taught bolted onto that. So, place making (…) is about understanding the people that will be occupying that place. And so that is defined, put in there in a sort of parcel somewhere on your drawing board (…) as a very important factor. Not only the client's brief, which may be very commercial, it may not be about (…) place making (…), they employ designers to unlock those issues. (Charlie, 01.04.2014)

Clearly, the notion of atmosphere/experiences/place making takes centre stage in the conceptual work of design practice. At the same time, understanding "the people that will be occupying that place" is a distinctive skill and responsibility of the designer, something only designers can "unlock" on their "drawing board". This skill, then, forms part of a design-specific cultural capital. Doing conceptual work in design entails much creative and imaginative work. At StudioFour, it was based on design teams doing "research" into the locality of a project, its history and culture.

George described this process to me by showing me the concept of a hotel his team had designed in Kazakhstan:

> [W]e did a lot of research into the country of Kazakhstan and there's a whole tradition of hunting with golden eagles (…) [I]t represents the enormous spaces and the untamed wilderness, so that's what the eagle became to represent. And there's also a very rich background of precedent that eagle feathers (…) so we (…) mix it (…) with the environment (…). What we're drawing here is an experience. (George, 28.10.2014).

Figure 24: Design reference of the wings of eagles on the building façade for the Kazakhstan project concept (source: author's photo, 2014); *due to copyright protection, this image cannot be shown*

"Research", here, has a particular meaning and takes a specific form. Designers mainly "do research" in terms of the geographical, spatial and architectural context and in terms of local culture, history, customs, objects, fabrics, colour schemes and so on. Because they are rarely presented with the opportunity to visit a place, especially during concept development, they are usually provided with some documentation by clients and largely rely on the internet for their research efforts. As Ryan explained to me:

> [S]ometimes with the site stuff it's common that you're provided with some information. Like a site plan, or something to start going and getting the design going, but you can then use Google and Street View and research the wider site, (…) the kind of cultural stuff, is just something where we'll just go off and look at books and read up on it, just do our own research. (Ryan, 27.08.2014)

What is particularly notable about this is that "doing research" and understanding "the cultural stuff" was a lot more gestural than it was substantial (which can perpetuate the dominance of Western-centric sensibilities in international building projects, see Degen, Melhuish and Rose [2017]). At the same time, it formed an important part of the imaginative work of spatial design: it was the backbone of a concept's narrative and scripted experience. However, it was not rationalised and tightly organised in the same way in which other aspects of design work were. When "doing research", designers mostly worked individually, doing online searches or looking at books and magazines, and discuss their impressions and ideas in so-called workshops later. In other words, they were freer in this aspect of their work, there was a shared understanding that the more diverse the ideas were that were generated during "research", the broader the pool from which concept narratives could be sourced against the backdrop of the brief. Methodologically, "doing research" was mostly based on visual material and techniques. Different kinds of images that were found online or in architecture and design books helped designers comprehend and materialise their conceptual work. As Charlie explained to me:

> [W]e tend to look at examples and use precedents a lot and when you come together, you just talk through normal language about what the space could be and should be used for (...) [I]t's about conveying ideas and we have visual techniques (...). (Charlie, 01.04.2014)

Part of these visual techniques is to materialise an atmosphere and assemble the researched images in the concept document (such as in mood boards[43], see below), usually to support the "design narrative" or "story". Sometimes, this content is subsequently used by the clients' marketing teams to sell the space to customers (whether future hotel guests or property owners). In these cases, the atmosphere as assembled in the spatial concept becomes an explicit representation of a certain lifestyle.

[43] A mood board is an "arrangement of images, materials, pieces of text, etc. intended to evoke or project a particular style or concept" (Oxford Dictionaries Website, 05.08.2017) and is commonly used in many different design practices.

Figure 25: Mood boards and design narrative from the Kazakhstan Hotel concept document (source: author's photo, 2014)

The significance of visual tools is not limited to images found through processes of "doing research", but extends into all aspects of design work. More specifically, it plays a vital role for forging conceptual elements into more tangible structures. Here, designers use a wide range of visuals as part of materialising concepts, such as precedents (see Chapter 3), mood boards, CGIs, sketches and drawings. At StudioFour, many of these were produced digitally while the office space was also filled to the brink with print-outs of these documents. StudioFour had even installed professional printers that could print in colour and on a large scale so that the designers were always able to get a more tangible version of their design work. However, one of the things that struck me right from the beginning of working with StudioFour was that most designers constantly sketched. The sketching, here, refers to hand-drawn visualizations of design ideas (e.g. for buildings or assemblages of buildings). In fact, no meeting went by without the use of pens and tracing paper, with no ideas shared and arguments made without being visualised. To me, it seemed as if designers were unable to articulate things without sketching them (e.g. on tracing paper onto an existing drawing of a building or just on plain paper to articulate the relationship between different materials). When I asked Ryan about the specifics of a particular façade design one day, he immediately grabbed a pen and sketched the difference in material and construction out for me.

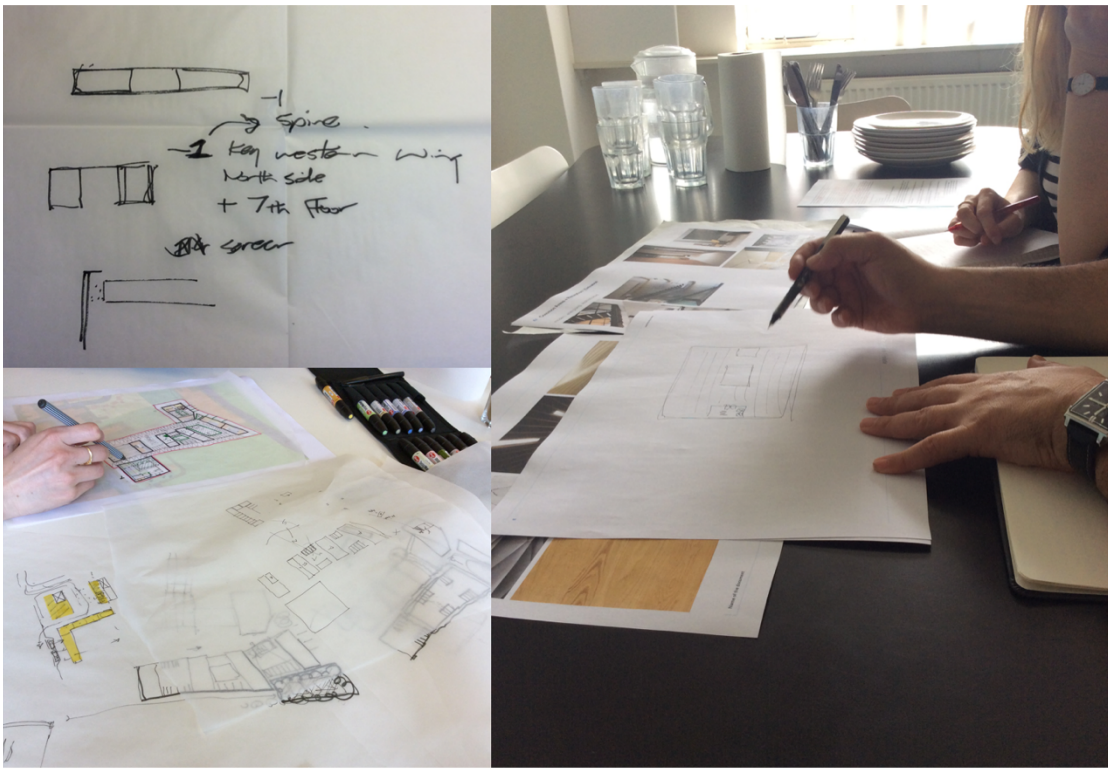

Figure 26: Ryan's rough sketch of a façade joint (upper left); Emma sketching in a meeting onto tracing paper against a drawing (lower left); sketching in a meeting for a design concept (source: author's photos, 2014)

Very often, sketches form the basis for a spatial concept. Some sketches even make it into refined concept documents and presentations. For StudioFour designers, sketching was a basic way of doing design and was "so much quicker" than using the computer (Michael 20.01.2015). Furthermore, sketches were something that "everybody can understand" (Michael 20.01.2015). In that sense, sketching is a way of "thinking with the hand" (see also Pallasmaa, 2009) and an integral part of the conceptual work of design as problem-solving. As Sennett (2009) reminds us:

> [T]he intimate connection between hand and head (…) [is] a dialogue between concrete practices and thinking [which] evolves into sustaining habits, and these habits establish a rhythm *between problem solving and problem finding*. (p. 9; emphasis added)

Clearly, designers use visual outputs as lingua franca and as important mediators (Farías, 2015) for creating atmospheres or the "virtual engineering of sensory experiences" (Degen, Rose &

Melhuish, 2017). They also serve as aide for collective work processes within the studio and beyond (Kimbell, 2011). Or, as Charlie put it:

> [W]e convey the idea through the use of imagery, and then people can visualise themselves in it (…) You very rarely produce a piece of text and hand it over to another designer. (Charlie, 01.04.2014)

Though future space users are the subject of these speculations, imagery in concepts usually is geared towards the client. In other words, visuality is important for interacting with the client, not just for problem-solving and interaction with other designers. Visual techniques play an important part in demonstrating the significance of designers' imaginative work and their competence in coming up with the *right* solution for a design problem. Visuality, however, is one tool amongst a few that designers use to materialise atmospheres in concepts. That is to say that the constitutive network of a concept extends beyond materialisation strategies that focus on the visual realm. At StudioFour, spatial sensualities were also materialised through the use of material samples (such as brick samples for a new façade, see photos below) or assemblages of material samples called "palettes"[44]: arrangements of material samples (of the materials that are suggested for the design) that follow the design narrative and usually are in tune with the mood boards. Designers put much effort into being as precise as possible about their concept and including "real stuff" via palettes into these considerations was essential.

[44] "Palettes", however, are mostly used for projects that include interior design. In these projects, a whole range of fine-grained material matters and respective samples can more easily be brought into client meetings.

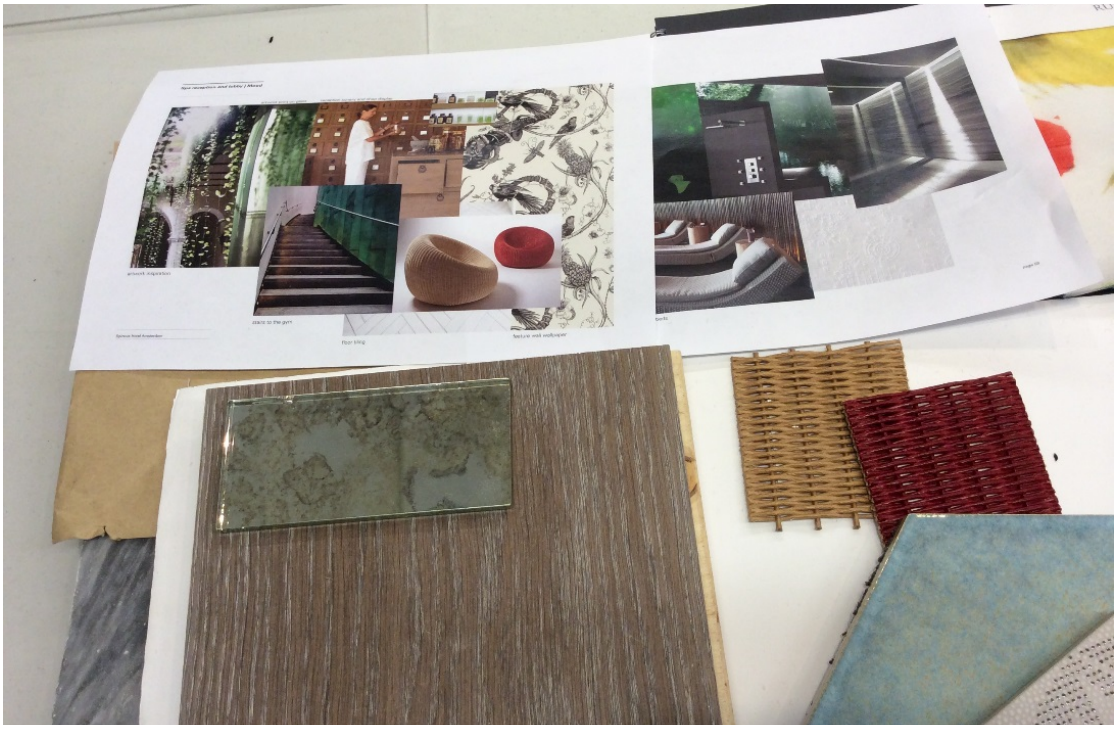

Figure 27: Concept documents with responding palettes for an ID project (source: author's photo, 2014)

Figure 28: Testing brick samples for new façade (source: author's photo, 2014)

Furthermore, the site-specific materiality and physicality of a location influences concept development. In other words, location research tends to have material consequences for a whole project. Charlie illustrated this through narrating the concept for a project based in a European city which used to have a thriving stainless steel industry:

> [The city] has many aspects to it, but one is that it's known for (…) stainless steel manufacturing. (…) So, I thought it would be (…) interesting to imagine the narrative of this building as an undulating, rolling landscape that I could see when I was standing on the site (…) And then I thought of peeling away the green turf, and then underneath, exposing the stainless steel; (…) because that's their industry. (…) [I]f you go to the stainless steel manufacturing factory or a workshop, you have these lathes, which when the lathes work, you get steel that spins off in spirals. So that's what I imagined the outside of the building to be like. (…) I'm un-peeling the building (…) and then underneath it I'm exposing stainless steel. So, this is stone; the outside is stone, and the inside is stainless steel, as a building concept. (Charlie, 01.04.2014)

Much of the work of spatial design, then, is about bringing together (individual) readings of surrounding landscape (and materiality) and history with conceptual ideas. This link profoundly affects spatial narratives and the material configuration of atmospheres. What these vignettes show is that Böhme's (1993, 1998, 2006, 2013) "tuning" or "aestheticizing" space is internal to the discourse of designers. Even though atmospheres are nebulous and hard to grasp, designers understand them as being out there as an entity that can and must be acted upon. Here, concepts are instrumental because they serve to materialise an atmosphere, a cutting-edge idea or approach to a brief, the solution to a problem. In that sense, they are also commercial entities in that they provide a service and are used by designers to set themselves apart from the competition (for example in pitching situations, see Chapter 6). However, even though closely linked up in the designer's practices, it is important to note that "concept" and "atmosphere" are two different things. In objectifying atmospheres, the concept is instrumental for designers, they materialise an atmosphere *as* a concept. In doing that, they capitalise on the promise that they can *also* objectify this one particular atmosphere as an object out in the real world, post-construction, even though they do not necessarily participate in the construction process (and could also be entirely wrong about actual future users and their experiences).

Mediation and Concepts as Calibrated Entities

As quasi-entities, atmospheres also serve as a platform to negotiate and configure spatial control. Across all of StudioFour's projects that I followed, both clients and designers were focused on the reliability and assurance of how a place would look and feel. That is to say that in addition to configuring and controlling a new space via hardware infrastructure, such as electricity, water supply, ventilation and so on, it was equally important plan the future atmosphere of a space. Being clear about the new aesthetic configuration (i.e. how environment, users and uses were anticipated to relate) seemed to be equally crucial for stabilising a spatial setting. Positioned as strategy to reduce socio-spatial complexity through atmospheres, therefore, were a central design concern. This is illustrated particularly strongly in the following vignette:

When I caught up with George one day about current and future projects, we chatted about which direction George thought the ID team was headed more generally. He told me that his team was increasingly involved in designing residential developments, particularly in London, despite their expertise explicitly marketed in restaurant and hotel design. George explained to me that "in residential (…) people have been asking for residential developments in London which feel like luxury hotels" (George, 28.10.2014). This would include very detailed interior design so that the space would "feel right", by which they meant like a luxury hotel. Not only does this speak to the wider spatial politics at play in contemporary London, but also highlights the significance of aesthetic distinction through atmospheres in commercial spatial design. Knowing about the atmosphere seems to be equal to knowing who will be attracted to the space, who will come in and feel and behave in a certain way. It falls to the designers to come up with respective spatial-material strategies and aesthetic considerations are key here. Through different kinds of spatial arrangements, materials and narratives, design concepts build on the traditional notion of aesthetics, the profound relationship between our material environment, perception and sociality (see Chapter 1). In other words, spatial design involves "aesthetics-in-action, of assembling, improvising and manipulating cultural artefacts in view of producing affective attachments to future users, audiences, spectators and publics (Farías & Wilkie, 2016b, p. 12). Here, aesthetics are not about simply beautifying a space but also about "making it work" (Melanie, 07.10.2014). In that sense, aesthetic considerations are important mediators for design agency which is expressed in concepts.

At StudioFour, respective considerations were often tied to making a space work *commercially*. Aesthetics, here, were the basis for creatively speculating about who would be attracted by a particular spatial setting. Here, designers deploy what Böhme (2016) calls "aesthetic competence" (i.e. engaging in practices of distinction, usually based on theories of taste). At StudioFour, the intertwinement of aesthetics, taste and commercial concerns (for both client and designers) prominently showed in projects that evolved around "buying off plan". "Buying off-plan" means that new-built flats are sold before they are built: "Off-plan (…) means that the only thing that you can see is the plan, you can't see anything built" (George, 28.10.2017). For "buying off-plan" projects, the design concept and various marketing machineries are key for the commercial success because all that the prospective owner can see of his/her new property is a brochure or "stage set". S/he purchases a design idea, a brand, a lifestyle:

> [T]hese residential developers, they will take their plans and they will take a stage set, and they will go off on a road show, (…) and they'll go to Singapore, Hong Kong, Kuala Lumpur and (…) rent the function suite at the Hilton in Singapore, they'll set up their road show and their big model, and they'll sell as many flats as they can as possible to the Chinese people (…). (George, 28.10.2014)

Implied here is that the materialisation of spatial concepts (see previous section) are an essential ingredient for the sales strategies of the global real estate industry. In other words, designers produce the concepts and visuals that developers need to sell space in a pre-material condition. Within that, the aesthetic competence of designers takes on a central role. When engaging in distinction practices during concept development and production, designers theorise about people, their taste and desire for distinction. As George explained:

> [I]f you can show the most amazing picture of an entrance lobby and a swimming pool that looks like a six-star hotel and it's got a wine room and a billiard room and a spa, this is all interesting to people. They might never actually use those facilities, but it means that you're better than one who comes into the road show next week (…). (George, 28.10.2014)

Design concepts integrate these sales strategies and are not only based on categorising potential customers according to income, but also explicitly play on mechanisms of social distinction through taste and consumption. This was demonstrated in another project I followed, an "off-

plan" development located in an East-London borough with good transport links to the City of London. It was a new residential development on a high-street with circa 100 units which would all be sold off-plan. The client was a developer whose premium brand had purchased the site and now looked to develop high-end residential units there[45]. This client had already marked the site with a clear image of the target group. As Charlie told me:

> You look on the hoardings (…) and there is this really handsome guy with an open shirt and a tie and, you know, is on the phone making a deal or something, he is like a city banker. (…) so, it might be that you get a bit of people from Canary Wharf, who want to move into a bit of an edgy part of town, but still feel that they are connected, physically, down to (…) the City. (Charlie, 16.12.2014)

A great deal of Charlie's design work went into translating this social categorisation against the backdrop of that particular London location and aestheticise the space in a way that would create a desire amongst the target group. Charlie continued:

> So, as a designer, how do we get under the skin of what that means for the developer and how does that manifest into A the architecture and B the interiors, and the whole journey, the whole narrative of someone's experiences? Now, the architecture I have developed already (…) and the materials we are using are pretty established. But there is an interest that I have which is to make it a slightly edgy type of material (…) I don't want to make it a super refined (…). (Charlie, 16.12.2014)

He continued to explain to me how the design concept set out to appeal to "a bit of people from Canary Wharf" (Charlie, 16.12.2014) via referencing materials that mirrored themes the practice had identified as typical for the project location: "industrial", "edgy", or "craftsmanship" using "non-perfect" materials, with brick on the outside and metal, leather and wood in the inside of the building.

[45] At this point I feel it is necessary to raise an important conceptual point: I am aware of the political dimension of these stories, particularly in the context of the current housing crisis in London. However, as part of investigating (or *inquiring*, see Chapter 1 and 2) spatial design from a pragmatist angle, it is important to describe these stories as I encountered them in the field, without imposing judgement onto the actors. This is part of building a bigger and more nuanced picture of the workings of contemporary spatial design.

Figure 29: London development concept with "edgy" design elements (source: author's photo, 2014); *due to copyright protection, this image cannot be shown*

Clearly, aestheticising a space against the backdrop of theories of taste and imaginations of consumers is not just a matter of configuring the right CGIs and interpreting them as material and interface (Rose, Degen and Melhuish, 2014), or "imagineering" (Roberts, 2003), even though visuality plays a central ontological and presentational role. Rather, it builds on tacit knowledges and experiences in terms of design and materiality. This was a distinction the designers made themselves:

> [T]hese CGIs have to be representative of pretty much the reality of what they're going to get and you have to be quite careful about saying, if you're going to have the veneer door, then they're going to expect a veneer door, because otherwise it's miss-selling. (Charlie, 16.12.2014)

Put crudely, designers deliberately act as configurators of taste and link their creative speculations to considerations around consumers' practices of distinction. Because these frameworks connect professional practice with the built environment and larger economic calculations, they are fundamental to and consequential for different kinds of spaces in different ways. In other words, the "vague notions of society, culture, imagination, creativity", which Yaneva (2009c) condemns

(p. 28), are central to design practice (for a similar argument see the critique of ANT and the post-cultural turn in Entwistle & Slater [2013]).

In other words, spatial designers are "cultural intermediaries" (Julier, 2014; Kimbell, 2012) as they are part of "those sets of occupations and workers involved in the production and circulation of symbolic goods and services" (Adkins, 2011, p. 389) and who form and mediate taste within a market (Entwistle, 2009) and beyond. Here, the background of designers, their own experiences and cultural capitals affect how they perform their role as mediators (see Molotch, 2003). However, even though spatial designers can safely be considered as an intermediary group that is "increasingly powerful" because it "plays a decisive role in shaping the physical spaces" (Adkins, 2011, p. 390), they do not operate independently. They cannot freely choose from product palettes that are available and configure taste via selecting goods (like, for example, fashion buyers) but have to negotiate a whole range of aspects and issues, from practical considerations in terms of materiality (see Chapter 5), to legal and organisational issues and so on (see above and Chapter 3). They are, therefore, not alone in their mediating position, but share it with a different human (such as clients, stakeholders) and non-human actors (such as regulatory frameworks). Nonetheless, by being responsible for the concept, designers do play a central role in managing these different actors and their practices and, therefore, take centre stage in this complicated set-up of cultural mediation. Here, *aisthesis* (i.e. sensual perception [Baumgarten, 1750/58 [1983]), matters for both convincing clients and for anticipating user experiences. The "research" (see section above) that underpins this does not necessarily need to have bearing on taste as an actual social determinant, it primarily needs to be coherent for the client and the design narrative. As pragmatic and conceptual framing, aesthetics are not just crucial for achieving "sinnliche Erkenntnis" (knowledge) for individuals in any given moment in time, but helps rationalise design decisions. It is not about beautification in "some Kantian pure aesthetic" (Entwistle, 2009, p. 7), but about aesthetics as "created, accrued, attributed, qualified and requalified" (Entwistle, 2009, p. 29) and, most importantly, brought to the forefront of spatial production. In short, aesthetics are instrumental for spatial production and underline the significance of agency in design.

At the same time, spatial designers have to "turn imaginative ideas into disciplined practices and practices into profits" (Brown et al, 2010, p. 526). At StudioFour, designers were constantly concerned about making this link work and ensure that their work was recognised and valued by clients:

> Many of our clients have no idea about the amount of research and passion and understanding that we put. We wake up; we dream about their work, their projects. (…) [W]e get really enthused and excited about it, and they hardly see it (…) [W]e would sit here for hours trying to work out the optimum solution for a client. And often, that's undervalued, that process. (Charlie, 01.04.2014)

It is challenging for spatial designers to qualify their imaginative work. It tends to remain invisible, despite being acknowledged as crucial. Here, concepts are important instruments to circumnavigate this problem and to facilitate calculation. As something of a thing-like character, concepts are objects that can and have to be valued. In that sense, they play an important role for stabilising and calculating pre-material space as a particularly fragile commodity. This was evident in the fact that StudioFour would usually charge more for concept development than for subsequent project phases which would be more about technical detail and less about fundamental or *conceptual* questions. In general, technical detailing and execution (such as producing drawings) was seen as subordinate whereas concept development is given more significance and was therefore is priced higher – even though it generally took less hours to complete. In a long discussion, Charlie explained to me that one of the reasons why the studio would charge a higher fee for concept development was to absorb unpaid additional work which they were anticipating in subsequent project phases (field notes, 09.07.2014; see Chapter 3). The rationale was that the actual amount of hours designers would spend on concept development was smaller than the time they would spend on producing and adjusting production information, which was considered "just" technical but time consuming work. However, if they were to realistically mirror this in a proposed fee it would look odd to the client that the more crucial part (i.e. the concept) was more expensive than technical detailing (field notes, 09.07.2014).

In other words, concepts serve as calibrated entities that help qualify, represent and ultimately price the properties of pre-material space. In this context, aesthetics facilitate calculation. Whereas design creates different kinds of values for different kinds of groups (for example, a new public space can be considered to increase the value of public welfare), aesthetics become subject to economic calculation by way of generating aesthetic value. Here, however, aesthetic value relates to the certainty and controllability which supposedly can be achieved through spatial design based on aesthetic compositions or atmospheres. That is to say that designers operate on aesthetics in complex and sophisticated ways, but usually in relation to value. For example, aesthetic value can be created via a concept that focuses on durability of taste but at the same

time it takes into account and negotiates current trends. Emma demonstrated this by talking me through the office "design manual" she was tasked with (see section above):

> [Y]ou want the space to be obviously modern updated, but you don't want it to be sort of too on-trend that will date quickly, and it needs to be quite sophisticated, because it's obviously important (…) investment clients. But also warm and sort of a healthy working environment, (…) that's sort of a trend at the moment (Emma, 05.07.2014)

What the designers here wanted to deliver to the client was a design concept which they hoped would be aesthetically sustainable, or not "date quickly". Here, a particular "aesthetic quality – be it a look or style – (…) is defined and calculated within a market and sold for profit" (Entwistle, 2009, p. 10). This is consolidated with more pragmatic ways of calculating creative work. At StudioFour, designers had to track their hours in timesheets for every project they worked on (Ryan, 08.08.2014; see Chapter 3). In spatial design, "calculativeness" (Callon, 1998) clearly oversteps what has been described as the opposition between the quantitative and qualitative (Callon and Muniesa, 2005, p. 1230). It is based on "establishing distinctions between things or states of the world, and by imagining and estimating courses of action associated with things or with those states as well as their consequence" (Callon and Muniesa, 2005, p. 1231). In other words, it is based on valuing creative work that evolves in the complex but equally pragmatic ways that have been described above, but also on hours as a unit of measurement – and for both, the concept serves as a platform and framing device.

Conclusion

This chapter has explored the kind of work concepts do for spatial designers and to what end. As a fundamental process and product of spatial design, concepts manifest different forms of knowledges and embed strategies that help organise, rationalise and discipline different actors and practices in the spatial design process. Designers act on the concept to activate its material, organisational and legal functions while remaining flexible across sites, collaborators and regulatory contexts. Against that backdrop, concepts routinely create tension as they are deployed to specify and standardize things – or get them "signed-off" – while deliberately remaining vague to leave room for negotiation and adaption. At the same time, concepts take different forms. They

are navigated through interactions, documents, conflicts, meetings and so on and ultimately morph into the product of pre-material space. They, therefore, do not only (temporarily) manifest social relationships (see Drazin, 2013), but work as boundary objects (Star & Griesemer, 1989; Star, 2010): they help collaborators (within the studio and beyond) share goals that are "lined up in such a way that everybody has satisfying work to perform" (Star & Griesemer, 1989, p. 409) and help maintain spatial production despite potentially "conflicting sets of concerns" (Star & Griesemer, 1989, p. 413) because they "allow different groups to work together without consensus" (Star, 2010, p. 602), such as between individual client actors or between clients and designers. Designers develop and draw on tacit knowledges to successfully navigate these social, material and economic complexities, particularly in terms of reading briefings and working with clients to define design problems. This is an essential part of the distinct cultural capital which spatial designers build and maintain through their professional practice.

What is equally special about concepts in spatial design is that they do not only help retain coherence and discipline across sites and temporalities but also that they work as products. They help fix an idea in time, such as through an assemblage of images and drawings, to create certainty and predictability in order to value imaginative work and make design outputs calculable. In other words, concepts oscillate between product and production, between ephemerality and tangibility and serve as tools to stabilise pre-material space. Thus, there is no ontological gap between concept as process and concept as product. Here, atmospheres – as "aestheticized" or "tuned" spaces (Böhme, 1993, 1998, 2006, 2013) – are instrumental. They serve as conceptual and pragmatic framework for defining and solving design problems by creating experiences via aesthetic configurations. The significance of aesthetics implies that the process of concept development is centred on speculating about sociality in relation to affect/perception and material environment/space. In other words, StudioFour designers operationalised aesthetics not for the sake of beautification or artistry, but in terms of *aisthesis* (i.e. the profound, complex and "productive" relationship between our material environment and perception [Baumgarten 1750/58 [1983]; see Chapter 1]). Aesthetics, here, are operationalised not only as "cultural" phenomenon but as a mediator of economic, social and cultural concerns. Therefore, designers' aesthetic competence (Böhme, 2016) is central for developing spatial concepts. This process is not based on translation but on mediation: designers, quite pragmatically and intentionally, position themselves as cultural intermediaries to work toward spatial durability. In other words, pre-

material space can only be maintained because of this mediation[46]. This mediation is premised on designer's knowledges being consequential in different kinds of ways (socially, politically, commercially, spatially). But it equally builds on the notion that spatial concepts are positioned as prescriptive. That is to say that the process of concept development builds on a notion of (spatial) design as profoundly structured by human agency. This has consequences for how we can think about spatial atmospheres: scholars and practitioners both treat atmospheres as affective entities that are (or can be put) out there in the world. This is particularly true for the scholarly discourse that has privileged "affect" as dominant and subconscious constituent of atmosphere or social settings of a place (see Adey, 2008, 2014; Allen, 2006; Thrift, 2004), especially in terms of impacting behaviour (Borch, 2014; Griffero, 2014). Designers treat atmospheres as affective entities to make a commercial case based on the narrative that their designed atmospheres can be realised through construction. At the same time, however, they are aware of the fact that they will encounter numerous (cultural, political, organisational, commercial) contingencies along the way and much of their design skill is actually focused on anticipating and handling these contingencies. Therefore, research into spatial politics via affect and atmospheres must not only acknowledge that affect is "*not* synonymous with atmosphere" (Edensor & Sumartojo, 2015a, p. 252; emphasis added), but that design, human agency and pragmatics mediate how atmospheres *may* "affect us, change our moods and influence our behaviours" (Borch, 2014, p. 86). By the same token, designers are cultural intermediaries who act from positions of privilege and power (Kimbell, 2012) and who also inhabit more than one social world. That is to say that their individual socio-cultural identities or "cultural backgrounds" (Molotch, 2003) and biases come to bear in processes of design and may have a disproportionately big influence on spatial outcomes despite the contingent character of design practice.

This means that this chapter has to end with a two-fold commentary that is, above all, methodological: First, and clearly, aesthetics and atmospheres are fundamental aspects of spatial settings. What is needed, then, is more empirical research into *how* aesthetic, architectural or "sensory politics" (Borch, 2014) are made, for example in processes of concept development in (spatial) design. Here, studio studies (Farías & Wilkie, 2016a) and design ethnographies in the broader sense can be pivotal in that they can reduce the risk of replicating and reinforcing the power relations of the field of study. This is because they emphasise ethnographic insight and

[46] This is comparable to Hennion's (2015, 2016) analysis of music. It also points back to the dual notion of pragmatism as outlined in Chapter 1: Hennion's (2016) pragmatism does not only underscore the role of mediation for sociologically analysing design, but also leaves room for the sort of *pragmatic* considerations of the actors.

significance over (theoretical) frameworks that aim for explanation via the reduction of complexity (e.g. the experience economy framework). In other words, proclaiming that aesthetics and atmospheres are powerful enough to steer behaviour (Borch, 2014; Griffero, 2014) without – and this is the important part – empirical research into how this (may) happen can be seen as a form of intellectual complicity with neuro-economic frameworks that aim at consumer manipulation. Second, the fact that designers actively engage in practices of social distinction has consequences for how (social) theory can and must be treated in design research. Moving forward with social research in design, this suggests that practitioners' theories may not only be treated as empirical data but as equally significant social theories. In other words, doing empirical research and social analysis in design must become a question about how to create a complex dialogue between different kinds of expertise both in empirical and in theoretical terms.

This chapter has explored how concepts work both as processes and products in the context of spatial stabilisation and creative/imaginative work. The next chapter will investigate the material culture and material politics that underpin spatial design processes at StudioFour.

Chapter 5

Putting Materials and Designs together

You have a piece of paper,
how do you know about the building?
(Caroline, 30.10.2014)

Introduction

The centrality of aesthetics in spatial practices and production points to an element that necessarily is integral to (spatial) design: material knowledges and practices. As the analysis in the previous chapter suggests, designers' use of aesthetics in concept development and spatial production is not arbitrary but is based on an evolving array of material skills, knowledges and experiences. And even though design is a "mental" exercise (Parsons, 2015), it "begins and ends with materiality" (Julier, 2014, p. 249) whereby materiality is "native to design" (Selin et al, 2015). That is to say that designers' ways of conceptualising materials aesthetically and technically emerge from distinct ways of knowing about and operating on materiality. Investigating how designers treat *stuff* is different to asking how spatial concepts are materialised as part of mediation and for the sake of calculation (see previous chapter). It focuses on how much of spatial materiality or built space depends on discussions, considerations and decisions made in a design studio. This stance is not new. Dealing with materials and materiality is a key marker of design practice and has a longstanding tradition in many design fields (see Kimbell, 2011). At the same time, however, the way in which designers treat materiality in their professional practice is specific to their design object. For example, a product designer working on automobiles is faced with a different set of material challenges than a graphic designer or an architect. In other words, the material cultures that are internal to design are specific to design professions and design outcomes.

In spatial design and architecture, materiality features heavily in both scholarship and practice. On the one hand, this is focused on material education for construction (see, for example, Domone & Illston, 2010; Farrelly, 2008). On the other hand, there is a traditional engagement with the relationship between materiality, sensual perception and architecture: from the explorations of

the Bauhaus designers (see Lupton & Abbott Miller, 1996), to more recent thinking on multi-sensory architecture (Pallasmaa, 1996, 2009, 2014) and material qualities of space (Zumthor, 2006) having the same significance as form (Venturi, 1966). Much of this scholarship, however, evolves from a pedagogical angle and is focused on architecture in terms of buildings and less in terms of practice (see also Chapter 1). What follows is a focus on how materiality *should* enter the design process rather than how it *does* feature in studio life. Material culture in spatial design is a crucial factor for spatial production even though it may present itself in less obvious ways, such as through material samples or as distinct forms of knowledge and practice. At StudioFour, designers developed and maintained material knowledges and practices that were specific to their profession, their organisation and were informed by industry politics. Investigating how designers come to treat forms of materiality as part of spatial production, consequently, can reveal how materiality is "shaped through politics and in turn shapes politics at various scales" (Rose & Tolia-Kelly, 2012, p. 4).

Shifting emphasis from material culture in terms of design users and consumption to design practice and production is new to much of material culture studies and design research: Even though notions of material culture are mostly rooted in some form of practice theory, a bias towards consumption has established itself as a symptom of a capitalist society as well as a privilege of semiotics over materials (see Shove et al, 2007). Similarly, much of design anthropology has focused on material culture in design in terms of product design and user research (Gunn, Otto & Smith, 2013). However, designers' narratives as space producers (and not consumers) are entangled with (spatial) materiality because part of their design work is to inscribe meaning to materials. Their means of inscription are manifold and ever evolving and soften a static notion of materiality that has informed important studies of consumption (for example, Miller [2013]). As argued in the introductory chapter, many studies of architecture have not focused on this important aspect of spatial design while ANT-committed design scholarship has overemphasised materials and objects as non-human actors. But as suggested throughout this thesis, such an approach comes at the cost of losing sight of the significance of designers' theories and the way in which human agency structures design practice, specifically with regards to how materials' meaningfulness evolves. This is specific to the stream of design practice, in this case *spatial* design. For instance, Michael's concerns about bricks (see Chapter 1) span across several issues that focused on different *spatial* aspects (including cost for building material, spatial use, regulation and so on). This highlights another important point, namely that spatial design deals with materiality both in terms of materials as *objects* (such as for pallets, see pervious chapter)

and in terms of materials in a somewhat pre-material or raw form, which, therefore, could be framed as *matter*.

In the relevant academic discourse, however, materiality and matter[47] tend to be separated, usually for the sake of accounting for material properties. Here, the "new materialism" debate privileges matter over materiality (see Coole & Frost, 2010). In this stream of research, the aim is to "reverse the emphasis, in current studies of material culture, on the materiality of objects as against the properties of materials" (Ingold, 2007, p. 1; for a similar argument see also Bennett [2010]). However, as this chapter will show, the case of spatial design demonstrates that such a distinction between materiality and material properties is redundant, much along the lines of Müller & Reichmann's (2015) observations on materiality, practice and space:

> The borders between, and differences in material materiality, non-material materiality and the social context tend to blur. (…) Thus, materiality subsumes everything from a stone, a building or a bench to the remains of an architectural artefact – that is, both pure objects without inherent cultural scripts, and artefacts. (p. 14)

This points back to the notion of practice as recursive and constituted by a nexus of meanings and materialities (see Shove, Pantzar & Watson, 2012). It also emphasises design as contextual and pragmatic, in Hennion's (2016) sense, because it underlines the role of mediation and allows for a more vague and flexible notion of materiality (i.e. not just in terms of an absolute object, see Chapter 1)[48]. The backdrop for this are individual "social relations, structures, institutions" (Slater, 1997, p. 2), or what Molotch (2003) calls the "stuff system" referring to "the relations between things and the commercial and professional systems that have bearing on the design of what gets made" (in Shove et al, 2007, pp. 5-6). Slater (2002a) provides the crucial analytical bridge:

> From this perspective, 'materiality' is not a matter of physicality but rather of what might be called 'social thingness', rather close to the Durkheimian notion of 'social

[47] This significance of raw materiality or "matter" that can be observed in the context of different kinds of production has been framed as a "material revolution", a term that has more recently been explored by anthropological research to explore the relationship between "material and society" (see Drazin & Küchler, 2015) more broadly.

[48] See Küchler (2008) for a similar argument on wearable technologies where she demonstrates that treatments of materiality in contemporary forms of production (in the broad sense) transcend the separation of the material/immaterial.

> facts': under what conditions are we able to treat things in the world as objects – durable, stable, external to individuals, with determinate properties and relations to other objects? (p. 96)

This chapter focuses on mapping out the conditions under which matter and materiality emerge in spatial design practice. Here, the processes in which designers acquire and deploy material knowledges and how they learn about and produce materials for spatial production are analysed. The final section of this chapter turns to political issues and cost-engineering in relation to materiality and design and closes with a detailed vignette of one specific project and its social-material-political context. Throughout, the mediation of designers' material knowledges is discussed through the pragmatist lens. Here, the analysis is premised on letting the actors describe their practices and definitions of materiality and gives much space to their own narratives.

Knowing and Operating Materiality

According to spatial designers, materiality takes centre stage in design. Or as Charlie put it: "It's what we do. *We put materials together and designs together*" (01.04.2014; emphasis added). StudioFour's material knowledge spanned across a wide range of aspects: from knowledge of material production and use in construction and interior outfitting to supply, to regulatory requirements and the look and feel of materials. Typically, these knowledges are not static, but in constant flux, attuned to project contexts and wider technological, aesthetic and regulatory change. Keeping up do date on these issues was important to StudioFour designers. As Charlie described:

> You read; you look at buildings; you look at what's being constructed. (…). So, for example, tiles. Within tiles there are thousands of different tiles as well as manufacturers. (…) [Y]ou learn about products, you read magazines; you have to know about them, really. (Charlie, 01.04.2014)

In other words, to be able to operate on materiality in spatial design practice, designers must continually update their material knowledge base.

Learning about Materials

In the context of learning about materials, the materials industry plays an important role. StudioFour was regularly visited by material manufacturers and/or suppliers who showcased their newest products and provided the studio with new samples. These meetings were important for both designers and material manufacturers. For designers, it was key to be able to get their hands, quite literally, on the newest materials and stock up on new samples. For manufacturers, it was important to increase their chances of their products being "specified" (i.e. be recommended by StudioFour; see also Chapter 3 on "Product Information") for one or more of the many large-scale projects StudioFour were doing. The designers scheduled these meetings carefully and tended to prefer manufacturers or suppliers they had an established relationship with or who were producing materials that the practice was very keen on learning more about. The latter was the case in a meeting with a sales representative for fabrics who showed Barbara her newest products, bringing with her entire books with leather samples in different textures and colours. Here, a sensory engagement with materials was the core aspect of the meeting. Touch and smell were particularly crucial in this case: new technologies made it possible to produce fake leather (which could be preferred by clients for ecological, ethical or cost reasons) that would not only feel but smell like real leather and show almost the same signs of use (which previous forms of fake leather usually would not). Barbara and I were encouraged to "feel the difference" (field notes 12.06.2014) between the real and the fake leather samples and we both had to admit that we could not identify much of a difference between the two options.

Figure 30: Fake leather samples for commercial design projects (source: author's photos, 2014)

On another occasion, I attended a meeting between Barbara and Ann (both of the ID team) and a sales representative of a Belgian manufacturer of natural stone. This meeting was less of a meeting

in a traditional sense, we did not even sit down. Rather, the sales representative came in and put all his samples onto the meeting room table and Barbara and Ann energetically went through them, touched them, looked at them closely, felt the weight and made a pile of the ones they "liked" and wanted to keep. Whenever they were picking up a sample, mostly with the comment "this is beautiful" (field notes 05.09.2014), the manufacturer explained the make-up of the material in more detail (e.g. from which quarry it was sourced from and how it was treated).

Figure 31: A visit from a sales representative for natural stone, designers going through new samples (source: author's photo, 2014)

What was important to both Barbara and Ann was to have the opportunity to touch the materials and not just see them on the screen or in a catalogue. They kept stating that it made a big difference to be able to assess the tactile quality of the product. Equally relevant were new details about the product and its material properties. For example, some of the stones looked raw and untreated, which, according to Barbara was disliked by most clients due to the cost for maintenance associated with untreated surfaces. However, new technologies made it possible to seal (or "fill") the stone while keeping its raw appeal. In these kinds of meetings, designers also accrued knowledges specific to a material in relation to a design purpose. Usually, this blurred the

lines between construction and design. In this particular meeting, Barbara inquired about the use of natural stone in a lift car, much in mind with project requirements, budget, aesthetics and engineering:

Barbara:	For this hotel (…), for the lift cars, we really need thin-profiled tiles [because of the weight].
Sales Rep.:	One centimetre maximum?
Barbara:	Yeah, something like that.
Sales Rep.:	It's possible, but then you make the stone quite expensive (…) when you want a rough surface, you need to have a thick stone, otherwise it will break immediately
Barbara:	Oh gosh… ok. Because if it is in a lift care, if it is that thick it is just really heavy.
Sales Rep.:	It is possible to produce, but then the price will be…
Barbara:	Yeah, because at the moment it is about 100€ prox…
Sales Rep.:	It would be at least double to do.
Barbara:	Yeah, but it is possible to do?
Sales Rep.:	It is possible to do.
Barbara:	Ok, as long as it is ok but it is the risk of…
Sales Rep.:	It is the risk of making the stone, which will make the price very high.
Barbara:	Yeah, ok.

(recording, 05.09.2014)

This approach of bringing together materiality with client needs and project contexts generally permeated in the material culture of StudioFour. For example, after the meeting about the leather samples, Barbara told me that she always preferred "neutral" colours with interesting textures because that was "what they [the clients] always go for" and also what, therefore, George preferred: "If I would put this [pointing to a bold pink] he would say no" (field notes, 12.06.2014). Having the client in mind was intimately linked to anticipating cost consequences of material choices. As the sales representative suggested a stone that looked unpolished and that Ann and Barbara had not yet selected to keep, Barbara politely made clear:

Barbara: Oh yeah, these are nice. We just don't tend to use these. We have specified things like this before, but people are like 'oh no, they have to be treated…'

Sales Rep.: Oh no, you don't have to treat them.

Barbara: Yeah, but that's what the clients… they are just not persuaded enough. (…) It is beautiful, a shame the clients don't like it.

(recording, 05.09.2014)

Clients' cost and maintenance concerns in relation to materiality played an important role for the way in which StudioFour designers brought materials into the design process and, consequently, how spatial materiality was conceived and negotiated. Within that, the relationship between material manufacturers and designers was central to spatial production. To "learn about products [and] (…) put materials together and designs together" (Charlie, 01.04.2014), designers depend on learning from commercial material experts, such as sales representatives of material manufacturers. At the same time, manufacturers depended on designers to "specify" their product in the design concept. They know that this fundamental decision usually is made in a studio rather than on site. StudioFour, here, occupied a particularly powerful position: because the studio was exclusively focused on large-scale projects, a specification from them could potentially have a big economic impact for a manufacturer. When one sales representative said to Barbara that he was "looking forward to you prescribing our products", she replied:

> Yeah! I mean we hope so, that's why we've got it all in stock now. (…) [I]f we see something we know would work really well and we know the client would like it, of course. So we are hoping, we've got lots of projects, it's just a case of … you're a new supplier and we always stick with the same suppliers and that's the problem, so we are trying to introduce your company, so we're trying to push that barrier: 'OK, look, this company does exactly the same as that, I know they're a good supplier, they might be a bit cheaper but the quality might be a bit better with this, maybe they'll give us a good deal as well.' And it's sometimes hard. But let's hope! (Barbara, 05.09.2014)

While client needs and requirements here come across as restrictive, they can also prompt material innovations, which can have both scalar and design implications. During the meeting with the sales representative of the fabric manufacturer, I encountered the well-known discomfort of

not entirely following the terminology that was used. Here, one term stood out: "contract". On several occasions, when shown the samples, Barbara asked whether these samples were "contract". When I asked her about the term after the meeting, she explained to me that "contract" designated materials that were particularly robust and were produced in larger quantities. "Contract" materials were materials that could be used in the kinds of commercial spaces the ID team was working on because they would not wear or rip as quickly and also were cheaper to replace:

Barbara: So, it'll be like, in a restaurant, it would have vinyl wallpaper, or in a corridor of a hotel, most probably would be vinyl as well, because with the knockages, it could rip. (…) And then it's so expensive to change. That's why we never, normally, we never use paper. You can in the bedrooms, maybe, but, as a feature wall or something like that. (…)

Mona: Okay. And when she says it's contract, she means it's…

Barbara: Yes, (…) it's specifically for, like, hotels, and…

Mona: Oh okay, so contract is another term for a big project. (…)

Barbara: Exactly. It'll be like, you know, if it's materials, it'll be 50 to 100 metres or more, so that's contract. (…)

Mona Okay. And all the materials she showed were contract?

Barbara: Yes. I asked [for this] (…) [B]ecause there's not much point, because we, you know, you have people and they all show us residential stuff, you know like (…) I mean some of it's beautiful, you know, like, floral wallpapers and stuff like that, but it will just get ruined, and then the company will have to spend more money, so there's not much point of us sort of specifying, and saying oh we really want that sort of paper, wallpaper, or that carpet that's in pure white, because it's just 100 per cent going to get ruined in a hotel environment. Because the amount of people that stay in a hotel room, you know, every day, (…) [A] lot of money will go down the drain for them. (…) So contract is normally cheaper, really.

(interview, 05.09.2014)

Barbara also explained that innovation in "contract" materials was changing the ways in which outdoor spaces were designed, blurring spatial distinctions such as interior and exterior, architecture and interior design. She described how previously, "contract" materials had an

"outdoor feel" to them as they had to be very robust. Due to this robust aesthetic, such materials could contribute to a feel of a space as more public than private (such as a restaurant). But the new "contract" materials were much more delicate and had a residential feel with "floral wallpapers and stuff like that" (Barbara, 05.09.2014). Barbara told me that these new "contract" materials allowed designers to create commercial spaces in more intricate ways with materials that gave a more residential and private feel. Or that outdoor spaces (such as terraces) could now be designed like interior spaces, or as an extension of an interior space (e.g. by using fabrics for outdoor furniture that looked and felt like indoor upholstery).

These vignettes illustrate the complex ways in which material properties, commerciality and spatial categories are entangled in design. Here, designers operate materialities in collaboration with a range of material experts and material stakeholders (such as clients). They also deploy scalar definitions (such as "contract") to position (new) material properties as shifting axis for spatial distinctions ("residential" vs. "commercial", "indoor" vs. "outdoor"), or for the blurring thereof. Here, pragmatic and particularly commercial questions (such as How much does the material cost?, Does the client like it?, Can we sell it to them?, Can we source it?, How much does maintenance cost?) always come to the forefront. Therefore, the material culture that is specific to the spatial design profession and to StudioFour emerges as a node for design, space and commerciality. In this context, the studio becomes a site of "material intimacy" that allows and promotes "an intensive and comprehensive engagement with non-human entities as complex things" (Farías & Wilkie, 2016b, p. 11).

Material Samples as both Objects and Matter

Whilst these instances and collaborations are a key element of how materiality is constituted in spatial design, the studio also emerges as a "site in which one lives with objects and materials, and where tinkering and invention result from the *long-term engagement* with them" (Farías & Wilkie, 2016b, p. 11; emphasis added). At StudioFour, this was evident in the way in which material samples were stored and circulated. StudioFour's so-called "library" played a central role in this. The "library" was a big room on the ground floor of the building my two teams worked in. All samples given or sent to the practice were stored there. Individual samples of wood, marble, vinyl, glass, metal, carpet, curtains, door knobs and the like, along with catalogues and books and a whole range of fabric samples were collected.

Figure 32: The “library” with material samples and prepared pallets (source: author’s photo, 2014)

The “library” had a range of functions: it was a storage facility for the many material samples the studio collected as part of maintaining a material knowledge base and working practically with materials. Most samples that were used in projects were returned afterwards. Furthermore, the “library” was cleared out on a regular basis whereby some ID team members spent a day going through all the samples to identify which ones would probably be needed again and which ones could go. These clear-outs happened so that StudioFour had space for new samples for the sake of keeping up with the latest material trends, technologies and tastes. The “library”, therefore, served as a resource to develop and maintain design-specific material knowledge. It was an important element in StudioFour’s material culture and helped to build up and add to StudioFour and spatial-design-specific cultural capital (see also Sloane [2014]). This was underlined by the fact that all StudioFour designers, at one point or another, came to the “library” to trial different materials for their design narratives and concepts not only independently but also in conjunction with other samples (e.g. when putting together palettes).

Figure 33: Testing carpet colouring for bespoke carpets: the little carpet samples are samples of the stripes that can be woven into the carpet (source: author's photo, 2014)

In that sense, material samples in spatial design accrue meaning and significance by taking on a "social life" (Appadurai, 1986) or a "cultural biography" (Kopytoff, 1986) through design production and prior to commoditization through consumption. The spatial component in this is that these material samples function both as objects and as matter. As objects, they arrive at and circulate within and beyond the practice. They also are deployed strategically in pallets in client presentations. When I was browsing through the "library" with ID team member Ann one day to seek out samples for a palette, she explained to me how important it was to assemble the right samples for a client presentation. Here, the affective qualities of the samples were key. Ann explained to me that especially in early client meetings that entailed palette presentations, StudioFour designers would make sure that the palette contained at least one heavy item, such as a piece of polished natural stone, even if, aesthetically, it was not important for the design concept (field notes, 28.04.2014). This was because StudioFour designers thought that a heavy item would signify quality and that this sensation of quality would prompt clients to assume that the practice was not only working with the best suppliers, but also did high quality work. At the same time, samples also had an explicitly spatial function as representations of the raw materiality or matter that would make up built space, for architectural and interior design alike. This could, for example, include a sample of cladding or samples for building materials such as brick or concrete (see photos below).

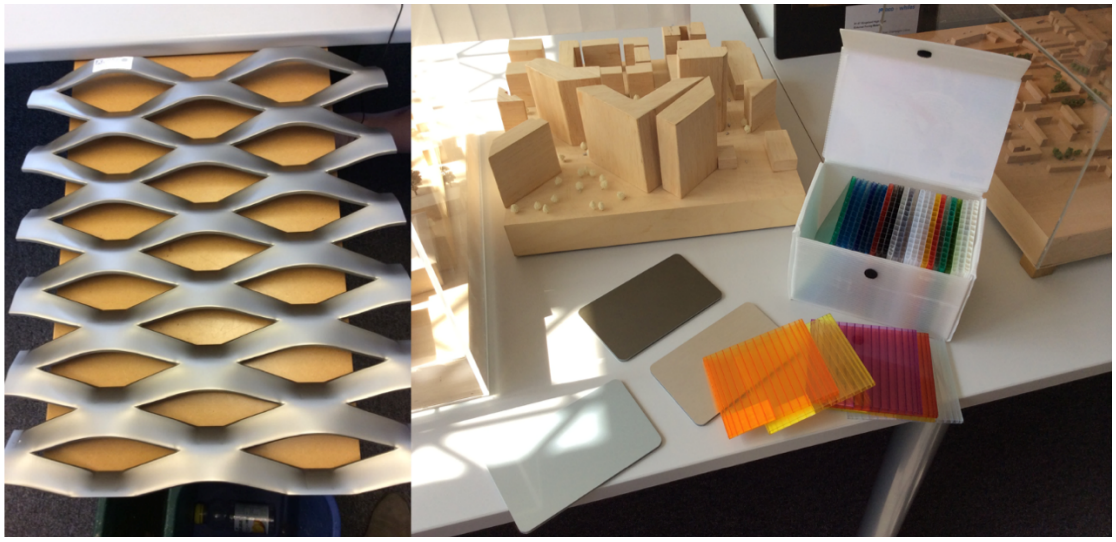

Figure 34: Large scale cladding sample of about a square metre in size (left) and samples for the translucent cladding of a rooftop pavilion (source: author's photos, 2014)

These kinds of samples were used less to convince clients but tended to be brought into meetings with contractors and other design team members to discuss, for example, the feasibility of sourcing for and constructing with these materials. The samples, here, took on a very different meaning from the samples on pallets. They were not deployed as part of enticing clients or conveying design concepts but to think about how space can be moved from a pre-material into a material state.

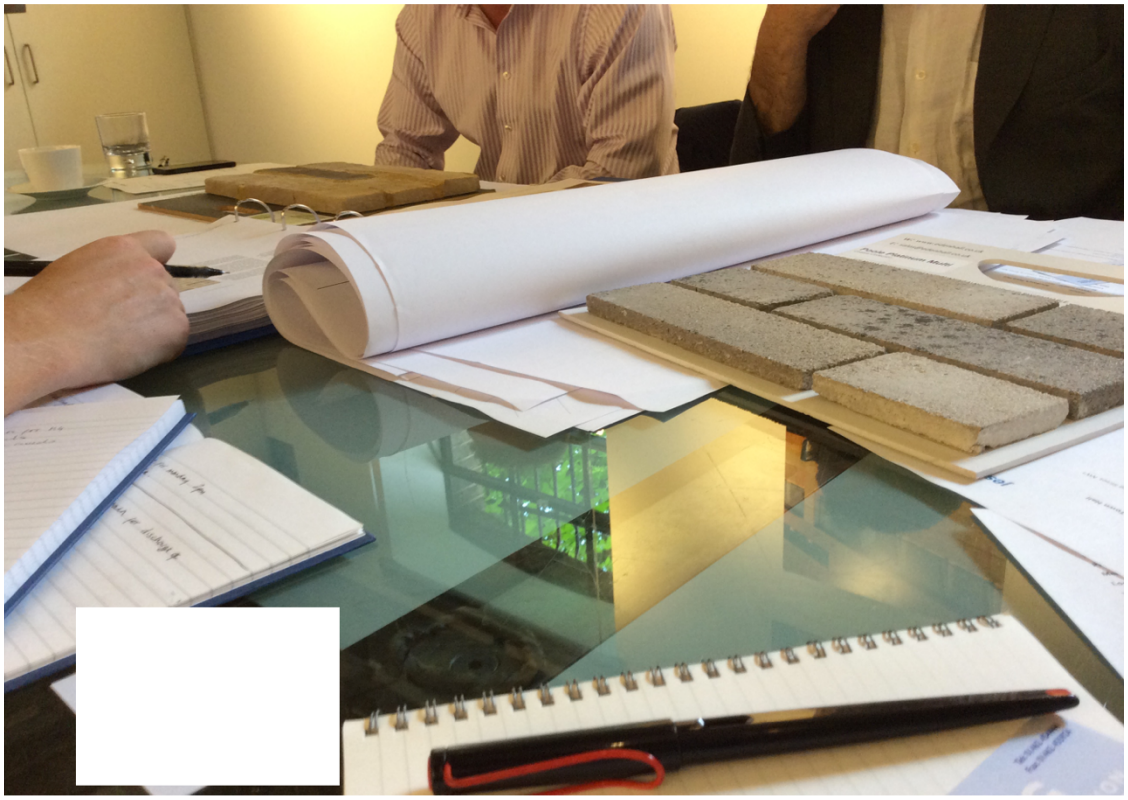

Figure 35: Meeting with a contractor to discuss construction details with the help of brick samples (source: author's photo, 2014)

In spatial design, materiality is not spatial per se, but needs to be enacted as such (e.g. through treating material samples objects or matter in relation to a future space). Here, samples have an ontological quality because they help designers to think strategically and pragmatically about material assemblages. Learning about materials and operating on them as part of the material culture of spatial design takes many forms and trajectories. These are not only crucial for oscillating between pre-material and material conditions of space but they also form the backbone to how designers operationalise aesthetics through concept work and their role as cultural intermediaries (see Chapter 4).

Textures, Tiers and Dementia

Such mechanisms become particularly apparent in the ways in which spatial designers draw on material knowledges and samples to speculate about what a certain kind of material *does* and how it *behaves* not only in the context of design narratives and construction (see Chapter 4), but in relation to the body and the senses. The significance of this aspect clearly emerged in one specific project I followed during my time at StudioFour. Here, the practice had been invited to pitch for

producing a “design manual” for a big care home provider. Like the “design manual” described in Chapter 4, this set out to redefine how the care homes of this provider would be built and outfitted, both for new-builds and for refurbishments. For this project, Charlie collaborated with some of the ID team members. He had told me that this project focused to produce guidelines to “ensure consistency” in all the designs of the care homes (Charlie, 28.04.2014). A big challenge for StudioFour was that this was somewhat unchartered territory – they had not worked in the hospital/care sector before. Interestingly, for navigating this new territory, different aspects of materiality took centre stage. Based on the information the designers received from the written briefing document and a so-called “immersion session”, which “basically was a phone call with the client”, the team decided to focus on the themes of “mood” and “pulse and rhythm” to reference liveliness and “everything is moving” (field notes 20.05.2014). To express these themes in their spatial concept, materiality became the basis for linking spatial aspects with commerciality.

First, the designers focused on the assumption that some of the care home residents could potentially be dementia patients with problems in spatial orientation. To create a “homely environment”, which, for the designers equated to easy orientation, focus was placed explicitly on materiality through the use of textured walls, smell and music to aid navigation through all the senses, not just the visual (field notes, 28.05.2014). Building on this, their concept considered the corridor to be “the journey” where residents would have “different experiences” along the route with “incidental lounges for casual meetings so that you can meet people” (field notes, 28.05.2014). There also was a discussion about avoiding stark contrasts in colour and shiny surfaces so that people would not “get lost” (field notes, 28.05.2014). These kinds of considerations and narratives and the way in which they played out in materiality touched upon all spaces. For example, the bedroom was comprised of textures, colours and lighting to “reduce anxiety”: “you should feel that this is your space, a retreat for you own thoughts so it has to be calm and soft and warm” (field notes, 28.05.2014). The bathroom, equally, was discussed to have the “potential to be very clinical” due to regulations for bathrooms in care homes. To counterbalance this, bathroom materials were conceptualised as “more atmospheric” and “almost like in a spa” (field notes, 28.05.2014). The core of this narrative was the assumption that being washed could be unpleasant and that the bathroom design could mitigate this. These stories were based on rather crude speculations about the specific spatial perception and sense of self of a certain demographic, in this case the elderly, and specifically those suffering from dementia. They were also rooted in the vocabulary the StudioFour designers used for the spaces they usually focused on (i.e. hotel and leisure space). This classificatory framework showed not only in internal

discussions and the client presentation but also very much in the project palettes: they were dominated by beige and sandy colours with some accents in metallic colours, such as gold or silver to make it feel "homely" but also "high quality" (field notes, 28.05.2014). The palettes also were divided into two categories: on the one hand, materials and colours for the background (such as for flooring), and on the other hand, the highly textured materials that stood out to help orientation and influence mood. Second, the selection of materials and textures was conceived as a baseline for the client's pricing. As part of their concept, StudioFour suggested three "tiers" (i.e. price categories for units and care packages): "Tier A" was about "clean lines" and "value for money", which translated into plain design and reduced variety of materials (field notes, 28.05.2014). "Tier B" was "more about community and living, more about experience" (field notes, 28.05.2014) with more material variety and different colours (here, metallic tones were added to the canon). "Tier C" was "luxurious and tactile, tailored to the individual" (field notes, 28.05.2014), which meant that there was not only an even greater variety in materiality, but also that the respective residents would be able to choose which one s/he liked and the unit would be outfitted accordingly. StudioFour designers here linked luxury to materiality by following the motto of "tuning up and down materials" (field notes 28.05.2014) to aid the client's (price) differentiation. Third, another important aspect put materiality centre stage: in this project, standards of "technical performance" of materials were central. Because care home operators are obliged to fulfil the same building standards as hospitals, all chosen materials had to comply with the respective regulations. This meant that all surfaces had to be easily sanitized, which restricted the choice of materials available to tell the design narrative. Even though StudioFour designers were used to restrictions in their design work for large-scale commercial spaces, they had to do new material research into this area. Ann was therefore tasked with researching respective regulations and source material samples from the "library" and from suppliers that were compliant with these regulations.

Figure 36: Hospital-proof materials with print-out of regulations (source: author's photo, 2014)

This restriction caused controversy about how the design narrative could be told through the pallets. George, head of ID but not part of this project, commented on the presentation and palettes by stating that "the client will say that this looks like a hotel" and that the team should focus more on finding "a functional yet beautiful look" that was "specific to the task, but homely" (field notes, 28.05.2014). For him, this meant to address these regulations, which he interpreted as client needs, more directly in the choice of materials and to make this an explicit part of the design concept (field notes 28.05.2014). Not only does this vignette highlight the intricacy of material knowledge and practice in spatial design and the controversies that are part of collaborative design but it also points to the significance of aesthetics beyond beautification: an important aspect of the material culture of spatial designers, the way in which they think about and operationalise materiality, is focused on how material assemblages affect human bodies. Here, the body may gain significance only partially (such as through prioritising one sense, like visuality or tactility), but it does feature, even though architects often tend to not focus on the body in their practice (see Imrie, 2003). The way in which the body emerges in these spatial design practices reflects the argument of phenomenologists, such as Husserl and Merleau-Ponty, who, like the designers, describe the body as a necessary locus of sensual perception that "makes

possible the very ascription of thoughts and sensations to subjects" (Carman, 1999, p. 206). Spatial designers think about the human body and about perception as a recipient of their targeted aesthetic configurations. Design- and space-specific material knowledges and practices, in that sense, are deployed to "tune spaces" (Böhme, 1993, 1998, 2006, 2013) in ways that can be commercially acted upon by clients (such as through "tiers"). And, as such, they are part of the intermediary role that designers take on (even though they may lead to crude classifications and reaffirmed stereotypes). They also underline the entanglement of creativity and commerciality in design as material practice.

Materials, Politics and Cost-Engineering

In spatial design, material properties are also made relevant not just in the context of conceptual space but also in the context of construction and regulation. StudioFour designers tended to speak about these aspects of materiality as "technical":

> [Y]ou've got to be very technical as well and look at the build-up of a wall. So, one material may have an effect on the way that performance of the wall works for acoustics; for heat-loss; for sustainability issues. (…) [T]here are all sorts of technical issues that you've got to pull together. (Charlie, 01.04.2014)

Much of this thinking about materiality is about using materials "realistically" to know about "what is achievable". For Ryan, it was about getting,

> some sense of if a particular material works or not, (…) [the] ways in which you might use it realistically, you know, that are achievable in that particular place. So that it'll be robust and it's not going to degrade in any way. So, like, you know, you can't use timber everywhere, because it would just get absolutely kind of obliterated (…) (Ryan, 07.08.2014)

The question of whether a material will work "realistically" is dependent on context and does not only relate to briefings, client requirements, regulations, interpretations of local cultures and so on, but also includes pragmatic considerations, such as wear and weather conditions.

Material Properties and Building Performance

In spatial design, many of these material considerations involve anticipating how a space is physically put and held together. Here, pragmatic considerations focus on contextual aspects that mediate the design process. As Charlie described to me:

> If you're building by a railway, there are vibrations (…) there's no point in designing a building which is wholly glazed, and it's going to resonate every time a train comes in. So, these are quite important aspects for choosing materials for a building. (Charlie, 01.04.2014)

These pragmatic and contextual considerations are an important part of spatial design's stuff system. At StudioFour, this had evolved into the paradigm of "buildability". Caroline explained this to me:

> [Y]ou can design something fantastic, it can be brilliant, but if it doesn't work as a building (…) I remember [one of the founders] always saying, 'It's buildability! You have to be able to build what you design'. (Caroline 30.10.2014)

Being "able to build what you design" was meant metaphorically and demonstrates the complex material work that designers engage in, such as mediating client expectations, regulations, materials against the backdrop of conceptual ambitions and commercial pressures. As a framework, "buildability" is a gateway for material, construction- and use-related concerns to enter the design process. But how do designers know about and enact materiality in relation to "buildability" if they are not the ones who build? What serves as a platform in this context is the reinforced standardization of the so-called technical "performance" of materials. The term "performance" in spatial design refers to shared understandings and regulations about what materials, when put together in a building, technically can and must "achieve" in relation to usage. For example, the "performance" of a material can relate to controlling vibration (see Charlie's quote above), to sound (especially in spaces like schools or offices), to insulation, to daylight, to environmental aspects and so on. Information on "performance", usually, can be found on a material sample: at the back of each sample, there is a list of technical aspects or "performance standards" that the material "achieves" (e.g. with regards to wear or fire-resistance).

Figure 37: Material samples with performance details (source: author's photos, 2014)

In general, "performance" is specified through regulatory frameworks that clients and designers must comply with and which are reinforced by planning departments through the process of giving planning permission. One of the frameworks that StudioFour frequently worked with and had to comply with was BREEAM (Building Research Establishment Environmental Assessment Method). BREEAM is focused on the environmental standards set by the government and is used as an assessment method for "sustainable" design and construction in the context of commercial development (BREEAM Website, 05.05.2017). As part of one of their projects, StudioFour had to get their design assessed by BREEAM (this framework applies to commercial developments only, not to residential projects, which have a separate sustainability framework). They had to achieve a certain number of points to reach the BREEAM level that was set by the local planning authorities:

> [There] is a minimum standard that (…) a council setting but it's a set of check list points. You have to gain a certain number of points to gain a certain level. It's BREEAM and the council will say that this building needs to be BREEAM excellent of BREEAM very good and that gets a certain percentage. You mix and match your points to get your percentage. (Michael, 08.08.2014)

Here, the focus was on "materials, (…) the whole building really" (Emma, 08.08.2017) whereby "most of the points come to do with energy performance systems being built" (Michael, 08.08.2014). With their design, StudioFour had to achieve 70 points overall in the design process to "show compliance with the credit [and] it's our responsibility to do that" (Michael, 08.08.2014).

The design team, therefore, was joined by an independent BREEAM consultant who continuously gave feedback about the design in terms of the BREEAM score:

> [H]e works to get the approval for us. So, he's looking at the scheme and trying to be as inventive as possible as to how we can achieve those credits, that's basically his job. (Michael, 08.08.2014)

As lead designers, StudioFour had to liaise with the rest of the design team (such as structural engineers, sound engineers, lighting consultants and so on) and the BREEAM consultant to achieve the required BREEAM standards. They were also responsible for pulling all necessary production information together and submitting it to BREEAM to receive the required design certificate[49]. In this context, the production information (i.e. drawings, specifications and schedules, see Chapter 3), explicitly addressed performance requests. This was all about "proving" that a certain design in conjunction with materials was "adequate":

> You're proving (…) that you have adequate insulation and you have enough physical space with the insulation and it will build up that you've got window sizes and things that work with the amount of daylight the rooms need. So, it's all the sort of technical design stuff that gets proven (…). (Michael, 20.01.2015)

While drawings are design plans, specifications ("specs") explicitly outline the required material performance and are instrumental for "achieving the design":

> [S]pecifications are for your performance (…) it links in with achieving the design. So, you're saying, some walls have got a certain type of brick, and we tell the planning department we're going to use this tape of brick. We then specify that type of brick, the contractors know he has to build it from that type of brick because it was agreed at the plans (…) specifications (…) go literally [from] the roller shutter to the reception desk (…) so the contractor can choose it (…) [W]e literally go through every item (…) There's all the types of glass, central panels, split places, and you're putting in there exactly what thickness of glaze, and how thick the double glazing has to be, all of

[49] This was the first stage of certifying a building as BREEAM-compliant. The second stage "is where the contractor has to have built it according to this plan, so he has to fulfil these things" (Michael, 08.08.2014)

> these the contractors got to do; has it got to be toughened glass, you know, and all those regulatory issues have to go in there. (Michael, 20.01.2015)

These specifications have to be read together with schedules (the lists of the material items, such as doors, windows and so on). Together they are crucial for the physical construction of space:

> [T]his is the door schedule. The internal doors, they have literally a list. So we've got a door number on the drawing, on the plan, that number will be next to the door. It tells you what level that door's on, which room the door serves, the type of door. We've got door types, we see the drawing, door type one, it tells you what size the structural opening of the door is, everything you need to know about that door so you can give it to a carpenter, and he can understand by the door number and he can figure out where the location of the door comes, and he can just go and build you a door. (Michael, 20.01.2015)

The point here is that spatial design's stuff system does not treat doors as objects but focuses on the properties of certain materials (or their rawness or as matter) and what these must "achieve" in particular spatial contexts. Here, materials are non-passive[50] (Were, 2015) and are "marked by the impossibility of controlling [the] materiality" (Bille & Sørensen, 2016, p. 22) that ends up as built space. Frameworks such as "buildability", or BREEAM are deployed to mitigate this uncontrollability. Actual spatial settings, conversely, are dependent on *how* material properties are made relevant in the design process. In this context, a lot of designers' material knowledge and culture evolves around making the transition from conceptual phases of spatial design to preparation for construction. This is illustrated in the following vignette:

When I got to the studio one day, I spotted an elaborate sketch that looked like a hand-drawn comic strip on Michael's desk. When I asked him what it was, he told me that this was a "storyboard" for a project he was working on. It was a three-page document with very detailed sketches of architectural details, such as wall details, doors, stairs, windows, balconies and so on. It also outlined the respective material and how it had to be put together.

[50] For contemporary anthropological research into materials, see Drazin and Küchler (2015).

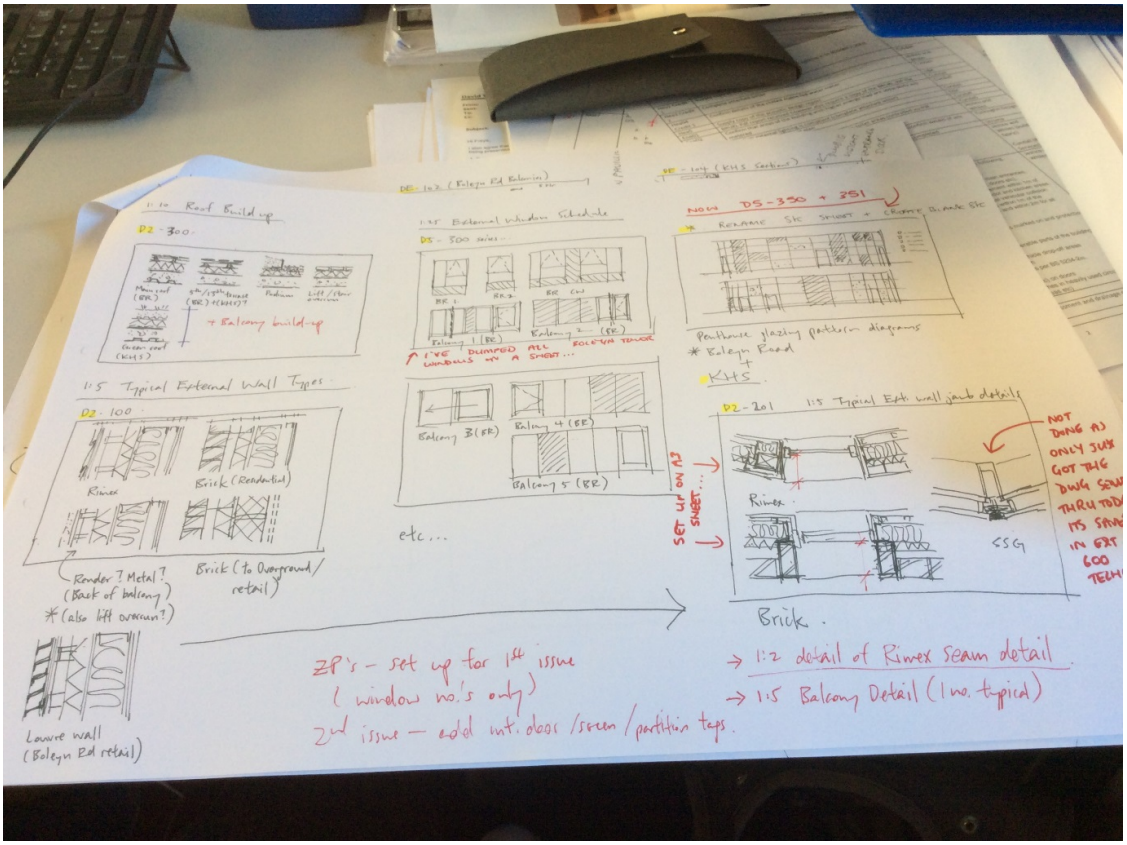

Figure 38: Michael's "storyboard" (source: author's photo, 2015)

Michael explained that this was an internal document used to understand how it "all comes together" and how they can "make the form work" and also so that drawings of these details could be produced (field notes 20.01.2015). Michael's storyboard was not only an instantiation of working towards "buildability" in terms of clarifying structural details, but it also served as basis for costing architectural details:

> [T]he objective of this set of information is to communicate to the client's quantity surveyor and to the contractor the main essence of how the building's going to be built and what it's going to be built of. [It is] to be able to tie down the architectural details and to be able to cost it. (Michael, 20.01.2015)

Michael's goal with the storyboard was to "pick out all of the unique bits of construction (…) and to try and draw one version of variations" because there would be different costs to different variations of these "bits of construction", both in terms of the material and how it would be put together (Michael, 20.01.2015). For Charlie, material knowledge very much evolved around knowing about the cost of materials, in direct and indirect ways:

> [Y]ou have to know your materials, you have to know what the values are, the costs, be on top of new systems. (…) It is not just the visual appearance, it's the practical way (…) [A]nd then ongoing issues as well, so always think about cleaning (...) [I]f someone's got to spend 50k a year cleaning their building, because you designed something that actually only looks pristine when it is clean, it's the wrong kind of the design probably. (Charlie, 01.04.2014)

That designers have to "always think about cleaning" suggests that a large proportion of considering materiality in design is focused on cost considerations. At StudioFour, much of the design work went into figuring out and spelling out what this meant in detail. Michael explained this process to me:

> So you'd say, we've got a number of window situations, so we're going to draw windows. We've got balconies doing this and then we've got balconies doing that, so we've got two variations maybe of balconies. We've got a bit of glazing through a retails section that looks like that, but in another bit of the retails, we've got some glazing that looks like that. So, you draw both of them to show the differences. And you just do that through the whole scheme, so you're just trying to figure out where all the unique points are. (Michael, 20.01.2015)

Getting to grips with the material make-up of a future space and its cost implications and agreeing to them was an important step in assembling conceptual space. Here, the core reference is the client's budget:

> It's normally at this stage to try and get the cost agreed and fixed. And that obviously has to tie in with the client, so the designer may have to change it if there's not enough money in the budget to do what the designer originally intended to do. (Michael, 20.01.2015)

The important part here is that the different costs for materials are a pivotal point in spatial design. This pivotal point is firmly embedded into spatial design's stuff system and frames the interactions between spatial designers and the construction industry: as part of the procurement process,

designers submit drawings, schedules and specification (the "production information") to a range of contractors on behalf of clients in the process of "tendering" (see also Chapter 3). This is so that

> [the client] can get into a building contract based on a price, [so that] the client has a choice of the details they're getting linked to is what they're expecting in terms of the performance of the building. (Michael, 20.01.2015)

Contractors then, based on the "production information", pitch an overall price for building the space with the expected performance. The client then, based on the submitted cost plans, chooses a contractor. In a "design and build" contract (see Chapter 3), the most common contractual arrangement for commercial development, contractors then take over and are legally bound to deliver the building with the agreed "performance" at the agreed cost. Because contractors, too, must work within the set budget, they also must absorb any losses they make in the process. However, they equally can generate profit, for example, by achieving lower prices for materials than estimated/pitched. Therefore, as part of the responsibility towards their clients, designers are obliged to make the "production information" as specific as possible. If there is ambiguity, then contractors can also, for example, charge extra for additional materials or construction work.

Fit for Purpose

The practice of working within set budgets and against the backdrop of regulations is entangled with (material) politics that emerge throughout processes of spatial design. They are prominently played out in terms of *cost-engineering* of materials. The following vignette illustrates such a case:

During my entire time at StudioFour, the student accommodation team had been on working on a London-based redevelopment. This project focused on turning an old town hall into student accommodation for a London-based university and kept the whole team quite busy (see introductory vignette in Chapter 1). The town hall was a building that consisted of three buildings from separate periods – it had a mixed architectural fabric, as was explained to me. StudioFour were employed by the developer to lead the design team from the architectural standpoint in this project, starting off with the concept design of this scheme and subsequently were also appointed for the detailed design stage (i.e. producing "production information"). This new development consisted mainly of residential units (one- and two-beds for students), but also studio space for art students. In addition to this, it would also house the local community theatre, who were

currently occupying one of the three buildings. In other words, the people running this theatre were stakeholders in the project. StudioFour were in charge of integrating a new theatre into the overall design scheme. In late 2014, I attended a meeting specifically about this theatre. The purpose of this meeting was to discuss the specifics of the theatre interior and,

> for the theatre client/stakeholder to develop their theatre fit out brief with the theatre design specialists. We'll be there to provide input and highlight restrictions/opportunities as the designers of the main envelope of the building. (Michael, 16.09.2014)

The people present in this meeting[51] were, as always, representatives of the developer (the project manager and quantity surveyor), Michael from StudioFour, two theatre designers from an external theatre design firm who had been called in to support the theatre design, a sound consultant and, for the first time, also the stakeholders: the two women who were running the community theatre (which I will hereafter call "theatre stakeholders"). As a representative of the lead designers, Michael's role in this meeting was to mediate between the different members of the design team, particularly the client and the theatre stakeholders. This also included making sure that discussions did not deviate too much from the original concept that had already "been sold to the planners". The discussion flowed from the theatre designers presenting different ideas of how (what they saw as) an empty space could be shaped into a *theatre* space that would meet the needs of the community theatre. These suggestions ranged from putting the theatre workshop into an area where potential smell from fumes would not be disturbing, to making sure that materials and construction methods would be used so that the theatre was compliant with sound regulations. The needs of the theatre stakeholders were very specific, especially in terms of material quality. For example, one of them said that the "technical stuff" had to be resilient because the people who would operate it had "different competencies". She explained that they worked with people who were professionals but also people "who have been unemployed for ages and knocking around [the area]". She also requested for the windows to be bullet-proof as there had been a shooting in front of the theatre at some point and one bullet had gone through one of their windows. Therefore, they wanted to be protected in case this would happen again. Both project manager and quantity surveyor (both directly employed by the developer, i.e. StudioFour's client) were not really involved in this discussion, apart from making the occasional comment that this design or that idea would not be feasible due to budget constraints, or stating that this would have

[51] All quotes in this vignette are based on my field notes from 16.09.2014.

to be put into drawings so it could be costed. Michael, despite being concerned with maintaining the "key architectural intention" in the theatre design, was supportive in facilitating the exchange between the theatre designers and the theatre stakeholders. Throughout the meeting, I had the impression that this was a rather productive get-together and that everybody involved was clear with where the theatre design was going as part of the overall development and what the options were, generally, aiming to achieve the best for the community theatre.

After everybody had left, I met with Michael to talk through the site and the design concept. The account he gave disclosed the (material) politics entrenched in the commercial practice of this project and how they maintained certain power relations between developer, StudioFour, and stakeholders through cost-engineering. Michael began our meeting by saying, "Oh god, I feel so sorry for these poor theatre stakeholders". I paused helping him clean up the coffee cups. "Why?" His comment hit me by surprise, mainly because my feeling during and after the meeting was quite the opposite. The discussion was about how the theatre could be outfitted best according to the needs of its future users. The three theatre designers even seemed enthusiastic – they had brought along some sketches and suggested a range of creative solutions to particular issues, such as fire escape routes, layout of the foyer in relation to acoustics and flexible design for changing rooms. And despite budget-related interventions from the developer's representatives ("an additional door here is way off budget"), it had been a lively conversation between them the theatre stakeholders. "Because it just won't happen" Michael replied. We sat down and he explained to me that the developer had acquired the Town Hall and a data centre slightly opposite it to develop both into one residential block - the new student accommodation block StudioFour was designing. The current community theatre was sitting in between the Town Hall and this data centre. The local planning authorities gave planning permission to this project under the condition that the developer would build a new community theatre but in return would be allowed to also acquire the publicly owned land where the theatre was currently sitting. This requirement was prompted by section 106 (of the Town and Country Planning Act 1990, which places planning obligations on developers as a condition of planning consent to off-set possible negative effects of a new development). The developer agreed to this deal under the condition that there could be residential units on top of the theatre to make this part of the land profitable as well. To understand these spatial and political relationships, I had to sketch them:

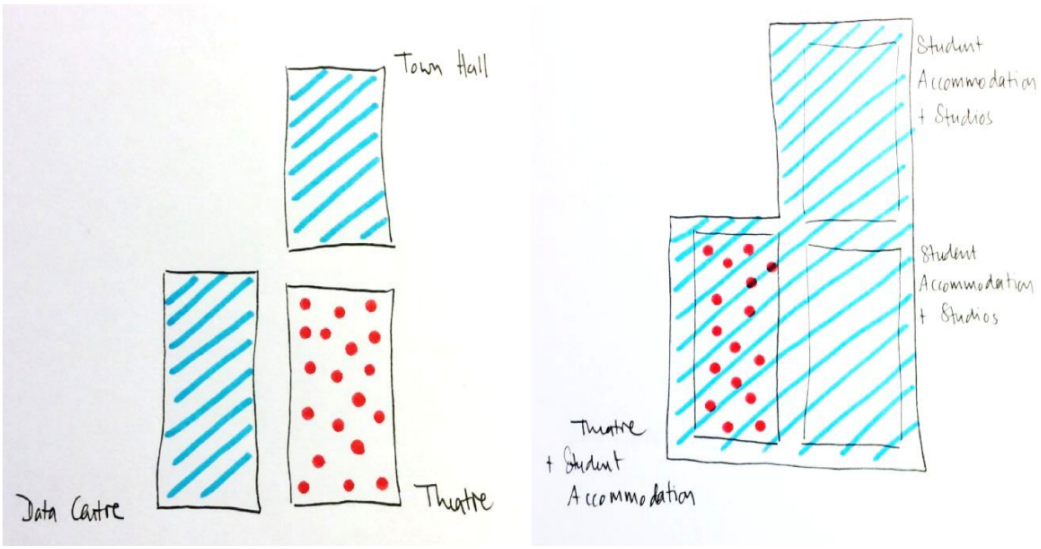

Figure 39: My sketch of the land-ownership situation in the student accommodation project (red dots: public land, blue stripes: private land) before (left) and after (right) the deal was closed based on the section 106 agreement (source: author's sketch, 2014)

Being forced to build a new theatre in exchange for land, the developer had set aside a fixed budget for the theatre part of the project. The plan was to relocate the theatre to the former plot of the data centre and build it anew. Most of StudioFour's design work in relation to the theatre had gone into creating the shell of the theatre, particularly an iconic façade, not its interior.

Figure 40: Iconic façade of the project (source: StudioFour website, 2017); *due to copyright protection, this image cannot be shown*

One of the reasons why the theatre's interior had not been the focus of StudioFour's work was because the developer had functioned as an intermediary or gatekeeper between the theatre stakeholders and StudioFour. I, once again, had to sketch this relationship:

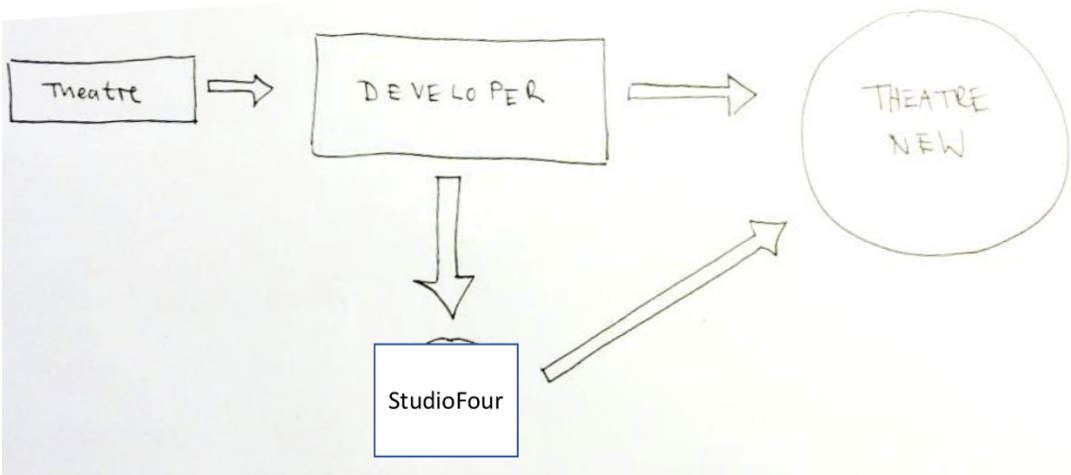

Figure 41: Stakeholder relationships (source: author's sketch, 2014)

"The developer wanted to prevent getting stakeholder knowledge; as the middleman between us and the stakeholders they have no interest in representing the stakeholders as well as they could" claimed Michael. "Why then", I asked, "was there even a theatre design team brought in? And why so late, when the development had already gotten planning permission and StudioFour was drawing construction plans and demolition was already scheduled for the next month?" "Because the theatre has to be a 'working theatre fit for purpose' and recently there were different understandings of what 'fit for purpose' means" Michael replied. For the developer, it meant to provide the minimum needed to run *a* theatre. While the design team, the developer, the architects, engineers, consultants and so on where pushing the scheme further to prevent delays (which were costly due to increased fees by the design team and potential fines charged by local authorities), the theatre stakeholders had applied for council money to employ professional theatre designers to be brought into the project. The council approved the additional sum to hire theatre design professionals to improve the interior outfitting. However, this money was given to the developer for administration (i.e. their quantity surveyor). In other words, the council freed the money but expected the developer to manage it as part of their development process. The relationships that made up this project, then, got ever more complex: the theatre designers were paid with council money through the developer but were employed by the community theatre and had to work closely with StudioFour as the lead architects. Furthermore, the money provided

by the council was for the fees charged by the theatre designers, not for actual improvements in the design and construction. Therefore, all improvements had to be within the developer's original budget.

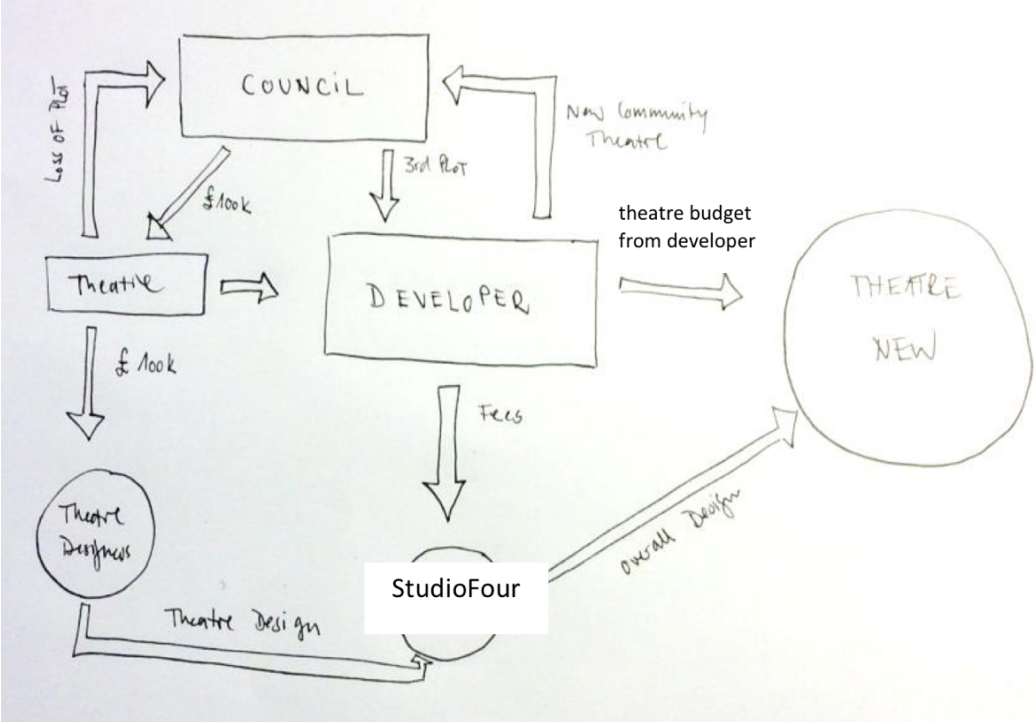

Figure 42: Stakeholder relationships including additional funding (source: author's sketch, 2014)

According to Michael, the development of these relationships was driven by different interests and benefits: the council would be able to claim that section 106 had been taken from a private developer to build a brand-new community theatre which was for the benefit of the "community and, equally, would make the developer look good". But equally, StudioFour would be able to praise itself with steering such a complex project and designing an aesthetically pleasing community project[52].

What is important in this story, apart from the fact that it illustrates the local development priorities and competencies of London's councils (see also Wainwright [2015]), is that the political interests of the most powerful actors in this project were directed by cost-concerns in relation to materiality. This is exemplified by the following: the design meeting with the theatre stakeholders, theatre designers and the rest of the design team ended with a discussion on the material of the

[52] This was evident in the fact that this project has been featured on StudioFour's website for a few years now. Subsequently, the project also won a design award.

theatre walls. The theatre stakeholders were told that the current theatre's outfitting[53] saw the walls plastered (which is a cheap material to build walls). One of the theatre stakeholders, the older and seemingly more experienced of the two, got upset about this decision. She explained that a theatre would always "generate stuff", costumes, props and so on. These were usually stored and re-used, especially since the theatre could not afford to buy or build new props for each production. She continued that the theatre, therefore, usually put shelves on every possible wall (studios, offices, hallways) to store these items, which meant that the shelves and walls should be able to hold quite a bit of weight. The proposed plaster walls, however, would never be able to hold this weight. According to Michael, it was generally too late to implement changes including a new material for wall. He said that the scheme was already too far into the pre-construction phase, that design and basic outfitting had been agreed upon and fitted into the budget and that, therefore, any change of plan would fall outside of the given budget.

These dynamics reconfigure the notion of "tuning space" (Böhme, 1993, 1998, 2006, 2013): spatial design is not only about "tuning up" material configurations of space. It equally is about tuning them down against the backdrop of specific contexts, such as given budgets and dominating power relations. Here, designers' material knowledges and cultures are deeply intertwined with skill to navigate these cultural, economic and political conditions and shape both conceptual and built space. More important, however, is the significance of cost-engineering materiality in design practice. Because all costs are usually agreed upon (design fees, consultant fees, contractor fees and so on) in the context of a fixed budget, materials remain the only somewhat flexible budget item were costs can be reduced. Therefore, materials are often the first thing that is cost-engineered down. These kinds of relationships and dynamics require designers to think about materialities in ways analysts tend not to: materialistically. This is as much pragmatic as it is political because it is deeply entangled with political and regulatory frameworks (such as material performance, BREEAM, section 106) as well as with the organisation of design in the context of wider power structures. Here, contemporary protocols of spatial design can invite crude paradigms like "fit for purpose", which, in turn, can "spatialize" (im-)morality (see Chan [2015] for an important discussion on the topic of morality in architecture) by affirming the priority of client problems over user problems. As a consequence, there is unequal access to and participation in design as "intentional problem-solving" (Parsons, 2015). In this story, those with the least cultural (such as design, planning and construction knowledge) and economic capital (budget), the theatre

[53] Even though the overall concept had already passed planning permission changes to the interior could still be made because, as it was explained to me, legally, smaller changes usually do not require re-applying for planning permission.

stakeholders, were those whose design problems were heard the least. Because of the significance of their mediating role in this set-up and the commercial pressures they face themselves, designers participate in these structures, but can rarely challenge them. Working with materials materialistically can thus be considered part of the considerations that mediate market relations in spatial design. Such dynamics suggest an entanglement of the social organisation of design with wider social inequalities (see Chapter 7).

Conclusion

For designers, putting "materials together and designs together" is "what we do" (Charlie, 01.04.2014), they bring together thought and matter. Therefore, this chapter has focused on the material knowledges and the material cultures that underpin spatial design processes. It has argued that designers do work with materiality pragmatically, particularly in the context of user experiences of and technical details for physical construction, but also cost considerations and politics. Therefore, the case of spatial design underlines that the "borders between, and differences in material materiality, non-material materiality and the social context tend to blur" (Müller & Reichmann, 2015, p. 14).

As part of navigating the complex and ambiguous ways in which materiality accrues meaning in spatial design, StudioFour designers enacted a specific material culture. This prominently emerged from learning about materials and their properties through various engagements with material samples. As part of that, designers developed and maintained close relationships with material manufacturers and suppliers as an important means for learning about new materials' properties both in terms of aesthetic and technical qualities. By sensually engaging with samples of new materials, the designers built up a detailed affective and embodied understanding of material properties and technicalities. This was an important aspect of spatial designers' material culture in that it helps them to affix value and meaning to materials in relation to a future space and its context. At StudioFour, this kind of material learning and enactment further manifested through the "library" where designers stocked all sorts of samples to be tested/used and re-tested/re-used for new projects. As an important resource, the "library" was an instantiation of "living with objects and materials" and facilitates "invention" through "the long-term engagement with them" (Farías & Wilkie, 2016b, p. 11). In that sense, it also helped to stabilise StudioFour's material culture and supported the development of material knowledges and vocabularies that were part

of the StudioFour- and spatial-design-specific cultural capital. The material samples that were stored in the "library" did not only take on a "social life" (Appadurai, 1986b) but also had an additional function: they served as strategic objects (i.e. as part of palettes for convincing clients of design narratives and the suggested choice of materials). They therefore functioned as "nodes" and not totems (Hennion, 2016) by oscillating between a status as object and a status as matter as opposed to being based on the "flat ontology" that informs new materialism in sociology (see Fox & Alldred, 2017). This can be seen as characteristic of how spatial design (and not spatial construction) engages with materiality.

Material knowledges and practices form the basis for "aestheticizing" (Böhme, 1993, 1998, 2006, 2013) space and speculating about how materiality might affect bodies in future spatial arrangements. Here, designers focus on different material properties, such as the tactile quality of materials, especially in terms of linking up affective potentials of materials with classification of social groups (such as "the elderly" or "dementia patients"), but also with regards to commercial (such as pricing options for clients) or pragmatic considerations (such as hygiene standards). These practices emphasise the significance and weight of the studio as locus for cultural production which creates a "space of 'material intimacy' (…) in which [we can find] an intensive and comprehensive engagement with non-human entities as complex things that cannot be reduced to some of its qualities, properties or figurations" (Farías & Wilkie, 2016b, p. 11). This engagement, however, is pragmatic and contextual in several ways. Other than through samples, designers develop their expert knowledge on materials around issues of "buildability" and the structural, but also regulatory aspects of materials (such as BREEAM), expressed in "performance" standards. That is to say that the way in which designers think about and professionally operate with materials is focused on making the translation from conceptual space to detailed information for construction in the light of commercial and regulatory aspects of spatial production (i.e. producing drawings, specifications and schedules to achieve planning permission). These aesthetic, structural and regulatory considerations of materials, however, are strongly mediated by commercial/cost-considerations: "buildability" in terms of "being able to build what you design" (Caroline, 30.10.2014) also meant to realistically know about and operate on the costs of materials based on supply, construction and maintenance ("always think about cleaning" [Charlie, 01.04.2014]). These costs (and ergo quality) of materials are kept as flexible leverage points in spatial design and construction budgets (particularly in "design and build" contracts), which means that designers do and have to think about materials in a way analysts do not: materialistically. The cost-engineering of materials, furthermore, unearths some of the wider political dimensions of

spatial design, particularly with regards to power relations between developers/clients, designers, councils and stakeholders: getting a building "fit for purpose" could/would mean to materially comply with minimum "performance" standards, regardless of whether these would actually meet user needs or not.

That is to say that, evidently, design "begins and ends with materiality" (Julier, 2014, p. 249). Here, however, designers "are privileged makers" (Kimbell, 2011, p. 291), especially due to the mediating role they take on in design processes which entails not only providing creative-technical expertise, but also coordinating a range of collaborators and in the context of policy frameworks. The "stuff system" (Molotch, 2003) of spatial design, therefore, is largely based on and driven by human agency, or even a distinct form of the "anthropocentrism that takes the human as all measure of things" (Fox & Alldred, 2017, p. 8). Here, designers' "vague notions of society, culture, imagination, creativity" (Yaneva, 2009c, p. 28) do, quite literally, matter. Therefore, we can acknowledge the significance of materials and objects as "non-human actors" without having to lose sight of the particular cultural, economic and political contexts in which designers enact them – which is entirely in line with Hennion's (2016) notion of pragmatism that is concerned with "'socializing' objects, but not by emptying out their content" (p. 299). Such a framing also provides a window for tending to how industry-specific politics may be a symptom of market practices that perpetuate unequal participation in design as problem-solving: the significance of cost-engineering materials against the backdrop of given budgets, enforced timelines, individual political agendas, regulatory frameworks and design collaboration protocols can result in poor material quality of built space, especially for disadvantaged stakeholders. At the same time, this negates Böhme's (1993, 1998, 2006, 2013) notion of "tuning space": spaces are materially configured via different sorts of compromises and constraints as opposed to simply adding things or implementing some sort of 3D-replica of what the designer has envisioned. In other words, spatial design is as much about tuning down materialities as it is about tuning them up. Therefore, the ways in which designers operationalise aesthetics (i.e. the profound relationship between our material environment, sensuality and sociality, see Chapter 1) is mediated by commercial, regulatory and political considerations[54], particularly in the context of materiality.

[54] For a similar and relevant line of argument, see also Jackson (2016) on reconsidering the registers of the aesthetic as part of a political and decolonial project.

This chapter has discussed the material dimensions of spatial design at StudioFour and their commercial and political implications. The next chapter will turn to how the studio navigate their wider market environment and examines their market-directed practices and calculative cultures.

Chapter 6

Market-Directed Practices and Calculative Behaviours

People here are generating our projects, our reputation.
So, you know.
(Caroline, 30.10.2014)

Introduction

The previous chapters have shown that spatial designers constantly strive for striking the right balance between client demands, regulatory requirements and technical detail while being creative, providing spatial expertise and navigating political dynamics. As argued throughout this thesis, this happens against the backdrop of a specific commercial environment. These circumstances highlight the commercial element within a range of key spatial design aspects, such as organisation and production of design (Chapter 3), materialising and calculating conceptual space as product (Chapter 4) or cost-engineering materiality (Chapter 5). They also suggests that much of professional design is explicitly market-directed. At StudioFour, this market-focus was particularly explicit in the context of navigating market competition. As a large and internationally operating practice, one of the main concerns was to gain and retain a favourable position in the wider market context. This was deeply entangled with the *distinct* form of competition in spatial design. Here, a "post-Fordist" market competition, which is characteristic for the creative industries at large, creates a "highly competitive and difficult economic climate" and demands constant "management of the self" (McRobbie, 2016, p. 8). Underpinned by network- rather than firm-focused labour structures (see Tonkiss, 2002) as well as precarious working conditions that tend to be based on free-lance employment structures (see Cayer et al, 2016; Deamer, 2015b; McRobbie, 2016), both individuals and organisations constantly compete for work on a project-basis through pitching (see also Chapter 3). This means that (spatial) design practitioners find themselves in a loop of competition, which requires that they become competent at the promotion of their services and their firm (Gutman, 1988, p. 20).

A crucial element of retaining commercial stability in this context is a firm's reputation. As discussed in Chapter 3, one of the rationales of maintaining a business development position at StudioFour was to cultivate StudioFour's reputation as a "sound practice" (Angela, 10.12.2014) to secure a steady stream of new projects. Other firms take this further and build a brand to promote their services and expertise, similar to the way in which products are marketed in consumer markets through branding and marketing. In spatial design or architecture, this type of branding is *spatial* in that it builds on promoting a distinct (aesthetic) identity that derives from spatial design skills[55] and style (Gutman, 1988, p. 14). At the most extreme, this evolves into "iconic" architecture (Sklair, 2005, 2006 2010) or "St/architecture" (Heathcote, 2017; Ponzini & Nastasi, 2016) whereby individuals (see Stevens [1998] on "masters" in architecture) rise to fame beyond the industry. A prominent example in this context is architect Zaha Hadid, whose signature style was developed into a brand, which has been supported by her spatial designs for the Olympic Games. Her style has also been commercialised into other products, such as furniture. Spatial design style, however, also has an inward-facing function in that it speaks as much to current and potential employees as it speaks to clients. That is to say that a firm's identity or reputation has an aesthetic and an organisational dimension, both of which are rooted in a studio's history, memory and ideology and are enacted through mundane practices and design style. This weighs against the need to stay flexible and allow for growth while staying in tune with wider market developments and studio priorities. In spatial design research, therefore, neither the term "market" nor the term "position" can be considered static, both are in constant flux (see also Chapter 2).

Despite their significance, the entanglement of these elements has not been subject to much discussion in spatial design scholarship. Here, style and branding are addressed in relation to consumption, for example in the context of spatial products that are promoted as brands or in terms of architecture for consumer brands (or "brandscapes", see Klingmann [2010]). Spatial branding also plays an important role in discussions around city branding and regeneration (see Porter, 2016), among practitioners and scholars alike. What is missing is an engagement with the ways in which branding, identity and reputation are enacted not only in relation to market dynamics but to the individual aspects of any given design organisation. This is, in part, due to the fact that sociological investigations of branding have said less about branding from the producers'

[55] Here, some architectural discourses have idealised particular design approaches as part of the theorisation efforts that characterise contemporary Western architecture. In this context, prominent architects have theorised their own distinct way of "practising" architecture, both as part of spatial design pedagogy and as a contribution to the wider architectural discourse (e.g. Zumthor, 2015).

point of view than from the consumers', despite their aim to challenge the dichotomy of production and consumption.

At StudioFour, reputation, (aesthetic and organisational) identity, memory and branding all played an important role in how market-directed practices were put together and rationalised. This also informed the market-focused processes and skills that StudioFour designers established to engage in what (Muniesa, Millo & Callon, 2007a) call "rendering" things economic (p. 3), particularly with a view to the marketplace. Because of that, it is useful to think about these strategies in terms of "market devices" (Muniesa, Millo & Callon, 2007b). Market devices designate the interplay of techniques, tools, objects, narratives, languages and metrics that help stabilise valuation frameworks across human and non-human actors (Muniesa, Millo, & Callon, 2007b) and facilitate devising the abstraction that is necessary for market-directed practices (e.g. the "value" of a design firm strongly relates to its reputation which, in turn, affects market positioning and can increase project influx). Developed as part of the "pragmatic turn" in economic sociology (Muniesa, Millo & Callon, 2007a, p. 10), market devices have mostly been analysed as "the material and discursive assemblages that intervene in the construction of markets" (Muniesa, Millo & Callon, 2007a, p.2), such as analysts' reports, financial charts, purchasing centres, management instruments, as well as supermarket settings, market research instruments, financial derivatives, classification schemes and consumer credit scoring (Muniesa, Millo & Callon, 2007b). Here, moments of market transaction and price, or, what Slater (2002a) calls "instrumental rationality", take centre stage. Spatial designers, however, act upon their market in terms of maintaining a favourable market position through reputation management and against the backdrop of identity work, not primarily through price-determination and sales strategies. That is not to say that there is no transactional element in spatial design, there is (for example, see Chapter 3 on contracts or Chapter 4 on fees or Chapter 5 on cost-engineering materials). But transaction is not the main nexus of market-intervention in spatial design and competition is not primarily based on price. Market-focused interventions build on more vague things, such style, pitching and business-savviness.

Therefore, the term market device, here, is used to analyse how StudioFour actors engaged in market-directed practices. This helps to explore what kinds of strategies and tools they deployed in the context of marketization (Callon, 1998), i.e. the co-configuration of the wider marketplace of spatial design. This view from within marks a departure from previous works on market devices that have looked at the tools that re-shape whole marketplaces across many different market

actors, not from the point of view of a specific actor. It also highlights the significance of identity and reputation in relation to marketability in the case of spatial design. Because market devices "do things [and] articulate actions; they act or make other act" (Muniesa, Millo & Callon 2007b, p. 2), placing them at the heart of the analysis allows one to discuss distributed agency (see Hennion, 2016) as integral to market-directed practices. These forms of agency can have different framings, such as branding (see also Lury [2009] for a discussion on branding as assemblage), or diversity and may take different trajectories, however, they still retain an organisational and commercial focus. This is underpinned by different kinds of "calculative behaviours" (Callon & Muniesa, 2005) that are integral to spatial design practices. Callon and Muniesa (2005) define calculative behaviour very broadly, as the performance of mathematical or numerical operations but also the establishment of "distinctions between things or states of the world", to help avoid the distinction between judgement and calculation (p. 1230).

Based on these notions, this chapter investigates how StudioFour acted upon their marketplace through concerns involving identity/reputation/brand, commercial skill and calculative behaviour. It is premised on the assumption that there is a tense, yet productive, link between internal and external stabilisation (i.e. the stabilisation of StudioFour's organisation and the stabilisation of their market position). Therefore, the discussion builds on the notion of market devices and analyses the narratives of StudioFour's historical and organisational identity and controversies around StudioFour as a brand. Furthermore, it looks at the types of calculative behaviour that underpin pitching skills and strategies as well as profession-specific business-savviness and long-term methods of evaluating success.

Identity Work and Branding Issues

Looking at the link between internal and external stabilisation in the context of market positioning is different from looking at the stabilisation of design organisation and design production. The former is about enacting and negotiating studio identity, house style and brand as part of maintaining a reputation, which is seen as crucial for partaking in market-making. The latter is very much focused on pragmatic and logistical ways of bringing together spatial aspects with commerciality (see Chapter 3) in the processes of design work. Spatial design, like other industries that deliver services as goods, faces the issue of pre-materiality: as discussed throughout this thesis, spatial designers must find ways to make their spatial knowledge and creative-technical

skills tangible and qualify them as a commodity. This means that the *abstraction* that necessarily underpins commercialisation and market-exchange (see Bourdieu, 2005; Callon & Muniesa, 2005; Muniesa, Millo & Callon, 2007a) is space- (a studio-specific spatial style) and design-specific (a distinct way of *doing* design) – both are central to product differentiation. Here, there is a link between the way in which a studio holds itself together as a social entity and the issues that emerge for gaining and stabilising a market position. (Commercial) stabilisation, in this context, does not necessarily have to be the product of strategy, it can also emerge through serendipity or shock.

Growth, Reputation and Identity

This dynamic showed strongly in the way in which StudioFour had rationalised and managed its growth over the years. Caroline, the practice manager, made clear that there never was a strict growth plan in place: "We never sat down and said *we want to be 100 people within 5 years*" (Caroline, 30.10.2014). On the contrary, StudioFour had grown in reaction to available work:

> We grew a bit more and then we got into all of our education projects and for the last ten years we have been growing quite steadily. And it's always been growth really as a reaction to the projects we were doing (…) we've reacted to the work we've got. (…) [I]f we shrink down a bit, we shrink down a bit, you know, we've never been just growth for the sake of getting bigger and bigger and fat. (Caroline, 30.10.2014)

Both individual careers (see Chapter 3) and StudioFour's design specialisms had developed in the context of this paradigm of reactive growth. Here, StudioFour's way of opportunistically pitching as part of a flexible growth strategy was both a reaction *to* and enactment *of* a hyper-competitive and a highly volatile marketplace. In that sense, it carried a form of distributed agency between actors that worked toward the inside of the studio while also intervening in market-formation (such as through co-constituting new market sectors, like interior design or education). This, however, was not only a result of agency in the form of pragmatic and economistic approaches to studio stabilisation but also was mitigated by external shocks. One of these shocks that had firmly set in the studio's collective memory was Black Monday[56]. This widespread economic collapse had

[56] The term "Black Monday" commonly refers to 19 October 1987 when the world stock markets collapsed, causing "widespread fears of a worldwide depression" (Black, Hashimzade & Myles, 2009).

a significant impact on StudioFour as both Caroline and Harald (another practice director) vividly recalled:

> And then of course, there was the whole recession then, Black Monday (…) and we dropped from, we were probably 60 odd people to a dozen (…). We had to do a slice down the practice and that was tough, you know. (Caroline, 30.10.2014)

> Then we had Black Monday. (…) [A]nd we had to cut the size of the practice (…) It was desperate, desperate times. We took salary cuts. We took home only the money that we needed to pay the mortgage (…). (Harald, 02.12.2014)

This influenced the organisation of design production at StudioFour. As part of keeping the studio afloat during an episode of recession, StudioFour cut staff and re-organised:

> Everybody went back to doing everything. So, we had such a small group, you know, everybody picked up the phone when it rang and everybody would do everything (…). (Caroline, 30.10.2014)

This illustrates the entanglement of market-directed practices with methods for internal stabilisation: on the one hand, flexible growth (and down-sizing) and the broad spatial specialism that emerged from it, formed an integral part of StudioFour's commercial strategy; on the other hand, it invoked the firms organisational and historic identity. As George recalled:

> The founders, they started the company, it was quite a small company, (…) it was all hands on and they knew everybody and did everything and it wasn't corporate at all, it was the opposite of corporate. It was driven by human beings and personality, rather than by processes (…). (George, 28.10.2014)

The element of "human beings and personality" was particularly important to StudioFour's board directors and designers who had been with the company for many years. Many of them shared a sense of nostalgia as their personal memories and professional vitas were tied to the studio's history. Caroline described one of the reasons why she stayed with StudioFour for such a long time was that her role had evolved and she developed with it because the founders of StudioFour had given her the freedom to do so. She explained:

> When I joined, [one of the founders] who was one of the people who had interviewed me, said, 'Just one thing, how long you think you will stay?' (…) and I said, 'Oh, I'll definitely be here for a year'. (…) And he said, 'A year?' I was like, 'Yeah'. 'Right. Could we make that two?'. And I said, 'Yeah, definitely - not a problem' (…). And I am still here! Many years later! (…) Just, you know, my role grew, changed, evolved and I was lucky to find a group of people who would let me do that, you know. And took on some things when I actually didn't know anything about them, you know. So, I have been lucky, so it just evolved into what it is now. (Caroline, 30.10.2014)

The nostalgia for how people had grown together at StudioFour seemed to be specific to the first generation of StudioFour's designers, to people who had started many years ago when the firm was very new and who had worked directly with the founders. Among the younger designers, the second generation, there was acknowledgement for the legacies resulting from that time, such as the PHDs (see Chapter 3), the social activities and so on, but this was not tied to personal memories and was somewhat more formal and distant. This was due to the much higher fluctuation among younger designers who would move on to other spatial design studios after a few years, often even less. The notion of "individual development" and "freedom", however, remained important markers of how StudioFour positioned themselves for current and prospective employees. For Caroline, this was linked to maintaining the "spirit" of the founders:

> They allowed people to have freedom to develop in this practice. And they set the sort of spirit-feel of the practice (…) that's what we all value. (…) [W]e want to keep this place a place where people want to come to work and feel they can progress and feel that they can, you know, when they are not happy about something, they can speak to someone about it and not - we don't want them to feel that the directors are too remote from it or associate directors are too remote from issues that they have, because (…) *people here are generating our projects, our reputation. So, you know*. (Caroline 30.10.2014; emphasis added)

This "spirit" was an important aspect of StudioFour's "story" which it "needed to build an image in the outside world as well as provide some motivation to do one's work" whereby the "story—and certainly the conditions that lead to it—affect the content of the work output" (Molotch, 2003, p. 23). At the same time, it helped render StudioFour's organisational identity economic and

was as much market-focused as it was organisation-focused: it worked towards building "reputation" while building on the notion that "people here are generating our projects". This connection between internal/organisational stabilisation and external stabilisation/reputation in relation to the marketplace also played out in StudioFour's incorporation as "employees' benefit trust" (EBT). The EBT was "run for the benefit of the staff" (StudioFour Website, 02.02.2016). Because the studio was a trust, "nobody owns it" (George, 24.10.2014). Any end-of-year-profit was divided among all employees based on an equation that took into account factors such as performance and seniority:

> We don't have anything. All we've got is a few computers, that's all the company has. (…) So, at the end of every year if we make a profit, we've created this equation for distributing the profit [on top the salary]. (…) There's no shares; nobody owns anything so there is no equity dividend. (George, 24.10.2014)

The EBT is a good example for how different kinds of valuation frameworks can be stabilised in spatial design practice. The first, internal, valuation framework focused on internal concerns around calculating bonus releases on top of salaries whereby it was assumed that a potential end-of-year bonus would incentivise employees to work harder and be "seen to be working hard" (George, 24.10.2014). Through the EBT framework, StudioFour calculated these potential bonuses based on seniority, experience and on a catalogue of ten questions relating to individual performance:

> It's to do with your position in the company. So, Director, Associate Director – how many years you've been here and then that's multiplied by your performance. (…) [T]he 10 questions are about things which are over and above your general job description. So, if you take your job description what you should be doing is zero. So, *everything that we think is worthy* that you've done - extra effort or say if somebody has done ten engagements doing presentations or conferences or something. (George, 24.10.2014; emphasis added)

The EBT structure was a tool that helped StudioFour rationalise what they thought was "worthy" work and, therefore, helped economise design work behind the scenes and beyond the calculation of fees. As part of this, the EBT reaffirmed how StudioFour *abstracted* "performance" (i.e.

transported it into a "formal, calculative space" [Callon & Muniesa, 2005; Muniesa, Millo & Callon, 2007b]):

> You score on that and that becomes the multiple (…) so that generates a number, right? So, say you score 20 (…) and I get scored 15 and then the others get a number and it all adds up to 3,000 points. We take the profit and we divide it by 3,000 to create the value per point then you're given [a share of the profit according to your score]. (George, 24.10.2014)

However, what kind of performance was seen as a "good performance" could be highly subjective:

> Or if someone has had a really hard year doing loads of travelling and they've been away from their family or if someone really has been working late every night and every weekend. Or if somebody is really good at answering the phone out of office hours or if someone can work from outside, you know, it's about extra effort. (George, 24.10.2014)

In that sense, the way in which the EBT framework was deployed was part of rationalising the valuation framework that underpinned compensation strategies and was specific to StudioFour and their leadership. It consequently played a role for internal stabilisation, not least because it was a vehicle for studio-internal agency. But it was also entangled with commercial considerations in relation to mitigating potential succession issues:

> Basically, it means that anybody that leaves tomorrow, they don't take anything with them. (…) It's to do with succession. It's what's always been a problem for professional companies. Lawyers, architects, accountants - *if you own a company that doesn't have physical assets, you have good will, reputation and all of those things*. And it's very difficult for it to be passed on. (George, 24.10.2014; emphasis added)

The EBT was put in place to protect StudioFour's reputation in the marketplace and therefore helped to stabilise valuation cultures that are specific to spatial design at large. Here, the commercially successful production of conceptual space is not seen as dependent on capital-intensive production facilities, but on creative skill and reputation as main asset (see also Chapter 3). At the same time, the EBT tied into StudioFour's organisational self-image as a firm that valued

individual development, freedom, trust and was "not a clock-watching practice" (Caroline, 30.10.2014). This was seen as something very unique and precious:

> It's part of our structure. (…) [T]hese are systems that have been built up over a long time and they're quite precious. (…) [I]t was sort of unique when we started this but in the last few years a couple of architectural companies have tried to do it. (George, 24.10.2014).

The uniqueness of the EBT was not only enacted through its internal function as a bonus system but also through its representational use: it was deemed so important that it was highlighted on the studio's website. It was positioned to make StudioFour stand out in its wider commercial environment by speaking as much to clients and competitors as to current and prospective employees. Therefore, the EBT is a good case to illustrate the link between internal and external stabilisation in the context of market positioning and valuation, even though it has not much to do with creative work or space.

The Problem with Brand

This is not to say that abstractions of space and creativity did not matter for market-considerations or market positioning, quite the contrary. Both a studio-specific spatial or aesthetic style as well as design approaches are central to product differentiation in spatial design. However, if looked at from the inside, condensing this into a brand to cope with the post-Fordist market competition is not as straight-forward as cases of "St/architecture" (such as Zaha Hadid's opus) may suggest. At StudioFour, branding was a complicated topic. There were conflicting understandings as to how branding could or should influence market positioning. Tracing them via the notion of "controversy", a term selectively borrowed from ANT (see Latour, 2005; Venturini et al, 2015; Yaneva, 2012), sheds light on how market-issues are entangled with the social "ordering" (Latour, 2005) of aesthetic-, practice- and identity-related concerns in spatial design.

As described earlier, StudioFour was made up of a wide range of spatial specialisms (see Chapter 1 and 2) that constantly evolved. This was closely tied to the fact that the spatial design profession had diversified over time, a dynamic that was always present in StudioFour's commercial considerations:

> One sector has been slumped and another sector's been there to go and we have managed to get into it and we grow with it and, you know, another sector starts coming up again (…). It is sort of opportunities come up, you know, we think about it all the time, and we think about finding ways of trying to keep some overseas work here in the office, because, you know, if things go pear-shaped over here, we've got a reputation of doing work overseas, that helps (…). (Caroline, 30.10.2014)

This meant that StudioFour had not developed one spatial speciality or distinct style as a form of branding in the way other spatial design firms had[57]. In other words, there was a notion that StudioFour's speciality was their *broad* design skill and expertise, as opposed to a distinct one. This understanding was rooted in the founders' understanding of the firm, it was something that seemed to have happened half on purpose and half by accident:

> One founder always used to say (…) that people say, 'So, what do you do? What's your speciality?' And he said, 'Our speciality is our generality.' Or, 'Our speciality is our diversity'. (George, 28.10.2014)

For George, who was a member of the senior management team, this broad specialism and diversity in skill was not an asset but rather a challenge that had a negative effect on how StudioFour could position itself in the market to differentiate itself from other firms. It meant weakening StudioFour's "unique selling point" (USP) and prevented the market positioning of StudioFour via branding:

> We're special because we do lots of things really well, which is the opposite of what any branding or PR agency says you should do. You should say, 'I go into that pub because they do real Ale and it's really well kept and it's great'. Or, 'I go to Borough Market because I like the guy that makes that sandwich (…)'. But to mix things up, you have a USP, unique selling point, and to say that you do everything well is, undermines, actually, the whole character which you should take. (George 28.10.2014)

[57] It has to be noted that design or architecture professionals may well have the ability to detected nuances in spatial design style in buildings and attribute them to different studios. Lay persons, however, are much less equipped to do so. The important part here is that some spatial branding efforts through style, such as Zaha Hadid's, are purposefully recognisable to a very broad audience.

For Caroline, on the other hand, diversity and breadth of spatial specialism was not a challenge for StudioFour's product differentiation but rather helped to shape its distinct quality. For her, branding was a simplification driven by "PR people" had who were unable to see "the quality of the practice" in terms of design process and design actors, not the design product:

> I think people have a passion, an absolute passion over their projects. But we don't have a house style. (…) You know, we hope that our house style is the quality of the practice, of the product, and the quality of the people that we have working here (…) this is something you have to strive for all the time. And think of ways of invigorating it and be more and more rigorous in what you do. And that's what we are all about. And PR people find it quite difficult, because they can't put us in any of their box (…). (Caroline, 30.10.2014)

Caroline, here, reported spatial diversity as an asset and a marker of distinctiveness that was tied to "the quality of the people that we have work here" and not to a specifically styled design output. George, on the other hand, was concerned that spatial diversity (or "cross-branding") could deter potential high-profile clients. This tension emerged even more prominently in discussions around StudioFour's new website, which was being developed while I was conducting my research:

> If I've got a sheik who wants to build a luxury hotel in Dubai and he stumbles onto the website and finds out that we're doing social housing and dementia care homes and other stuff, he'll say, 'Really? My luxury hotel's going to be designed by people who do that? No thanks.' So, we're up against people who only do luxury hotels and we do them really well. And for him, it's much easier to understand. So that kind of cross-branding and generality or diversity can be a negative in terms of perception. (George 28.10.2014)

This wider controversy around branding highlights the tension that exists between internal and external stabilisation with regards to market positioning. In the case of StudioFour, George was looking to de-complexify StudioFour's offering through branding for the sake of improving the firm's USP. Caroline, on the other hand, took issue with abstracting spatial specialism and style through branding and was focused on StudioFour's original prioritisation of "diversity" and "quality", which she also tied to StudioFour's internal and historic emphasis on "people". The

"order" (Latour, 2005) that we can find in this controversy is of a commercial nature and emerges through a shared focus on positive market positioning of StudioFour: both Caroline and George were interested in commercially harvesting StudioFour's identity/reputation/brand. That we here encounter multiple layers of individual agency points to both the pragmatist framing (Hennion, 2016) and the notion of market devices: they "make others act" (Muniesa, Millo & Callon, 2007b, p. 2) while leaving room for different forms of agency that are distributed across a range of actors[58]. These different forms and understandings of what can be considered economically or commercially relevant (diversity, people, reputation, brand and so on) may be ambivalent but they are not inconsistent. Rather, they are "the result of a history" whereby "'being economic is a path-dependent feature" which partly depends on previous events and trajectories (Muniesa, Millo & Callon, 2007b, pp. 3-4). Based on her role and experience as a practice manager and first-generation StudioFour member, Caroline saw diversity and people as key for marketability, whereby George was concerned about de-complexifying StudioFour's spatial specialism to reach out to potential ID clients in a more targeted way through branding and PR.

Importantly, these StudioFour-internal tensions are integral to processes of "qualification" (i.e. processes by which things are "rendered economic" [Callon, 1998; Muniesa, Millo & Callon, 2007a] through selection and comparison). Callon (2002) describes how firms, particularly in the service sectors, are confronted with the im- or pre-material status of their products and are, therefore, caught in the tension between increasing complexity and the need for simplification: in order to survive and maintain a competitive advantage, they need to engage with a growing number of actors and processes. At the same time, this complexity also needs to be controlled and simplified for a firm to profit from the innovation it brings about (for example, in the context of new spatial sectors). Controversies, such as the one about branding, are a symptom of having to manage this dual process of "complexification" and "simplification" (Callon, 2002, p. 192). In the context of the marketplace, actors, therefore, use tools and (market) devices that help them to retain coherence and a commercial focus for the sake of comparability and competition despite controversy. As seen from George's above statement, the new studio website was such a device: it had to specifically address "complexification" (such as experience, knowledge, skill) and

[58] To talk about "devices" and "distributed agency" at the same time, Muniesa, Millo and Callon (2007) frame market devices in a *pragmatist* tradition and as "compound agencements" which help render things economic and which are based on emphasising the "distribution of agency (…) with which materiality comes to the forefront" (p. 3). Here, "only when devices are understood as agencements (…) the evolving intricacies of agency can be tackled by the sociologist or the anthropologist (otherwise she may need to conform to the great agency divides that so often characterize the sociological tradition)" (ibid). This is important as it does not only provide analytical grounds for analysing issues around market positioning at StudioFour but also because it underlines the significance of a pragmatist approach to design practice.

"simplification" (such as sectors, brand) by "objectifying services" (Callon, 2002, p. 193) so that potential clients could "perceive differences and grade them" (Callon, Méadel & Rabeharisoa, 2002, pp. 212-213). In this context, two aspects took centre stage: spatiality and aesthetics. Spatiality was important as part of "simplification". Below, George described how StudioFour's expertise could be rendered economic by abstracting it more strictly along spatial sectors:

> My view is that we should be selling ourselves as a studio system. So, we have centres of excellence, or studios, or sectors that are specialists in their field. So, within an umbrella of the practice, we have the great studio that does what I do, we have one that does residential, we have one that does education, and you're really well known for it and everybody that's in education knows that StudioFour is good at education. (George 28.10.2014)

Furthermore, for organising StudioFour's market-focused representation on the website, aesthetic configurations played a central role. Here, the organisation of information (different font sizes and a set colour scheme for the font; visuals of current projects and images of completed projects) was curated to showcase skill, specialism and experience while negotiating organisational identity and ideology (e.g. StudioFour's website had sections introducing most of their staff with a brief profile, as well as a site that showcased their PHDs and the fact that they were incorporated as EBT). The image-heavy set-up of the website was designed to attract new clients, such as the one George mentioned above. Additionally, it was to link into wider trends in the marketplace: when I started my work with StudioFour, they were operating with an older version of their website which was unusual in that it featured less imagery and had a black background. The new website had more images and an entirely white background. One of the reasons for this was that a white website background had become very common for websites of architecture firms, so StudioFour had changed it accordingly to tune into this trend and not appear outdated (field notes, 02.12.2014). Websites serve as a tool for aesthetic and spatial abstraction and help designers negotiate the dual process of complexification and simplification (i.e. attract more clients and potentially increase the range of spatial specialism while keeping things simple as part of product differentiation). By the same token, they address the issue that there is no literal marketplace for spatial design (a condition shared with all other creative and service industries), but that it has to be enacted and materialised in various ways as it is "the outcome of a range of political, cultural, social and economic strategies" (Slater & Tonkiss, 2001, p. 201). A studio

website, therefore, is more than a representation or a marketing tool, it is a materialisation of the marketplace of spatial design.

Pitching, Business-Savviness and Monitoring Success

As discussed in the introduction of this chapter, spatial design is characterised by a highly volatile marketplace that awards work on a project-basis and therefore creates precarious conditions for creative organisations and individuals alike. This generates an aggressive and highly competitive market environment, which creates insecurity and high amounts of stress among designers. At StudioFour, this was especially the case for those who were hired on a "fee-earning" basis (see Chapter 3). As George described:

> So, it's all been very intense. (…) At the moment we don't really have enough paying work so we're pitching like crazy. And it's, you know, when you've got less work it actually makes you more tired and stressed (…). (George, 24.10.2014)

This suggests that even though reputation/brand/identity matter for market positioning in the broader sense, pitching remains the basis for securing economic survival. Here, the strategies to qualify goods, such as pitching, are entangled with profession-specific forms of competition: "forms of competition are all shaped by the organized strategies deployed by the different actors to qualify goods" (Callon, Méadel & Rabeharisoa, 2002, p. 202). In this context, pitching in spatial design is part of a wider canon of the calculative behaviours (Callon & Muniesa, 2005) and market-directed practices that co-configure spatial design's wider marketplace.

The Stakes of Pitching

Pitching is a term widely used in creative industries. What (spatial) designers have to do in pitching situations is to sell their idea, their experiences and their competence. Even though there are standardised forms of pitching, such as the architectural competition (see Chapter 3), pitching takes innumerable forms. One could even claim that each pitch is specific to the project and the brief, not least because each spatial design project itself responds to a unique situation (see Farías, 2013). Furthermore, a pitch does not designate an isolated situation (e.g. one meeting) of a single object (e.g. a presentation) but, for the most part, numerous interactions. For example, it can go

from reading a call for submissions and perhaps clarifying a few questions with the potential client, to sending in a pitch, to being shortlisted, to pitching again and so on. However, what cuts across the board here is the undertone of a sales situation. Pitching is an element that structures and formats the competitive logic of spatial design practice. It is no surprise, therefore, that there was much at stake when a StudioFour team was pitching for new work. If this was a particularly prestigious, lucrative or otherwise important pitch, StudioFour mobilised many resources and deployed a range of creative presentation and persuasion strategies to increase their chances of success beyond their original concept presentation. The following vignette, which went down in my own notes as "The Show" (field notes 29.07.2014; all data from the following vignette is from that day), illustrates this very strongly:

On a hot summer day, I came into the studio after lunch, to the building where my teams were based for most of my research. When I arrived, there was an unusual buzz in the room, people seemed to be on the move. Normally, the room was very calm after lunch. Sometimes there music was playing and people worked quietly on their computers doing CAD drawings, or preparing presentations. I came in and went over to Michael and Emma, which was my usual move to approach one of my contacts to ask what they were doing. The seemed to be packing up and trying to get some last-minute work done. Michael asked me, "Are you coming over as well?". I had no idea what he was talking about but gathered that it must have something to do with their current student accommodation project as they were packing up lots of printed drawings, sketches and plans from that project. Rushing over to the main office, I followed them. The main office was buzzing even more. There seemed to be more people around than usual in that space. Michael, Emma and I joined Charlie and five other StudioFour designers, who I did not know, at the big communal table in the entrance area, which already carried piles of materials, all relating to the student accommodation project. Most of them were visual, scattered across the table together with lots of pens and tracing paper and some hand sketches. Michael, Emma and I seemed to be late and there was an important meeting going on in the big meeting room across the hall. I could see a presentation that introduced StudioFour and their portfolio flickered across the screen and the room was packed with board directors and other senior designers. They were meeting with a group of people who seemed to be potential clients. I was even more confused when Michael pulled out material for another project and somewhat secretly started working on that. I was under the impression that our gathering was about the student accommodation project. Eventually, Charlie explained to me that StudioFour was in the midst of pitching for a big student accommodation project with one of the biggest and wealthiest universities in London. We were

sitting there so that when the clients came out of the presentation to tour the offices he could talk about how they were successfully running the current student accommodation project. This was to show it as a successful precedent to showcase StudioFour's competence and experience in this sector. Furthermore, all of Charlie's team and a couple of other StudioFour designers from other teams had been placed at the table to make the student accommodation team look bigger. We were all asked to pretend to be in a design meeting about the said student accommodation project. After the big presentation with all the senior staff had ended, the group did walk by and stopped at our table. Ted, one of the board directors, introduced Charlie and, on cue, Charlie casually spoke about the current project. He pointed out the interesting details on the sketches that had been laid out on the table (even though some of them were not the most recent ones). He even managed to show and speak about the particular white tile that was a key element in the iconic façade for the community theatre. Here, he underlined that StudioFour had sourced this very "robust" material at a very good price in Spain and that it looked good and was affordable. The group continued their tour upstairs in the large open-plan office space where the rest of the StudioFour teams worked. Later that day, I learned that StudioFour had meticulously planned this whole pitching situation and that the whole practice had been involved in it. Particularly the tour after the formal presentation had been choreographed whereby every stop had been planned and the whole studio environment had been reconfigured accordingly. For example, the first stop at our table was planned so that Charlie could subtly pitch through presenting his current student accommodation project and demonstrate different kinds of skills, such as sourcing unique material at a low prices, or working with a range of different stakeholders. Furthermore, not only had they added more designers to our design team than actually worked on the project, they had also chosen the most beautiful print-outs of the designs as opposed to the most recent ones. The upstairs space had also been reconfigured. Here, people had been moved around so that the guests would see the most interesting or relevant projects on screens as the designers continued to work.

Pitching situations are moments that are characterised by a distinct form of hyper-competition. Here, competition is "shaped by the organized strategies deployed by the (…) actors to qualify goods" (Callon, Méadel & Rabeharisoa, 2002, p. 202). Based on that, "The Show" illustrates that designers make very strategic decisions about what kinds of distinctions they can and have to make in pitching moments and how they get these across to clients. This is because "calculation starts by establishing distinctions between things or states of the world, and by imagining and estimating courses of action associated with those things or with those states as well as their

consequences" (Callon & Muniesa, 2005, p. 1231). Pitching, then, makes a good case for underlining that crucial calculations in spatial designs are non-numeric, or "cultural", and are deeply entangled with the market environment. As Slater (2002b) suggests:

> Producers cannot know what market they are in without extensive cultural calculation; and they cannot understand the cultural form of their product and its use outside of a context of market competition. (p. 63)

In that sense, pitching (and the way in which it is formatted) is a calculative behaviour (see Callon & Muniesa, 2005). It is also an enactment of the specific marketplace of spatial design and helps to stabilise particular valuation frameworks (e.g. focused on project experience, concept, fees or hours and so on). As with most things in spatial design, this has both a creative and a spatial element. On the one hand, pitching itself remains a creative act; on the other hand, the product distinction put forward in pitching tends to be framed in terms of spatial typologies (such as student accommodation). As part of speaking to the spatial element in pitching, spatial designers engage in a distinct form of scaling. For example, StudioFour engaged in spatial scaling in that they were able to work across various spatial typologies within their studio (see Chapter 3), from projects that were exclusively concerned with interior design, to large-scale master-planning projects which could span well over a decade. In addition to that, any of these projects could be located outside of the United Kingdom, or even outside of Europe. Highlighting this scale of international experience usually was part of StudioFour's pitching efforts. In addition to making scale matter in a spatial and geographical sense, StudioFour also *trivialised* scale. For example, when pitching for work, say for a master-planning project, precedents (these could be visuals/CGIs or photographs) were used to tone down scale: they were deployed to show that the scale of a project would *not* matter, that StudioFour had successfully worked on this (large) scale before and was competent to succeed in it again. At the same time, scale also formed the calculative basis of project fees. This was tied to the actual scale of the built space (i.e. how big it was going to be). For example, for a residential project, the scalar entity that mattered would be the number of units (e.g. apartments). Based on this information, StudioFour calculated the profit the client would make in sales, which formed the basis for calculating design fees (see next section).

Calculation, Monitoring and Business-Savviness

Being able to calculate potential fees was the centrepiece of the business-savviness StudioFour designers developed. As opposed to considerations around branding and market positioning, these were numeric calculations focused on potential monetary transactions. Here, being able to calculate potential revenue was integral to efforts of generating a project influx. For example, during my fieldwork, Charlie's team was in the middle of an advanced pitch for a client Charlie knew well. StudioFour had been asked to "quickly draw something" (field notes 09.07.2014) for a residential project and then it had progressed from there. Then, unexpectedly, the client conveyed that the number of units (flats) for this development had to be scaled down from 130 to 99, due to planning restrictions. This had a financial impact on StudioFour's projected design fees because it was linked to the number of units. Here, Charlie had to decide whether StudioFour should continue to pursue the pitch. This was mainly based on the fear that the project could be cancelled due to the lower profit the developer was able to make. To help with this decision-making process, Charlie pulled out a piece of tracing paper and quickly did some calculations:

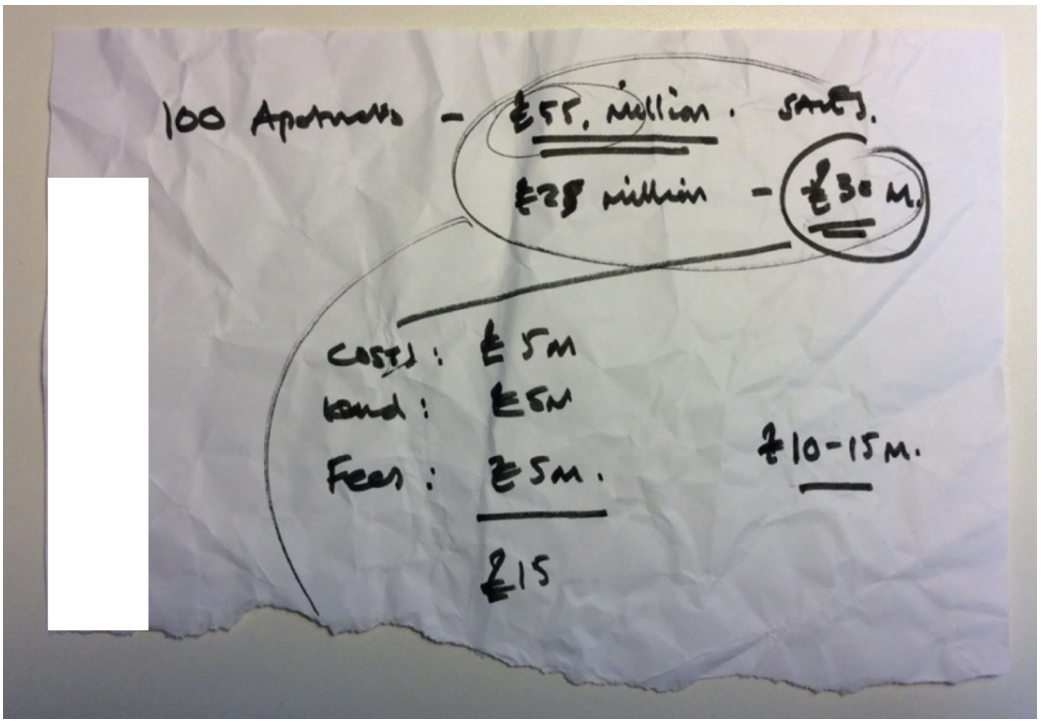

Figure 43: Charlie's calculation of fees with a reduced number of units (source: author's photo, 2014)

What Charlie scribbled on the paper was a numeric calculation of the profit the developer would roughly make with the reduced number of units. This was based on basic assumptions of the

project value, comprised of the developer's revenue (based on sales value per unit), set against the building costs (design fees, construction, land, tax). Based on this calculation, he reached the conclusion that the developer would still make enough profit for the project to be likely to go ahead: "sometimes, losing some apartments still makes a better deal than not building at all", he said (field notes 09.07.2014). After Charlie explained his calculations to me while scribbling down the numbers, he took the piece of paper and threw it away. I later pulled it out of the bin as I anticipated I would be unable to make sense of this story without his notes – it had been difficult enough to follow his calculations. The point here is that for Charlie, this piece of paper was just an illustration of the calculations that were happening in the back of his mind, he had written them down more for my sake more than for his own. Clearly then, a lot of the calculative behaviour that is integral to professional design is almost invisible, certainly for the social researcher. Much of the ethnographic significance of studio studies like this, then, is to trace such hidden forms of calculations in design practice.

Sparked by this experience, I paid more attention to this element during fieldwork. I learned that spatial designers calculate a lot and that their numeric calculations play a key role in many decision-making processes. Usually, chargeable fees form the calibrated and calculable entity that underpins the monetary valuation framework for design work. At another occasion, Charlie explained to me in more detail how fees would be calculated in a fictive project:

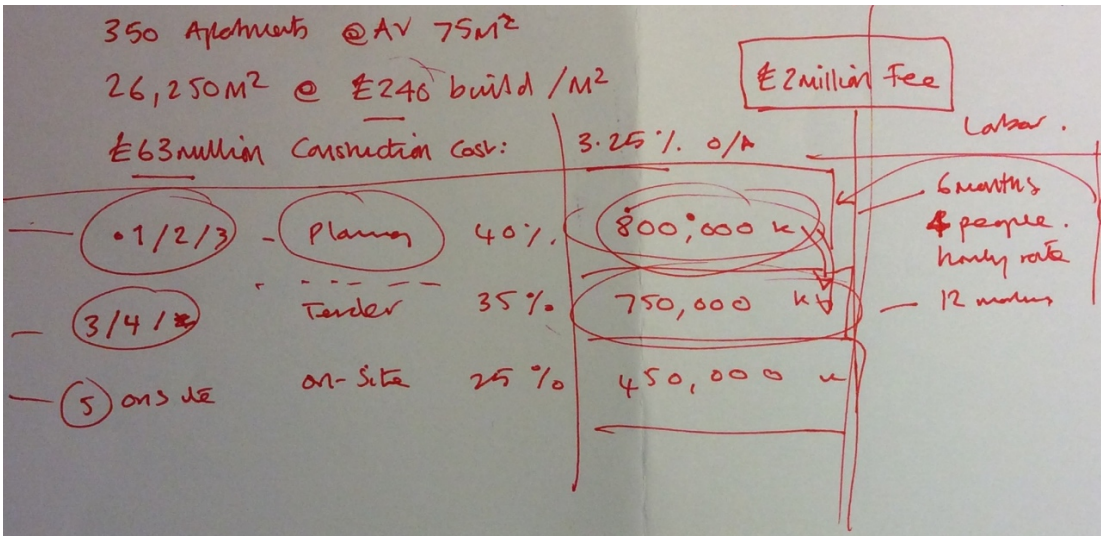

Figure 44: Charlie's detailed calculations of fees in a fictional multi-stage project (source: author's photo, 2014)

In this scenario, the project comprised 350 apartments of 75m^2, so a total of 26,250m^2. Based on his experience, Charlie estimated that building (design plus construction, even though he called it only "construction cost" in his sketch above) would cost £240/m^2, which would bring the building costs for the whole project to £63,000,000. He then estimated that the first phase, planning (RIBA stage 1-3), would take up to 40% of overall cost, whereas the second phase, tender (RIBA stage 3 and 4), would take 35% and the last stage, on-site construction, would take 25% of time and effort. This meant that the first phase was "worth" £25,200,000, whereas the second phase would come up to £22,050,000 and the third to £15,750,000. For the kinds of (design) services required for such a new-built, Charlie took 3.35% of the building costs of each phase as baseline for fees. For the first phase, which would be the most important one as it entirely focused on designing and producing production information, this would roughly generate £800,000 in fees. If StudioFour was to be hired as the lead-architect for the two other phases as well (for example as part of a design-and-build contract, see Chapter 3), this would generate circa £750,000 and £450,000 in fees. In total, the fees chargeable by StudioFour in such a scenario would be £2,000,000. What we can also see in Charlie's sketch is that in addition to potential fees, other kinds of calculations and practical aspects play a role. For example, under the section "labour", he calculated that StudioFour would need around six months for the first phase of designing and that this would require four designers. The note "hourly rate" below that meant that the lump sum of the chargeable fees would have to be expressed through an hourly rate for these four design staff (see also Chapter 3 and 4).

This example nicely illustrates how one valuation framework within spatial design (calculation of fees) is set up and rationalised. However, calculative behaviour, even when arithmetic, is also mediated by a range of non-numeric aspects. As shown above, these include considerations around branding and market-positioning as well as issues around politics, ethics and public image. For example, Charlie told me that the firm had declined working on a project in Saudi Arabia because they "did not like how women's rights are treated in that country" (field notes, 10.06.2014). At the same time, StudioFour had also decided not to work in Iraq as they felt it was too dangerous for staff to travel there: "Why would we send someone there who had a family here who does not want to go there?" explained Charlie (field notes, 10.06.2014). These distinctions, however, were not fixed but were made on a case-by-case basis. For example, Charlie also told me that StudioFour would consider working in Iraq *if* a studio member was really keen on doing a project there (field notes, 10.06.2014). Equally, the studio had prestigious projects in

countries with political issues that were arguably similar to the human rights issues Charlie mentions in the context of Saudi Arabia.

These vignettes suggest that spatial designers have to consolidate different frameworks of value towards practical decision-making. These involve establishing some sort of coherence between internal-focused (ethical, individual and so on) and external-focused (commercial, political and so on) considerations. Here, designers develop an assortment of calculative tools and instruments, such as the method for fee calculation discussed above. Some of these tools literally are "abstractive calculative devices" (Muniesa, Millo & Callon, 2007b, p. 4) as they are geared towards and informed by transaction and pricing concerns, while others are more vague but no less important, such as pitching strategies. Clearly, valuation and calculation against the backdrop of creativity, space and a wider and dynamic marketplace is something that designers *do* – it is internal to their practice. As Muniesa, Millo and Callon (2007b) remind us:

> '[B]being economic' is not a qualification that comes from outside the agencement: this qualification is included in the agencement, for instance through the presence of instruments for the calculation of prices, of rules that organize competition, or of accounting methods that identify and allocate profit. (p. 4)

In spatial design, even though work usually is tied to the entity of a project, qualification processes, valuation frameworks and calculative behaviours have a long-term trajectory and a history. A strong indicator for this was how StudioFour monitored success across the studio. Lead by Charlie, they would maintain a spreadsheet that tracked the success of all "inquiries", dating back circa ten years. The term "inquiry" did not only signify a project but rather a unit of work in a broader sense. For example, an inquiry could also be the submission of a set of documents, or it could be the request to pitch for a project. In the spreadsheet, all inquiries were colour-coded: green meant that the inquiry was successful, red meant that this job was lost due to StudioFour's fault (i.e. "if there was something that we could have done better" said Charlie [field notes, 10.06.2014]). Orange signalled that the inquiry was declined by StudioFour or was lost due to external factors the studio had no control over (e.g. when a client cancelled a project). This file also recorded kudos: inquiries were linked to the person who brought them in, which, according to Charlie, usually was "anybody who *should* bring in jobs" (field notes, 10.06.2014), such as directors,

associates directors or associates[59]. On the one hand, this document served as a studio-internal tool to track their commercial trajectory. On the other hand, the executive team used it in their weekly meeting to get a snapshot of the all the current work, the upcoming work to allocate designers (see Chapter 3) and, more importantly, to "identify areas of growth" (field notes, 10.06.2014). That is to say that StudioFour used the inquiry document as a tool for monitoring and managing ongoing operations with regards to the marketplace (i.e. "areas of growth"). At the same time, however, they were not dependent on this abstraction device to make decisions. They saw it merely as a representation of their instinctive commercial knowledge and experience. When I asked whether this documentation was put into a report at the end of the year or whether it would feature in bonus calculations, Charlie said that they used to do this but had stopped because it just "strengthened what we felt" and was not useful in that it was simply "post-rationalising" what they already knew (field notes, 10.06.2014). This type of tacit commercial knowledge and skill can be seen as both an instantiation of the entrepreneurial self-image of creative workers (see McRobbie, 2002) and as an important element of market-directed practices. The experiences and knowledges StudioFour designers gathered in this context, particularly through pitching, translated into a very particular kind of business-savviness and strategic way of presenting portfolios, as the following vignette portrays.

When I got to the studio one day, Charlie was very busy with digging around StudioFour's intranet and the image vault and doing some research online on a London site. When asked what he was doing, he said that he was preparing a "brochure" for a potential new client, a selected portfolio of completed StudioFour projects (field notes, 17.06.2014). Preparing these bespoke "brochures" was a strategy StudioFour had developed to address digitalisation and to cut down on print costs. Additionally, they allowed designers to approach clients with a more targeted portfolio as part of pitching. The firm had individual pages prepared and stored in StudioFour's intranet. These could be assembled individually into a brochure, which could then be sent to a prospective client via e-mail or printed in house in a high-quality manner. StudioFour's graphic designer Clarence explained to me:

> A few years ago, we were sending a lot of printing brochures. Now we can shift it to having digital, so the need to have something that you can print really quickly.

[59] Interestingly, this spreadsheet would not contain Angela's name, even though she was the designated business development experts and saw herself as crucial for generating a constant flow of new projects (see Chapter 3). This might be because potential deals would usually be closed by senior design staff who would take over from her as soon as a real opportunity opened.

> (…) [S]o, basically people will come up with a name, list of projects (…) it could be that someone is pitching for education but then it's for a primary school. So, then they will say we would like to have to print also the school in the first few pages. And we don't need universities because that's not really for the client. So, we can switch pages to look like that basically. (Clarence, 02.12.2014)

At the same time, the bespoke brochures gained significance as objects if they were printed. Here, StudioFour played on the high-quality printing and the importance of aesthetics to generate meaning beyond information. Clarence told me that printed brochures were deployed towards very strategic ends:

> At that stage, if you send the brochure to people it's because it's someone special that we really want to please. So, it's more about giving an object, rather than straight information. (Clarence, 02.12.2014).

This use of bespoke brochures is a form of organisationally cemented business-savviness that both addresses and makes use of spatial specialism, aesthetic experience and digitalisation. However, it is built on the skill and experience of individual designers. Charlie's bespoke brochure was also going to be a printed version and focused on a very prestigious site with an iconic building in London where he had heard by word of mouth that "something will happen there soon" (field notes, 17.06.2014). He explained to me that he had managed to arrange a meeting with the current owner who "may or may not want to build something there" (field notes, 17.06.2014). Nothing was confirmed, the only information Charlie had was which real estate investment company owned both the building and the site and that the current long-term tenant would move out soon. Charlie was very secretive about this particular project and repeatedly made the point that this was highly confidential and speculative. He explained to me that "the owner does not know if he wants to build something" but that he was assembling a brochure with StudioFour projects to give him some ideas of "what could be possible" (field notes, 17.06.2014). By deciding to produce this brochure for a prospective client who had not even decided if they wanted to develop their site, Charlie demonstrated a distinct kind of business-savviness that derived from experience in the spatial design profession and particularly in pitching. This included being naturally sensitive to rumours in the industry, relying on instinct and a professional network and acting upon information received through these channels. And as such, it was part of the wider canon of creative-commercial and calculative behaviours that make up professional spatial design.

Conclusion

This chapter has examined StudioFour's market-directed practices with a focus on "market devices" (Muniesa, Millo & Callon, 2007a, b) and the "calculative behaviours" (Callon & Muniesa, 2005) that facilitate market-directed practices and market-co-configuration in spatial design practice. It argues that there is a tense, yet productive, link between internal and external stabilisation (i.e. between the way in which a studio holds itself together as a social organisation and concerns around stabilising a market position to gain commercial momentum). The backdrop of this is comprised of a "post-Fordist" (McRobbie, 2016) market competition, which creates a "highly competitive and difficult economic climate" (p. 8) and has been described as a structural feature of the creative industries in general. Spatial design is no exception; it is equally formatted by a project-focused competition that, most prominently, is enacted through methods of pitching. This puts the studio's market position under a constant threat because it challenges clients' attachments to it (see Callon, Méadel & Rabeharisoa [2002] for a detailed discussion on attachments). This is amplified by the pre-material condition and necessary individuality of the spatial design product: not only is it conceptual, but it also responds to a unique situation (Farías, 2013). To stay competitive in this commercial environment, the studio deploys a range of market devices to help them render things economic and to establish a range of valuation frameworks. The necessary abstractions for this are space- and design-specific in that they are focused on construing a reputation through representing a studio-specific spatial style and a way of doing design work. At the same time, they emerge from the link between internal and external stabilisation which can both be a product of strategy and/or of serendipity or shock: StudioFour's growth history and broad spatial specialism was rooted in commercial opportunism in a volatile market-environment and was structured by wider economic context and events (such as Black Monday). Equally, the studio's enactment of its organisational and cultural history (such as the "spirit" of the founders) was the foundation of the "image" (Molotch, 2003) that StudioFour built to speak to the outside world and to forge a reputation through its employees who generate their projects. This was also reflected in their organisational structure where the "employees' benefit trust" (EBT) had been put in place to preserve and retain the studio's reputation in case of staff fluctuation and succession, as well as to rationalise internal (e)valuation methods for boni-distribution and to tie into StudioFour's self-image as a firm that values individual development, freedom and trust. Such techniques, narratives and metrics help to stabilise a valuation framework that is specific to spatial design at large. Here, the commercially successful production of conceptual space is not seen as dependent on capital-intensive production facilities but on

creative skill and reputation. This is part of the hyper-flexibility (spatial) design firms must build to stay competitive in a post-Fordist market environment and, in that sense, is both an enactment and a co-configuration of their marketplace.

Against this backdrop, issues around comparability, qualification and improved marketisation can emerge, particularly in the context of branding and product differentiation. This is different from the ways in which branding and spatial design have previously been theorised (for example, as "iconic" [Sklair, 2005, 2006 2010] or "St/architecture" [Heathcote, 2017; Ponzini & Nastasi, 2016]): At StudioFour, there was a controversy about how branding could or should influence its market positioning. While one employee was in favour of embracing complexity and promoting the firm's (unusual) broad spatial specialism and design skill for distinction, the other looked to simplify StudioFour's offer into a branded studio system. This controversy revealed a kind of tension that is characteristic for the dual process of "complexification" and "simplification" that service sector firms have to engage in due to the im- or pre-material status of their products (see Callon, 2002). It also sheds light on how market-issues are entangled with aesthetic-, practice- and identity-related concerns. Here, the (market) devices that actors deploy can be of a non-numeric nature to help retain coherence and a commercial focus for the sake of comparability and competition, while involving spatiality and aesthetics (such as the studio website).

These qualification practices are underpinned by a range of "calculative behaviours" (Callon & Muniesa, 2005). Prominently, this involves strategies for pitching. Pitches are sales situations and vary in the same way projects vary. For design actors and organisations, the stakes are always high in pitching, which can cause significant amounts of stress and anxiety among staff. Designers, therefore, are prepared to mobilise significant amounts of creative resources as well as elaborate persuasion strategies for pitching, especially for high-profile or lucrative projects. This is based on calculations of distinction (see Callon & Muniesa, 2005), for example along spatial typologies or scales, and underscores that spatial designers do and must scale projects and contexts up and down. That is to say that designers make very strategic decisions about what kinds of distinctions they can and have to make in pitching moments and how they get these distinctions across to clients. With these non-numeric calculations, designers also draw on a rich array of calculative skills that they use as "abstractive calculative devices" (Muniesa, Millo & Callon, 2007b, p. 4) in the context of transaction and pricing, particularly with regards to calculating potential projects fees. These help to bring together different value frameworks for practical decision making and are underpinned by individual business-savviness, such as being attuned to word of mouth in the

industry. These calculative behaviours and qualification strategies also manifest in an organisational history and trajectory, for example, via strategies for creating and distributing studio portfolios or methods for tracking and evaluating success.

Ultimately, spatial designers actively co-configure and enact the marketplace they find themselves in. The marketplace of spatial design, then, is not a superstructure imposing itself onto actors but is comprised of "practised social arrangements" (Entwistle, 2009, p. 7) that involve manifold types of organisational and individual calculation, mediation and qualification. The market device actors deployed in this context do not only work externally but also internally. This marks a departure from existing works on market devices, which have focused on transaction and reshaping whole marketplaces across many different actors (see Muniesa, Millo & Callon, 2007a). It also underlines the significance of ethnography and studio studies for tracing the calculative behaviours that provide the basis for market-directed practices. Interestingly, Callon & Muniesa (2005) accuse ethnographers of dissolving arithmetic operations and calculative behaviour in thick ethnographic description, which, they claim, inevitably provokes the conclusion that "nobody calculates" (p. 1230). The data discussed in this chapter indicates the opposite and shows that spatial designers calculate (arithmetically and otherwise) all the time[60]. But these calculations are not always numeric, nor are they always market-focused. They are connected to internal-external stabilisation that has spatial, creative and commercial elements. Therefore, contingency (or shake-ups, like as Black Monday) and contextuality (such as organisational identity) are important to prevent the kind of solidification that could prove fatal in a post-Fordist and hyper-flexible competition.

This last empirical chapter has investigated how actors set the backdrop for market-directed practices and market-positioning and what kinds of calculative behaviours emerge in this context. The next, and last, chapter of this thesis takes stock of the overall argument made in this thesis and draws a conceptual conclusion. It also suggests new lines of inquiry for sociological design research.

[60] Perhaps this is the reason for the many calculators (see photos in previous chapters) that were lying around in the studio and were always taken into meetings.

Chapter 7
Conclusions

Introduction

This thesis has investigated spatial design practices in a market moment and contributes to an emerging discourse on design in sociology and anthropology. It has argued for an understanding of spatial design as situated practice as important alternative to theorisations of capitalism in architecture and to ANT-committed spatial design research that seeks to decentre design practice from agency, stabilisation and contextuality. Focussed on the methodological implications of this, this study was framed as an inquiry, not a critique, and was therefore grounded in a studio ethnography of the practices and stories that comprise StudioFour, this study's case study site. This thesis develops a sociological approach to spatial design that is committed to empirical rigour and evolves from a perspective on (spatial) design as a profoundly sociological matter. The cue for this, on the one hand, is the expanding role of design in contemporary social life and, on the other hand, the significance of mediation in design practice: mediation is the *conditio sine qua non* for pre-material or conceptual space and gives logic to spatial design as a social practice. As argued throughout the thesis, conceptual space can only maintain an existence prior to construction because of the mediating and stabilising role spatial designers take on. Based on that, the preceding chapters have worked to illustrate the complicated set-up of spatial design as creative, material and commercial practice against the backdrop of distinct competitive and regulatory environments. Each chapter has focused on one of the following research questions:

> How can spatial design practice be understood in terms of rationalising and organising the interaction between creativity and commerciality?
>
> What are the processes through which spatial designers define, translate and materialise conceptual space as their product?
>
> What kinds of material knowledges and practices underpin spatial design processes?
>
> How do spatial designers navigate their market environment?

In this context, the title of this thesis, "*Producing Space* – Exploring Spatial Design Practices in a Market Moment" articulates the key analytical stance: in design, the market moment is "where the cultural rubber hits the commercial road" (Molotoch, 2003, p. 23). Capturing what happens in this moment via the framing of a studio provides a window for investigating how contemporary spatial design is organised at the intersection of creativity and commerce. This approach is an important empirical and analytical contribution to social study of design and builds on Hennion's (2016) notion of pragmatism to underline the significance of mediation, contextuality and agency in design practice; to acknowledge the designers' own way of doing design *pragmatically*; and to build a multi-facetted theoretical framework comprised of a range of (sociological) concepts that help understand spatial design *as practice* – such as practice theory and stabilisation, aesthetics, boundary objects, and cultural and social capital, materiality and marketisation (including market devices and calculative behaviour). The reason for placing pragmatism so centrally and in this way was the understanding that design poses an interesting empirical case for the discipline of sociology because it challenges the boundaries sociologists tend to draw around their concepts. Much like music (which is Hennion's focus [2015, 2016]) spatial design is *emergent* and based on a hybrid notion of materiality (or space, for that matter) that negates the dualist understanding of objects as either everything or nothing (Hennion, 2016, p. 294). This framing calls to focus on how objects (or materiality) are defined by the "actors themselves" (Hennion, 2016, p. 292) and is an invitation to take an empirical/ethnographic commitment as axis for creating a dialogue between social theories (of design, space and commerce) that help analyse what is actually going on in real-world design processes.

In this closing chapter, I draw out broader conclusions from the research presented in this thesis. The core findings that underpin these conclusions derive from the four thematic directions that have informed the research questions and have structured the preceding chapters: stabilising design organisation and managing contingency in processes of design production; conceptual space as a product and a process of spatial design; material knowledges and practices as a central element of spatial design; and market-directed practices.

Producing Space – Investigating Spatial Design Practices in a Market Moment

To highlight the analytical and empirical implications of my findings, I base the following discussion on the inextricable link between design, space and commerce. Here, I conclude with four interrelated points: First, that we must retrieve a humanist element in sociological design research. Second, that the humanist framing of design practice underscores the notion of mediation and cultural capital. Third, that this points to the significance of materiality within design as creative-conceptual work. And fourth, that the study of micro-economic action in design practice through studio studies provides empirically grounded alternatives to critiques of neo-liberal capitalism in architecture. I then reflect on the methodological implications of my work to close this concluding chapter with three suggestions for future streams of sociological research into design.

Design Agency, Design Contingency

As outlined above, the pragmatist approach to spatial design developed in this thesis allows the links between space and design practice, mediation and politics, aesthetics, materiality and marketisation to be accounted for. Furthermore, it provides a way to capture the agency of design actors in their *practical* context and considers how they are informed by bridging creativity and commerciality. This is facilitated by understanding spatial design agency in terms of "the *intentional* solution of a problem" (Parsons, 2015; emphasis added), which has significance without a physical output, like a building, while still being focused on form-giving.

In Chapter 4, I showed how design agency unfolds in concept development. Here, spatial concepts work as both processes and as products of design. In this context, the notion of "creating experiences" or "atmospheres" in Böhme's sense, namely as "tuned" or "aestheticized" spaces (1993, 1998, 2006, 2013), is internal to the discourse of designers and plays an important role: in concept development, designers treat atmospheres as entities that can be objectified and put out there in the world. This expression of design agency in concepts also forms the basis for capitalising on creative work. In other words, design concepts also serve as commercial entities that facilitate calculating the imaginative work designers put into concept development. At StudioFour, however, some of the work routines limited imagination and creativity work as part

of securing a project's progress, such as working with precedents and being subject to a "design review" (see Chapter 3). These were instances in which designers, particularly the younger ones, articulated a detachment between idealistic spatial design pedagogy (especially in architecture) that emphasises artist-like creativity over pragmatic concerns (such as cost constraints), which dominate the professional practice. This underlines the significance of a pragmatist approach for studying design practice: designers do not dwell on this discrepancy; they immerse themselves into the studio-specific processes and protocols of design production to be creative in pragmatic, not idealistic terms. In other words, they deploy they own form of pragmatism. At the same time, a pragmatist angle also brings to light another crucial element of design: contingency. In Chapter 4, I argued that design concepts are boundary objects (Star & Griesemer, 1989) because they are practical and actionable rather than representational and propositional. They oscillate between product and production and allow room for interpretation. Simultaneously, they are also characterised by tension: concept development is a strategic activity that aims to nail things down, or get them "signed-off", while keeping them deliberately vague and open for negotiation, most importantly with clients. In other words, a certain vagueness and flexibility, a somewhat deliberate form of contingency, is integral to design to the same extent agency is. As I also argued in Chapter 4, knowing how to navigate these explorative and necessarily contingent moments in design is part of the tacit knowledge that is part of designers' cultural capital. At StudioFour, providing space for design contingency to evolve was a key strategy for nurturing creativity and imagination. As described in Chapter 3, it was therefore embedded into the studio's organisation of design production, particularly through "doing research", sketching, drawing and particularly with "PHDs" (Practice Half Days), which was where StudioFour designers engaged in playful and educative activities across teams to enhance creative thinking and maintain a sense of (comm)unity across the organisation.

These findings support my first concluding point in that they describe how *human* intentionality or agency is central to the social organisation of design practice. Intentionality and pragmatism frames what designers do and how they do it: they intentionally (Molotch, 2003), creatively (Kimbell, 2011, 2012) and contextually (Farías, 2013; Farías & Wilkie, 2016b) *solve problems* (Parsons, 2015) – as people, for people. This structure is not only central to how design is conceived of, socially structured and practically enacted, but also forms the baseline for designs' business proposition. This is why "design is not art" (Glaser in Quito, 2016). However, design agency is not about causation where one "agent" impacts on one "patient" (see Gell, 1998); it is not a deterministic concept, even though this narrative, paradoxically, is central for selling spatial

concepts as calibrated entities. Design agency evolves through and is enacted in distributed processes of conceptual work. This agency, therefore, is not "diluted" in a network between human and non-human actors, but gains momentum through it. Here, the handling of contingency is specific to design as a creative-commercial effort. While, on the one hand, embracing contingency helps to enhance imagination, limiting it strategically, on the other hand, helps to establish "conditions and constraints to close down the infinite span of possibilities, discard alternatives and make decisions" (Farías & Wilkie, 2016b, p. 9). As analysts, we must take seriously this intentionality: both our methodological grip and our analytical gaze must be able to re-focus on the human actor as the lead, even when we seek to decentre the designers' views from the whole picture of what goes on. In this context, a pragmatist approach to design practice is helpful, because it allows to account for the significance of intentionality and contextuality while registering the pragmatism the actors deploy themselves.

Design Mediation

Such a humanist framework of design practice underscores the notion of mediation and cultural capital. This is rooted in the pragmatist emphasis of mediation over translation (Hennion, 2016) and points, in particular, to the important and consequential role spatial designers take on as cultural intermediaries, or as "mediators [who] interpose themselves with their reasons derived from knowledge, from ideology, from meaning" (Lefebvre, 2009, p. 186).

In Chapter 4, I discussed how designers operate as cultural intermediaries by theorising about people, materiality, sociality, culture and so on and how aesthetics play a central role for this. Based on this, I argue that the role of designers as cultural intermediaries highlights the importance of cultural capital in design. That is to say that spatial designers build on distinct sets of cultural capital in order to know not only how to *practice* design but *how to theorise* as part of mediation and stabilisation in the context of their particular industry and profession: "what designers do, and how they go about their business is intimately related to the sort of expertise they lay claim to" (Shove et al, 2007, p. 138). As I argue throughout the thesis, spatial design-specific cultural capital is comprised of the skills and knowledges that designers need to "accommodate it all – technology and engineering, form and function, change and stability (…), individual tastes, corporate organisation" (Molotch, 2003, pp. 21-22). This cultural capital is developed through design education and more importantly through *practising* spatial design in real world contexts. For example, at StudioFour, it developed through learning how to be creative

in pragmatic, rather than in ideological ways, through educational activities and an exchange of skill and knowledge (e.g. through PHDs), or through developing business-savviness.

The design-production-specific forms of cultural capital are in line with Bourdieu's (1986) original notion of cultural capital as essentially based on education, know-how and socialisation and expressed in taste and distinction. However, cultural capital in design has mostly been discussed in the context of consumption studies and with a focus on users, less so in terms of design production and its actors. This study has underlined its significance for understanding contemporary design practice. This points to a changing meaning of the notion of cultural capital (see especially Prieur & Savage [2013] for this argument): First, cultural capital in spatial design becomes important for analysing patterns of cultural production (for example in the context of conceptual space), extending beyond a focus on how cultural consumption marks class distinction. Second, the forms of cultural capital that help to stabilise design practice are not fixed or tied to certain activities (e.g. reading books or going to concerts) but continually emerge as skills and knowledges that are developed and maintained within and beyond the studio. It is therefore important to retain an understanding of cultural capital as "floating" and always relational to its field to be able to register the "emergent forms of cultural capital" (Prieur & Savage, 2013, p. 250) as we can find them in design practice. This links into notions of social practice (Shove, Pantzar & Watson, 2012) because it shifts focus to the humanist aspect of design as expressed in stabilisation efforts (which entail agency and intentionality that are often entangled with design-production-specific cultural capital and commercial intentions) and underlines the collaborative nature of spatial design.

Conceptual-Material Aspects of Spatial Production

The notion of mediation and cultural capital in design does not negate the role of materials and objects, but underlines it, particularly in the context of design as *spatial* practice. I have argued that space, even though in a conceptual or pre-material condition, does take form in through processes of design. This rests upon the significance of aesthetics, which are put to work in terms of the profound relationship between our material environment, perception and sociality (see Baumgarten, 1750/58 [1983]). In Chapter 4, I showed how speculating about this relationship (e.g. via theorising about taste and materials) is a creative practice of distinction that is central for developing spatial concepts. Here, aesthetics help designers create spaces that "work", particularly commercially. In that sense, design achieves agency and exercises power through

aesthetic considerations whereby designers operationalise aesthetics not only in terms of representation or as a cultural phenomenon but also in social terms. Chapter 5 deepened this argument by examining how StudioFour designers deploy aesthetics to speculate about how materials may affect bodies in a future spatial arrangement. Here, they use the texture, quality and colour of materials to support their framing of user groups and potentially help the clients with their pricing structure. Operationalising aesthetics in that way, however, does not happen out of nowhere but builds on vast knowledges and vocabularies of materiality that designers develop and maintain through their professional practice and studio life. The point, here, is that that much of actual spatial materiality depends on discussions, considerations and decisions made in a design studio rather than on a construction site.

Designers derive meaningfulness from different instantiations of materiality, from samples to distinct practices and technical and legal knowledges of how a certain material will behave in and post construction. In Chapter 5, I outlined this through the importance of material performance and material costs. The former refers to regulations that determine what materials, when put together in a building, technically can and must "achieve" in relation to usage, from issues of sound and vibration, to fire- and water-resistance, to environmental aspects and so on. These are reinforced in the process of applying for planning permissions to local authorities. The latter is about making sure that only those materials are chosen that allow clients to stay within their budget whereby material cost concerns range from the cost for sourcing of materials, to anticipated costs for maintaining this material, such as through cleaning. The important part is that designers think about materiality in a way analysts do not: in materialistic ways. Not only does this underline the entanglement of materiality, commerciality and design, it also shows that operating on materiality in this way is essential for moving between conceptual and contractual stages in spatial design. This most prominently manifests in working towards submitting watertight "production information" (drawings, schedules and specifications) to avoid potential liability for extra charges through contractors. Here, design is a matter of engaging in constant mediation work between conceptual creativity, clients' briefings, cost restrictions and regulatory frameworks. Many of these relationships are played out through materiality. To put materials to work in design (i.e. to "specify" them for construction), designers develop and maintain a substantial body of material knowledge that is constantly updated. Therefore, learning about materials is an important part of spatial design practice. At StudioFour, this continuous learning process was aided by the relationship between material suppliers and individual designers. Particularly meetings with sales representatives of manufacturers were important: here,

StudioFour designers learned about new material trends and technologies (always with the clients' needs in mind), could touch and smell these new materials and stocked up on material samples for their "library". At the same time, suppliers had the opportunity to groom their relationship with the studio to increase the chances of their products being specified for the typically large-scale projects of StudioFour. Therefore, material culture in spatial design production is pragmatically and commercially infused.

An important axis for spatial design's material culture are material samples that work both as objects and as "matter": they facilitate tactile and technical engagement with a particular material (i.e. to sensually test material properties and to learn about a material's technical data via the sample's label) and are deployed as strategic objects in "palettes" at client presentations. They also have a representational function as pieces of the raw materials or "matter" that will make up a built space, concrete or brick are good examples for that. The room where material samples were stored at StudioFour, the "library", was an important resource for developing, sharing and maintaining such knowledge and facilitated the circulation of samples within and beyond the studio as part of stabilising both design practice and conceptual space. As such, the "library" was key for StudioFour's material culture and was instrumental for the build-up of design-specific cultural capital (see also Sloane, 2014). Therefore, spatial design practice lets materiality oscillate between a status as "matter" and/or as "object". That is to say that materiality in spatial design is not spatial per se, but accrues meaning and significance as part of adding substance to a space prior to construction, whether as a strategic object or as a representation of material properties/"matter". As such, it goes back and forth between an objectified state and something else. This is a crucial dynamic in design practice, which ANT has no framework for as it is based on a strict notion of translation, rather than mediation (see Hennion, 2016). This oscillation is not only specific to *spatial* design, but also shows that (designed) space is inherently dependent on *how* material properties are made relevant in a process that evolves around moving from conceptual materialisations of space to the contractual aspects of spatial production. This reiterates the humanist element in spatial design and underlines the need for a non-dualist axis for theorising materiality in design, such as through pragmatism. Designers *merge* thought, matter, objects and so on. Here, the spotlight is on the human actor (the spatial designer) who commercially exploits the idea that design can create change through spatial-material interventions – this is the basic rationale of any design intervention and forms the centrepiece of design concepts. This anthropocentric narrative (whereby anthropocentrism, here, is based on a notion of "anthropocentrism that takes the human as all measure of things" [Fox & Alldred, 2017, p. 8])

shapes much of spatial design's treatment of materiality, as the vignettes in this thesis have shown. Moving forward, new design research must be attuned to these dynamics and narratives to get a fuller picture of what is going on. Neither a "flat ontology" (see Fox & Alldred, 2017) proposed in "new materialism" debates (see Coole & Frost, 2010), nor ANT-committed design research that dilutes agency in a network between human and non-human actors (see Yaneva, 2009a, b, c) provide the conceptual tools for this, despite their focus on materiality and sociality. The point here is *not* to call for an anthropocentric interpretation of design. It is to argue that the centrality of anthropocentric narratives for translating the conceptual work of spatial design into commercial propositions (for example through design concepts) underlines the significance of pragmatism (and humanism[61]) for theorising design practice. This is why pragmatism provides the platform to establish links to further (sociological) concepts that help analyse *how* and *why* actors define the object *themselves* (Hennion, 2016, p. 292) and rationalise their social action.

Design Commerciality

Following this line of argument, it is then important to analyse spatial design's modes of production. Chapter 3 has, therefore, investigated StudioFour's strategies for stabilising the studio *as a business*. Here, both StudioFour's design organisation and formalised design production formed the scaffolding for commercially carrying out creative practices. Particularly StudioFour's work routines and a clearly defined and enforced production process helped to streamline these efforts and allowed the design teams to work on a range of different projects at the same time. This was also facilitated by the distribution of operational responsibilities (such as IT, Human Resources, Quality Assurance, etc.) among senior designers and the fact that various experts from different disciplines were employed by the studio to contribute to the spatial design process (for example Clarence, the graphic designer, or IT and building regulation experts). Here, the securement of project influx via "business development" played an important role, as did the sharing of business contacts. I have suggested that this way of pragmatically stabilising design organisation and design production can be read as a necessarily flexible response to a highly competitive and volatile market environment. This environment is reflected into the organisation and individual enactments of it. For example, through StudioFour's institutional flexibility and its entanglement with individual career paths and design specialism, whereby individual designers build expertise on the back of StudioFour projects.

[61] For an extended discussion on the role of agency in the context of humanism and post-humanism, see Kipnis (2015).

Chapter 6 has deepened this focus and investigated how StudioFour navigated competition and co-configured the marketplace of spatial design, particularly in relation to claiming and maintaining a market position. In this context, I have argued that this positioning should not be understood as static, but as fluid and comprised of a wide range of considerations. These considerations relate to competitors, clients, regulations and wider economic conditions in addition to individual design skill and preference and organisational conditions and priorities. They form the basis of market-directed practices and strategies that help to render things economic, such as units of creative work, and facilitate the establishment of valuation frameworks (see Muniesa, Millo & Callon, 2007a), such as fees or reputation. I have argued that it is helpful to analyse these practices through the lens of "market devices" (Muniesa, Millo & Callon, 2007b) and "calculative behaviours" (Callon & Muniesa, 2005), because both facilitate observing the abstraction that is necessary for commercial interaction in spatial design. The analysis has shown that in spatial design, market devices and calculative behaviours do not exclusively evolve around traditional ways of facilitating transaction (for example through pricing, even though designers engage in monetary calculation), but can also materialise through more vague things, such as a firm's reputation, a website, or the business-savviness of an individual designer.

Investigating design commerciality has, furthermore, revealed that there is a tense, yet productive, link between internal and external stabilisation (i.e. between the way in which a studio holds itself together as a social organisation and concerns around stabilising a market position to gain commercial momentum). The context for this is the highly competitive market environment, which is a structural feature of the creative industries in general and forces spatial designers into a project-focused competition that is enacted through methods of pitching. Because of that, designers develop sophisticated commercial skills, such as scaling past and current projects as well as being able to calculate the potential revenue of new projects and tracking the success of past pitching efforts. These elements work both internally and externally, which is also exemplified through the complicated case of building a brand or reputation in spatial design whereby a studio-specific spatial style and a way of doing design work have to come together and need to be marketed effectively, not just at StudioFour, but generally. Shifts in the relationship between internal and external stabilisation can be incidental or planned (i.e. it can be a product of an external shock (such as a recession) or of strategy).

Ultimately, spatial designers actively co-configure and enact the marketplace they find themselves in. This underlines the humanist element in design and portrays designers as creative-commercial mediators. It also shows that the marketplace of spatial design is not a superstructure imposing itself onto actors but must be understood as something comprised of a myriad of social arrangements (see Callon, 1998). Studying how design, space and commerce are linked through micro-economic action, then, is primarily an empirical, and not just a theoretical issue. This underscores the significance of studio studies because they help counterbalance the totalisation of commerce in design, as promoted in critiques of neo-liberal capitalism in architecture that pushes socially responsible and creative design out of the picture (see Chapter 1) with more nuanced views on the *complex* relationship between design, space and commerce.

Methodological Reflections

Leading on from these four concluding points, it is important to reflect on how I have used studio studies in this thesis: my project has followed the call of Farías & Wilkie (2016b) to study "the studio" as an important site of cultural production and has focused on StudioFour as a case study for the production of conceptual space. Here, using ethnography via the extended case study method (Burawoy, 1991) has allowed me to study StudioFour's intimate studio life and learn how their professional practices were put together and spanned across design, commerce and space. The ethnographic lens has helped me to develop an understanding for how materiality is featured in spatial design processes and for how the particularities of social life at StudioFour unfolded. It is these particularities, and their "messines" (see Law, 2004), that matter because they underpin the actors' stabilisation efforts (i.e. the abstractions, theorisations and distinctions which form the basis of many design decisions). Equally crucial, however, is the frame that is provided by studying *a* studio as it emphasises the notion of design as situated practice (Farías & Wilkie, 2016b) in which contextuality is an important aspect of stabilisation. The actors, very clearly, engage in drawing the boundaries of their studio, not least because this distinction matters commercially, particularly in relation to market dynamics. This is not to say that the studio is an isolated container of practices (Farías & Wilkie, 2016b), but that it functions as a window for observing how this marketplace of spatial design is put together on a micro-scale.

The container-window-metaphor prompts a reflection on the extended case study method (Burawoy 1991). In this study, the extended case study method was deployed with specific

attention to the particularities of StudioFour's social organisation and the way in which it enacted larger social, economic and cultural contexts. This is different to the way in which the extended case study method was originally conceived, namely as a form of global ethnography that focuses on political economy and history to alter social theory via micro observations (Burawoy, 1998, p. 5; 2009, p. 21). The point here is that this study did not treat theory as an abstract framework that is tested and then amended in alignment with the empirical data. Rather, the extended case study method, here, has ethnographically worked off StudioFour's particularities to "describe while theorising and theorise while describing" (Back, 2007). This reflexive and pragmatist approach has proven to be particularly important for analytically engaging with spatial design because spatial design ties together a range of elements that are both empirically and conceptually relevant. As this thesis argues, the multifaceted status of space in spatial design – as a means to organise design production and develop design specialism (Chapter 3), as a way to frame future affective qualities (Chapter 4), as basis for material culture in design (Chapter 5) and as market device (Chapter 6) – has proven to be a testimony to the need of such a bottom-up approach.

However, with using such a humanist defence of design and design ethnography, this study has encountered a number of limitations that need to be considered. First, it puts the individual researcher centre stage as locus of the production of scientific knowledge. The data that I have generated through my very specific interactions with actors in the field, therefore, are fragmented and subjective. In other words, what I have not "sociologically listened to" during my time at StudioFour is not part of this study. Furthermore, my findings have been substantially influenced by the individuals I have worked with and the relationships that I have formed. This thesis, therefore, is my interpretation of their story. Second, the focus on one spatial design practice naturally limits what can be said about the realm of spatial design as a whole, not least because spatial design and architecture practices vary in terms of their size, focus, scope, ethos and so on. However, as discussed above, the goal here was not to describe *the* global marketplace of spatial design, but to see how it is enacted in the context of a specific design organisation. Nonetheless, the findings here indicate that there is a clear need for more studio ethnographies to – quite literally – assemble a bigger and more fine-grained picture of the spatial design profession. Lastly, it can be argued that new design research may benefit from developing and building upon new qualitative methodologies that are informed by the methods and tools designers use themselves[62]. This project has left out such design methods due to its focus on a contextual

[62] Especially as some of the tools designers use come from qualitative social research and designers increasingly engage in social research (Augustin & Coleman, 2012; Clarke, 2010; Cranz, 2016). Equally, design methods and design thinking increasingly find their way into professional practice (Kimbell, 2011, 2012) and various new forms of design/ing research, such as design ethnography (Pink et al, 2017).

ethnography that deploys traditional ethnographic methods to explore how visuality and materiality are operationalised within design practice (see Chapter 2). However, other sets of research questions might benefit from adapting some of the methodological tools and technologies designers deploy in their creative work, particularly with regards to visual culture studies and sensory methods (Pink, 2007, 2009) or digital materialities (Pink, Ardèvol & Lanzen, 2016).

New Pathways to Sociological Design Research

The discussions in this thesis have shown that design oscillates between creativity and commerciality and is likewise intertwined with pragmatics, politics and power – or, as Gastrow (2016) summarizes: "design is inherently about world-making [and] the nature of this world-making is therefore fundamentally political". This became particularly apparent in Chapter 5 where I discussed how the stuff system of spatial design is not only commercial but also inherently political. Here, the interpretation of regulatory frameworks on the "performance" of building materials is deeply entangled with having to make relationships work with clients, regulators, local authorities, users and collaborators so that a building becomes "fit for purpose". Not only is this mediation work inherently political because it focuses on making ends meet between diverse actors, but it can also lead to the disadvantage of space users and to the benefit of design clients.

As this project is coming to a close, design is rapidly gaining a highly energized political momentum in the public and academic discourse. The core concerns of this momentum are consistent with this study and support its arguments: Not only do sociological studies of space put new emphasis on the interplay of materiality and sociality (see e.g. Löw, 2016; Müller & Reichman, 2015) but current discussions on architecture and design in (neoliberal) capitalism (Böhme, 2016; Deamer, 2013, 2015a,b,c; Spencer, 2016) are now complimented by nuanced interpretations of the interrelationship of design practice and commerce (or "design economies" and in the context of the neo-liberal project [see especially Julier, 2017]). This is in line with the stance taken in this project but must also be read as a call to explore the particularities of different kinds of design practices in the context of marketisation, not just design and the economy in general (see also Slater [2002b] on a similar argument on advertising). Against this backdrop, one stream of contemporary research sees design as entrenched with exercising power and forms of violence (e.g. Antonelli & Hunt, 2015) over people. This extends well beyond the design of products

(whether spatial or otherwise) and links design to (elite) agency and exploitation in neoliberal or post-colonial contexts. In other discourses, design is also centrally positioned in a wide range of socio-economic processes, ranging from "neglect by design" in the context of privatising the National Health Service (NHS) of the United Kingdom (Skeggs, 2017), to "global inequality by design" as part of the prevailing canon of colonial ontologies in higher education (Andrews, 2017). By the same token, an increasing concern with design continues to enable analytical and empirical resistance to these forces as part of what Savage (2016) describes as the newly emerging "strong anti-elite feeling across developed nations" (p. 475). Here, the critique focuses on the privileged position of designers or "curators" as "professional arbiters of taste and judgment, handing down their verdicts (…) from a position of dignity and certified authority" as part of subtly reaffirming their elite social status (Frank, 2016) within the democratic framework while, conversely, contributing to its current crisis. It has been suggested that, consequently, resistance to these inequality mechanisms implies the unravelling of certain forms of design, or "curatolatry", as Frank (2016) puts it: "the revolution will not be curated".

But this is just one side of design's new story. The other side focuses on the potential of design for addressing precisely those issues, such as through socially responsible (Margolin, 2007) and empathetic design (Postma, Lauche & Stappers, 2011), particularly in the context of design thinking (Kimbell, 2011, 2012) or social design (Armstrong et al, 2014; Chen et al, 2015; Julier & Kimbell, 2016) for public service, policy making and social innovation (Sangiorgi & Prendiville, 2017), or through practice-based design research (Vaughan, 2017) – whereby some of these concerns have long played a role in design scholarship and practice (e.g. Papanek, 1971). Furthermore, the practitioner discourse has also embraced the emergence of manifold design activisms that have "emerged as a movement, partly in response to the recent crises of neoliberalism" in search of "alternative models of practice" (Julier, 2013a, p. 215, 216)[63]. This has focused on new modes of participatory or co-design (Manzini & Coad, 2015; Simonsen & Robertson, 2013), inclusive design (Imrie & Hall, 2001), sustainable design (Chapman, 2017; Fuad-Luke, 2009) and phenomena such as the hacker-maker movement (Davies, 2017; Ehn, Nilsson & Topgaard, 2014) as part of efforts to democratise design. In the spatial context, design has continued to democratise, for example through new co-housing initiatives (Fernández Arrigoitia & Scanlon, 2015). Furthermore, the sociological discourse examines themes such as care and disability in the context of design and the built environment (see Bates, Imrie & Kullman, 2016)

[63] For more detail on the theme of "design activism", see Special Issue Volume 5, Issue 2 in Design and Culture (2013).

and encourages practitioners to be more explicit about and act upon their own political stances and responsibilities (Yaneva, 2017). Spatial practitioners, equally, long have been engaged in various discussions around (their) political responsibility within their own working practices (Architecture Lobby 2016; Rendell, 2007) and beyond (Rittner, 2017; see also Chapter 1). The main point here is that design can move between two polar ends: it can be a demonstration of power and elitism that amplifies unequal power relations, but it can also profoundly challenge them and be a motor of democratisation[64]. Very often, it is something in between, mediated by a wide range of concerns. Consequently, design can be seen as a marker of the social and political transformations of our time, it shapes these transformations as much as they shape it.

Against this backdrop, I see three important research themes emerge for new design sociologies:

First, sociological research must carve out more *nuanced* notions of agency in design and how these are materialised (e.g. in building policies and regulation, see Chan [2015] or Imrie & Street [2011]). Not only because agency remains under-theorised but also because there are different kinds of agencies that (rather literally) come to matter in different studios and in different kinds of design (Kimbell, 2012), not least because actors (human and non-human) significantly vary (Hennion, 2016). Consequently, a focus on other studios and on other design practices would be an important contribution. Within that, it is important to "rethink the human" (Rose, 2017) without challenging the post-humanist achievement of correcting "centuries of Western philosophizing that attributes agency only to a specific kind of human: the male, white, heterosexual sovereign subject, capable of rational thought" (p. 3). This is particularly crucial in the context of pragmatist approach to design that underscores humanism. Such an angle calls for an in-depth study of how different forms of human agency unfold in processes of design and in the context of contingency, particularly with regard to larger regulatory frameworks, new technologies that bring spatial fabrication closer to spatial design (see Garber, 2017) as well as global flows of capitals, people, ideas and so on.

Second, this must be developed through a lens that takes seriously the rise of design as a manifold and ever-complexifying profession that is intertwined with processes of economic transformation in various ways (see Julier, 2017). The relationship of design practice, marketisation and politics, to date, remains largely under-researched, despite significant advances in theorising architecture

[64] See also Sloane, Slater and Entwistle (2016) on the potential of design for tackling social inequalities in public lighting.

and capitalism in the global nexus of power. Even though we can expect that design will (and has to) remain vague because it is in constant flux, it is an area in which larger societal questions are framed, not only in cultural, but also in economic terms. For that reason, future research must examine how the mediating role of design is entrenched with commercial networks and processes of economic change. In this context, the notion of "capital" holds significant potential and is likely to take on a central role to prompt questions based on the Bourdieusian notion of cultural, economic and social capital and beyond. Building on this as a foundation for new design research, two streams of inquiry could develop: First, it would be interesting to take the design *project* as unit of inquiry (which could be of any scale, from a kitchen tool, to a software, to a big regeneration project) as opposed to the studio and explore questions such as 'How are different forms of capital constituted in design?' and 'How do they flow in the context of particular economic contexts and conditions?'. Second, a fully-fledged Bourdieusian study of spatial design practice could provide a framework for investigating if and to what extent architecture practice and pedagogy can be seen as elite/high-brow (see also Stevens, 1998). By the same token, this may also provide grounds for an extended critique of architecture-centred approaches to capitalism in design (based on the distinction of creative and socially-responsible design vs. purely capitalist spatialisation, see Chapter 1) as elitist.

Lastly, and most importantly, new design research can focus on making explicit *how* forms of social inequality may be reinforced through the ways in which contemporary spatial design is organised. The vignette about how material politics can work to reduce building quality for less powerful stakeholders in Chapter 5 shows how designers fail/are failed in engaging with public and less powerful stakeholders. This failure, however, cannot be attributed exclusively to the designers. Many current spatial design protocols (for example in relation to section 106) prescribe superficial engagements with design users. This shows who gets valued in what kind of way and is linked to the unequal distribution of material and symbolic space, as Löw (2016) reminds us: "The reproduction of social inequality is systematically possible and does occur at every level of the constitution of space" (p. 177). To study these forms of inequality in design practice, new research must focus on the *politics of practice*[65] that are at play. This is different from a political economy debate, which develops a critique of the underlying power structures of capitalism in the context of design. Rather, it points to the politics of problem-solving (Marres, 2012), because problems are what design is all about: "design is the intentional solution of a problem" (Parsons, 2015), a

[65] Interestingly, Hennion (2016) suggests that the studio is a profoundly political place, even though "officially nothing [is] political", because "a studio is a way of making a new world, it does politics" (Hennion & Farías, 2016, p. 85).

statement strongly supported by this study. However, the access to and participation in these processes of design "problematization" (Marres, 2012) is not only embedded in larger professional and political landscapes but also is profoundly unequal: in design, an intermediary and privileged circle of clients and (design) experts gets to define the (spatial) problem(s) that need solving – *on behalf* of spatial users. In commercial design focused on large-scale projects, like at StudioFour, these problems are often linked to economistic narratives of serving market needs (the current housing crisis in the United Kingdom is a good example for that). That is to say that there is an unequal distribution of weight and power of who defines design problems and who provides design solutions and in what kind of way. Within this, designers have a central, but profoundly difficult role as mediators; they are the ones who must make ends meet. Looking at design politics, then, is essential for examining where design problems come from and how they are treated and by whom in the design process. This is an issue that is systemic to design at large, not just spatial design, and therefore is as much of an ontological as it is of an empirical nature. It can also trigger interesting questions about the status of (Dewey'an) pragmatism which has traditionally discussed the moral implications of humanism and focussed on "employing intelligence for the betterment of humankind" (Jackson, 2006, p. 71), much like some of the new streams of design research and practice discussed above.

The topic of design inequality suggests a more extended set of questions around the organisation of design in the context of wider power structures. If new design research is to address these, then this prompts a reflection on the notion of studio studies. On the one hand, understanding the studio as the key site of cultural production is important for mapping out how design is organised in practice. This can help trace the politics of practice as they emerge in the studio context. However, to move forward with developing a sociology of design, particularly with regard to questions around how social inequality perpetuates in and through design, it is equally important to locate these micro-politics in their wider socio-economic context. In other words, to move forward with sociological design research, studio studies can and must enter into a conversation with the explicitly critical theorisations of commercial design practice (such as Deamer 2013a, 2015a), and vice versa. This may help develop a fuller view on sociological stakes of contemporary spatial design and it could also foster the much-needed interdisciplinary approach to social inequality (see Savage, 2016) that looks beyond manifestations of inequality through the accumulation of wealth (Piketty, 2015) or through class distinction (Bourdieu, 2010 [1984]).

Conclusion

Spatial design, as argued throughout this thesis, must be conceived of as deeply entangled with commerciality and underpinned by distinct forms of material culture. It also extends notions of spatial practice and space beyond architecture or built form. My ethnographic inquiry into in the practices and stories of StudioFour's designers has discussed the complicated set-up of spatial design as a creative, material and commercial practice against the context of distinct competitive and regulatory environments. Within that, designers are tasked with solving problems and they subsequently act as social and cultural intermediaries. Here, the ways in which these problem-solving processes unfold are embedded into political, economic and cultural currents. And it is at this point, at the intersection of design, space and commerce, that (spatial) design comes to matter sociologically. Here, the "market moment" provides a window for how designers navigate this intersection in the studio context: through stabilising design organisation and managing contingency in processes of design production (Chapter 3); through treating conceptual space as product and process of spatial design (Chapter 4); through deploying material knowledges and practices as a central element of their practices (Chapter 5); and through considerations that explicitly relate to the marketplace (Chapter 6).

Through its focus on StudioFour as case study, I hope that this project will be read as a contribution to the larger project of developing a sociological and anthropological scholarship on design, not least because it has helped to open up the black box of creativity and commerce. By the same token, I hope that it provides fruitful grounds for future research that theorises the politics of design practice from the bottom up and sets the scene for investigating the link between traditional sociological concerns, such as inequality, and contemporary design practice.

References

Adam, R. (2012): *The globalisation of modern architecture. The impact of politics, economics and social change on architecture and urban design since 1990*. Newcastle Upon Tyne, UK: Cambridge Scholars Publishing.

Adey, P. (2008): Airports, mobility and the calculative architecture of affective control. *Geoforum 39 (1)*, 438–451. DOI: 10.1016/j.geoforum.2007.09.001, checked on 8/10/2015.

Adey, P. (2014): Security atmospheres or the crystallisation of worlds. *Environ. Plann. D,* 32 (5), 834–851. DOI: 10.1068/d21312, checked on 08/10/2015.

Adkins, L. (2011): Cultural Intermediaries. In Southerton, D. (Ed.): *Encyclopaedia of consumer culture* (pp. 389–392). Thousand Oaks, CA: SAGE.

Agid, S. (2012) Worldmaking: Working through Theory/Practice in Design. *Design and Culture, 4(1),* 27-54. DOI: http://dx.doi.org/10.2752/175470812X13176523285110, checked on 12/12/2016

Alexander, C. (1971). *Notes on the Synthesis of Form*. Cambridge, MA: Harvard University Press.

Allen, J. (2006): Ambient power: Berlin's Potsdamer Platz and the seductive logic of public spaces. In *Urban Studies, 43 (2)*, 441–455. DOI: 10.1080/00420980500416982, checked on 08/10/2015.

American Institute of Architects (2014): *The Architect's Handbook of Professional Practice* (15th Ed.). Hoboken, NJ: Wiley.

Anderson, B. (2009): Affective atmospheres. In *Emotion, Space and Society, 2 (2)*, 77–81. DOI: 10.1016/j.emospa.2009.08.005, checked on 08/07/2015.

Andrews, K. (2017, January 18): The west was built on racism. It's time we faced that. [Video file] Retrieved from https://www.theguardian.com/commentisfree/video/2017/jan/18/the-west-was-built-on-racism-its-time-we-faced-that-video on 03/27/2017.

Antonelli, P., Hunt, J. (2015): *Design and violence*. New York, NY: The Museum of Modern Art and ARTBOOK/D.A.P.

Appadurai, A. (1986): Introduction. In A. Appadurai (Ed.), *The Social Life of Things* (pp. 3-63). Cambridge, UK; New York, NY: Cambridge University Press.

Architecture Lobby (2016): Manifesto. [Online posting] Retrieved from http://architecture-lobby.org/about/ on 04/12/2017.

Armstrong, L., Bailey, J., Julier, G., Kimbell, L. (2014): *Social Design Futures: HEI Research and the AHRC*. University of Brighton and Victoria and Albert Museum. Commissioned by AHRC.

Augustin, S., Coleman. C. (2012): *The designer's guide to doing research: applying knowledge in practice for design excellence*. Hoboken, NJ: Wiley.

Back, L. (2007): *The Art of Listening*. Oxford; New Delhi; New York; Sydney: Bloomsbury.

Back, L. (2004): Listening with our Eyes. In C. Knowles, P. Sweetman (Eds.) *Picturing the Social Landscape: Visual Methods and the Sociological Imagination* (pp. 132-146). London; New York, NY: Routledge.

Banks, M. (2007): *The Politics of Cultural Work*. Basingstoke; New York, NY: Palgrave Mcmillan.

Bates, C, Imrie, R., Kullman, K. (Eds.). (2016): *Care and design: bodies, buildings, cities.* Chichester, West Sussex: Wiley Blackwell.

Baumgarten, A. G. (1750/58 [1983]): *Texte zur Grundlegung der Aesthetik*. Lat.-dt. Hamburg: Meiner (Philosophische Bibliothek, Bd. 351).

Benjamin, W. (1977 [1936]): *Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit*. Drei Studien zur Kunstsoziologie. 11. Aufl. Frankfurt am Main: Suhrkamp Verlag (Edition Suhrkamp, 28).

Bennett, J. (2010): *Vibrant matter. A political ecology of things*. Durham: Duke University Press.

Benzecry, C. E. (2015): Restabilizing attachment to cultural objects. Aesthetics, emotions and biography. In *The British Journal of Sociology*, 66 (4), 779-800. DOI: 10.1111/1468-4446.12163, checked on 01/02/2017.

Bernstein, P. G. (2015): Three strategies for new value propositions of design practice. In Deamer, P. (Ed.), *The Architect as Worker. Immaterial Labor, the Creative Class, and the Politics of Design* (pp. 209-218). London; New York: Bloomsbury.

Biehl-Missal, B. (2012): Atmospheres of Seduction: A Critique of Aesthetic Marketing Practices. In *Journal of Macromarketing*, 32 (2), 168–180. DOI: 10.1177/0276146711433650, checked on 08/07/2012.

Bille, M., Sørensen, T. F. (2016): Into the fog of architecture. In M. Bille, T. F. Sørensen (Eds.), *Elements of Architecture: Assembling Archaeology, Atmosphere and the Performance of Building Space* (pp. 1-29). London: Routledge.

Bille, M., Bjerregaard, P., Sørensen, T. F. (2015): Staging atmospheres. Materiality, culture, and the texture of the in-between. In *Emotion, Space and Society*, 15, 31–38. DOI: 10.1016/j.emospa.2014.11.002, checked on 10/13/2015.

Bissell, W. C. (2016, June 6): Design and Temporality: Provocation. [Correspondences, Cultural Anthropology blog post]. Retrieved from https://culanth.org/fieldsights/886-design-and-temporality-provocation on 06/12/2017.

Black, J., Hashimzade, N., Myles, G. (2009): Black Monday. In J. Black, N. Hashimzade, N., G. Myles: *A Dictionary of Economics* (3rd Ed.). Oxford: Oxford University Press.

Blau, J. R. (1984): *Architects and firms. A sociological perspective on architectural practice*. Cambridge, Mass: MIT Press.

Blum, E. (2010): *Atmosphäre. Hypothesen zum Prozess räumlicher Wahrnehmung*. Baden: Müller, Lars.

Böhme, G. (1993): Atmosphere as the Fundamental Concept of a New Aesthetics. In *Thesis Eleven*, 36 (1), 113–126. DOI: 10.1177/072551369303600107, checked on 03/07/2012.

Böhme, G. (1998): *Anmutungen. Über das Atmosphärische*. Ostfildern vor Stuttgart: Edition Tertium.

Böhme, G. (2006): *Architektur und Atmosphäre*. München: Wilhelm Fink.

Böhme, G. (2013): *Atmosphäre: Essays zur neuen Ästhetik* (7th Ed.). Frankfurt am Main: Suhrkamp.

Böhme, G. (2016): *Ästhetischer Kapitalismus* (2nd Ed.). Frankfurt am Main: Suhrkamp.

Boland, R., F. Collopy (2004): Design Matters for Management. In R. Boland, F. Collopy (Eds.), *Managing as Designing* (pp. 3–18). Stanford, CA: Stanford University Press.

Borch, C. (2014): The Politics of Atmospheres: Architecture, Power, and the Senses. In C. Borch (Ed.): *Architectural atmospheres. On the experience and politics of architecture* (pp. 61–89). Basel: Birkhäuser.

Born, G. (2010): The Social and the Aesthetic: For a Post-Bourdieuian Theory of Cultural Production. In *Cultural Sociology*, 4 (2), 171-208. DOI: 10.1177/1749975510368471, checked on 01/02/2017.

Born, G., Lewis, E., Straw, W. (Eds.). (2017): *Improvisation and Social Aesthetics*. Durham: Duke University Press.

Bourdieu, P. (1986): The forms of capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York: Greenwood. Retrieved from https://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm on 04/04/2014.

Bourdieu, P. (2005): *The Social Structures of the Economy*. Cambridge; Malden, MA: Polity.

Bourdieu, P. (2010 [1984]): *Distinction. A social critique of the judgement of taste*. London, New York: Routledge.

BREEAM (2017): BREEAM at a glance. [Online posting] Retrieved from http://www.breeam.com/why-breeam on 05/05/2017.

Brenner, N.; Madden, D. J.; Wachsmuth, D. (2011): Assemblage urbanism and the challenges of critical urban theory. *City*, 15(2), 225-240. DOI: 10.1080/13604813.2011.568717, checked on 06/11/2017.

Brown, A. D., Kornberger, M., Clegg, S. R., Carter, C. (2010): 'Invisible walls' and 'silent hierarchies': A case study of power relations in an architecture firm. *Human Relations*, 63(4), 525-549. DOI: 10.1177/0018726709339862, checked on 06/12/2017.

Buchli, V. (Ed.). (2002): *The material culture reader*. Oxford, New York: Berg.

Burawoy, M. (1991): *Ethnography unbound: power and resistance in the modern metropolis*. Berkeley, CA: University of California Press.

Burawoy, M. (1998): The Extended Case Method. In *Sociological Theory*, 16 (1), 4-33, http://www.jstor.org/stable/202212 checked on 11/22/2013.

Burawoy, M. (2009): *The extended case method: four countries, four decades, four great transformations, and one theoretical tradition*. Berkeley, CA: University of California Press.

Callon, M. (1998): Introduction: the embeddedness of economic markets in economics. In M. Callon (Ed.) *The Laws of the Markets* (pp. 1-57). Oxford; Malden, MA: Blackwell.

Callon, M. (2002): Writing and (Re)writing Devices as Tools for Managing Complexity. In J. Law, A. Mol (Eds.) *Complexities: Social Studies of Knowledge Practices* (pp. 191-217). Durham; London: Duke University Press.

Callon, M., Muniesa, F. (2005): Economic Markets as Calculative Collective Devices. In *Organization Studies*, 26(8), 1229–1250. DOI: 10.1177/0170840605056393, checked on 06/12/2017.

Callon, M., Méadel, C., Rabeharisoa, V. (2002): The economy of qualities. In *Economy and Society*, 31 (2), 194-217. DOI: 10.1080/03085140220123126, checked on 06/12/2017.

Carman, T. (1999): The Body in Husserl and Merleau-Ponty. In *Philosophical Topics*, 27(2), 205-226. Stable URL: http://www.jstor.org/stable/43154321?seq=1#page_scan_tab_contents, checked on 06/12/2017.

Cayer, A., Deamer, P., Korsh, S., Peterson, E., Shvartzberg, M. (2016): Introduction. In Cayer, A.; Deamer, P.; Korsh, S.; Peterson, E.; Shvartzberg, M. (Eds.), *Asymmetric Labors: The Economy of Architecture in Theory and Practice* (pp. 8-13). The Architecture Lobby: http://architecture-lobby.org/asymmetriclabors.html, e-booklet received from Peggy Deamer via e-mail on 04/12/2017.

Chan, J. (2015): Moral Agency in Architecture? The Dialectics of Spatializing Morality and Moralizing Space. p. 198-214. In A. Müller, W. Reichmann, W. (Eds.) *Architecture, materiality and society. Connecting sociology of architecture with science and technology studies.* Basingstoke: Palgrave Macmillan.

Chapman, J. (2017): *Routledge Handbook of Sustainable Product Design*. London; New York: Routledge.

Chen, D. -S., Cheng, L. -L., Hummels, C., Koskinen, I. (2015). Social design: An introduction. In International Journal of Design, 10(1), 1-5. Stable URL: http://www.ijdesign.org/ojs/index.php/IJDesign/article/viewFile/2622/719, checked on 06/08/2017.

Clarke, A. J. (2010): Introduction. In A.J. Clarke (Ed.) *Design Anthropology. Object Culture in the 21st Century* (pp. 9-13). Wien; New York: Springer.

Colomina, B. (1994): *Privacy and Publicity: Modern Architecture as Mass Media*. Woburn, MA: MIT Press.

Coole, D., Frost, S. (2010): Introduction to the New Materialisms. In D. Coole, S. Frost *New Materialisms. Ontology, Agency, and Politics* (pp. 1-43). Durham; London: Duke University Press.

Correa, C. (1999): *Housing & Urbanisation*. New York: Thames & Hudson.

Correa, C. (2012): *A place in the shade: the new landscape & other essays*. Ostfildern: Hatje Cantz.

Cranz, G. (2016): *Ethnography for Designers.* London: Routledge.

Cross, N. (2011): *Design Thinking: Understanding How Designers Think and Work.* London; New York: Bloomsbury.

Cuff, D. (1992): *Architecture. The story of practice*. Cambridge, MA: MIT Press.

Cuff, D., Wriedt, J. (Eds.) (2010): *Architecture From the Outside In: Selected Essays by Robert Gutman*. New York: Princeton Architectural Press.

Davidson, J., Milligan, C. (2004): Embodying emotion sensing space: introducing emotional geographies. In *Social & Cultural Geography* 5 (4), 523–532. DOI: 10.1080/1464936042000317677, checked on 07/30/2012.

Davies, S. R. (2017): Hackerspaces: Making the Maker Movement. Cambridge, UK; Malden, MA : Polity Press.

de Peuter, G. (2014): Beyond the Model Worker. In *Culture Unbound*, (6), 2014, 263–284. Hosted by Linköping University Electronic Press: http://www.cultureunbound.ep.liu.se, checked on 06/11/2017.

Deamer, P. (2010): Introduction. In Deamer, P., Bernstein, P. G. (Eds.) *Building (in) the Future. Recasting Labor in Architecture*. (pp. 19-25). New York: Princeton Architectural Press.

Deamer, P. (Ed.) (2013a): Architecture and Capitalism. 1845 to the Present. London; New York: Routledge.

Deamer, P. (2013b): Introduction. In P. Deamer *Architecture and Capitalism. 1845 to the Present*. (pp. 1-4). London; New York: Routledge.

Deamer, P. (2013c): The 'Starchitect' Stereotype. [Online posting: Letter to the New York Times] Retrieved from http://www.nytimes.com/2013/10/01/opinion/the-starchitect-stereotype.html on 07/30/2017.

Deamer, P. (Ed.). (2015a): *The Architect as Worker. Immaterial Labor, the Creative Class, and the Politics of Design*. London; New York: Bloomsbury.

Deamer, P. (2015b): Introduction. In P. Deamer (Ed.) *The Architect as Worker. Immaterial Labor, the Creative Class, and the Politics of Design*. (pp. xxvii-xxxvi). London; New York: Bloomsbury.

Deamer, P. (2015c): Work. In P. Deamer (Ed.) *The Architect as Worker. Immaterial Labor, the Creative Class, and the Politics of Design*. (pp. 61-81). London; New York: Bloomsbury.

Deamer, P., Bernstein, P. G. (Eds.) (2010): *Building (in) the Future. Recasting Labor in Architecture*. New York: Princeton Architectural Press.

Degen, M., Melhuish, C., Rose, G. (2017): Producing place atmospheres digitally. Architecture, digital visualisation practices and the experience economy. In *Journal of Consumer Culture*, 17(1), 3–24. DOI: 10.1177/1469540515572238, checked on 06/13/2015.

Deutsch, R. (2017): *Convergence: The Redesign of Design*. Chichester: Wiley.

Dewey, J. (2005 [1934]): *Art as Experience*. London: Perigee Books.

Domone, P., Illston, J. (Eds.) (2010): *Construction Materials. Their Nature and Behaviour*. (4th Ed.). London: Routledge.

Dorland, A. (2009): Routinized Labour in a Graphic Design Studio. In G. Julier, L. Moor *Design and Creativity: Policy, Management and Practice.* (pp. 105-121). London; New York: Bloomsbury.

Drazin, A. (2013): The Social Life of Concepts in Design Anthropology. In W. Gunn, T. Otto, R. C. Smith (Eds.) *Design anthropology. Theory and practice* (pp. 33–50). London; New York: Bloomsbury.

Drazin, A.; Küchler, S. (Eds.) (2015): *The Social life of Materials*. London; New York: Bloomsbury.

Du Bois, W., Dean Wright, R. (2002): What Is Humanistic Sociology?. In *The American Sociologist*, 33(4), 5–36. www.jstor.org/stable/27700323, checked on 04/03/ 2017.

Duff, C. (2010): On the role of affect and practice in the production of place. In *Environ. Plann. D* 28 (5), 881–895. DOI: 10.1068/d16209, checked on 08/05/2015.

Dufrenne, M. (1964): The Aesthetic Object and the Technical Object. In *The Journal of Aesthetics and Art Criticism*, 23 (1), 113-122. DOI: 10.2307/428144, checked on 08/27/2012.

Dunne, A., Raby, F. (2013): *Speculative everything: design, fiction, and social dreaming*. Cambridge, MA: MIT Press.

Easterling, K. (2005): *Enduring innocence. Global architecture and its political masquerades*. Cambridge, MA: MIT Press.

Easterling, K. (2013): Coda: liberal. In P. Deamer (2013a) (Ed) *Architecture and Capitalism. 1845 to the Present* (pp. 202-216). London; New York: Routledge.

Easterling, K. (2014): *Extrastatecraft. The power of infrastructure space*. New York: Verso.

Edensor, T. (2012): Illuminated atmospheres. Anticipating and reproducing the flow of affective experience in Blackpool. In *Environ. Plann. D*, 30 (6), 1103–1122. DOI: 10.1068/d12211, checked on 10/5/2015.

Edensor, T. (2015): Light design and atmosphere. In *Visual Communication* 14 (3), 331–350. DOI: 10.1177/1470357215579975, checked on 10/05/2015.

Edensor, T., Sumartojo, S. (2015a): Designing Atmospheres. Introduction to Special Issue. In *Visual Communication*, 14 (3), 251–265. DOI: 10.1177/1470357215582305, checked on 10/5/2015.

Edensor, T., Sumartojo, S. (Eds.) (2015b): Special Issue *Designing Atmospheres*. In *Visual Communication*, 14 (3). Retrieved from: http://journals.sagepub.com/toc/vcja/14/3 on 10/5/2015.

Ehn, P., Nilsson, E., Topgaard, R. (2014): *Making Futures: Marginal Notes on Innovation, Design, and Democracy*. Cambridge, MA: MIT Press.

Entwistle, J. (2002): The Aesthetic Economy: The production of value in the field of fashion modelling. In Journal of Consumer Culture 2 (3), pp. 317–339. DOI: 10.1177/146954050200200302, checked on 08/27/2012.

Entwistle, J. (2009): *The aesthetic economy of fashion. Markets and value in clothing and modelling*. London; New York: Bloomsbury.

Entwistle, J., Slater, D. (2013): Reassembling the Cultural. Fashion models, brands and the meaning of 'culture' after ANT. In *Journal of Cultural Economy*, 7(2), 161-177. DOI: 10.1080/17530350.2013.783501, checked on 10/13/2012.

Entwistle, J., Wissinger, E. (Eds.) (2012): *Fashioning Models. Image, Text and Industry*. London; New York: Bloomsbury.

Ettlinger, N. (2004): Toward a Critical Theory of Untidy Geographies: The Spatiality of Emotions in Consumption and Production. In *Feminist Economics* 10 (3), 21–54. DOI: 10.1080/1354570042000267617, checked on 08/23/2012.

Farías, I. (2011): The politics of urban assemblages. In *City*, 15(3), 365-374, http://dx.doi.org/10.1080/13604813.2011.595110, checked on 07/05/2017.

Farías, I., Wilkie, A. (Eds.). (2016a): *Studio Studies. Operations, Topologies, Displacements*. London; New York: Routledge.

Farías, I. & Wilkie, A. (2016b): Studio studies. Notes for a research programme. In I. Farías, A. Wilkie *Studio Studies. Operations, Topologies, Displacements* (pp. 1-21). London; New York: Routledge.

Farías, I. (2013): Heteronomie und Notwendigkeit. Wie Architekt/innen Wettbewerbsbeiträge entwickeln. In M. Tauschek (Ed.) *Kulturen des Wettbewerbes. Formationen kompetitiver Logiken* (pp. 173-193). Münster; New York; München; Berlin: Waxmann

Farías, I. (2015): Epistemic Dissonance. Reconfiguring Valuation in Architectural Practice. In A. B. Antal, M. Hutter, D. Stark *Moments of Valuation: Exploring Sites of Dissonance* (pp. 271-289). Oxford: Oxford University Press.

Farnham, K., Newbery, P. (2013): *Experience design. A framework for integrating brand, experience, and value*. Hoboken, NJ: Wiley.

Farrelly, L. (2008): *Basics Architecture 02: Construction & Materiality*. Worthing, UK: AVA Publishing.

Featherstone, M. (2007): *Consumer culture and postmodernism* (2nd Ed.) Los Angeles: Sage.

Fernández Arrigoitia, M.; Scanlon, K. (2015): Development of new cohousing: lessons from a London scheme for the over-50s. In *Urban Research and Practice*, 8(1), 106-121, http://dx.doi.org/10.1080/17535069.2015.1011430, checked on 03/27/2017.

Fox, N. J., Alldred, P. (2017): *Sociology and the New Materialisms. Theory, Research, Action*. London; Thousand Oaks, CA: Sage.

Frampton, K. (2002): *Labour, work and architecture: collected essays on architecture and design*. London: Phaidon.

Frank, T. (2016): The Revolution Will Not Be Curated. [Online posting] Retrieved from https://thebaffler.com/salvos/revolution-not-curated-frank on 04/12/2017.

Fry, T. (2010): *Design as Politics*. London; New York: Bloomsbury.

Fuad-Luke, A. (2009): *Design Activism: Beautiful Strangeness for a Sustainable World*. London; New York: Routledge.

Garber, R. (Ed.). (2017): *Workflows: Expanding Architecture's Territory in the Design and Delivery of Buildings*. Oxford: Wiley.

Gastrow, C. (2016, June 27). Design and Temporality: Integration. [Correspondences, Cultural Anthropology blog post] Retrieved from https://culanth.org/fieldsights/909-design-and-temporality-integration on 06/12/2017.

Geertz, C. (1973): *The interpretation of cultures: selected essays*. New York: Basic Books.

Gell, A. (1998): *Art and agency. Towards a new anthropological theory*. Oxford: Clarendon Press.

Glaeser, A. (2005): An Ontology for the Ethnographic Analysis of Social Processes: Extending the Extended-Case Method. In *Social Analysis* 49(3), 16-45. DOI: http://dx.doi.org/10.3167/015597705780275138, checked on 06/12/2017.

Gluckman, M. (1961): Ethnographic Data in British Social Anthropology. In *The Sociological Review*, 9(1), 5-17. DOI: 10.1111/j.1467-954X.1961.tb01082.x, checked on 06/12/2017.

Griffero, T. (2014): *Atmospheres. Aesthetics of emotional spaces*. Burlington: Ashgate.

Gunn, W., Donovan, J. (2012): *Design and anthropology*. Farnham, Surrey; Burlington, VT : Ashgate.

Gunn, W., Otto, T., Smith, R. C. (Eds.). (2013): *Design anthropology. Theory and practice*. London; New York: Bloomsbury.

Gutman, R. (1988): *Architectural practice*. *A critical view.* New York, NY: Princeton Architectural Press.

Hammersley, M., Atkinson, P. (2010): *Ethnography: Principles in practice*. (3rd Ed.). London; New York: Routledge.

Hanquinet, L., Roose, H., Savage, M. (2014): The Eyes of the Beholder: Aesthetic Preferences and the Remaking of Cultural Capital. In *Sociology* 48(1), 111–32. DOI: 10.1177/0038038513477935, checked on 31/01/2017.

Heathcote, E. (2017, January 26): Age of the 'starchitect'. Big-name architects have existed for decades but today's celebrity culture is ideally suited to the blockbuster builder. [Financial Times, online posting] Retrieved from https://www.ft.com/content/d064d57c-df01-11e6-86ac-f253db7791c6 on 06/12/2017.

Hennion, A. (2015): *The Passion for Music. A Sociology of Mediation.* Farnham; Burlington, VT: Ashgate.

Hennion, A. (2016): From ANT to Pragmatism: A Journey with Bruno Latour at the CSI. In New Literary History, 47(2&3), 289-308. DOI: https://doi.org/10.1353/nlh.2016.0015, checked on 01/18/2017.

Hennion, A., Farías, I. (2016): For a sociology of *maquettes*: An interview with Antoine Hennion. In I. Farías, A. Wilkie *Studio Studies. Operations, Topologies, Displacements* (pp. 73-88). London; New York: Routledge.

Hertzberger, H. (1997): *Lessons for Students of Architecture*. Rotterdam: Uitgeverij 010 Publishers.

Hertzberger, H. (2013): *Space and the Architect: Lessons for Students in Architecture 2*. (2nd Ed.). Rotterdam: 010 Publishers.

Hertzberger, H. (2015): *Architecture and structuralism: the ordering of space*. Rotterdam: 010 Publishers.

Heskett, J. (2005): *Design: A Very Short Introduction*. Oxford: Oxford University Press.

Heskett, J. (2008): Creating economic value by design. In *International Journal of Design*, 3(1), 71-84. Stable URL: http://www.ijdesign.org/ojs/index.php/IJDesign/article/view/477/243, checked on 06/12/2017.

Howells, R. (2015): *A Critical Theory of Creativity. Utopia, Aesthetics, Atheism and Design*. Basingstoke; New York, NY: Palgrave Mcmillan.

Ibelings, H. (1998): *Supermodernism. Architecture in the age of globalization*. Rotterdam: NAi.

Imrie, R.; Hall, P. (2001): *Inclusive Design: Designing and Developing Accessible Environments*. London: Routledge.

Imrie, R; Street, E. (2011): *Architectural Design and Regulation*. Chichester, West Sussex, UK: Wiley Blackwell.

Imrie, R. (2003): Architects' Conceptions of the Human Body. *Environ. Plann. D* ,21(1), 47-65. DOI: 10.1068/d271t, 06/10/2017, checked on 06/08/2017.

Ingold, T. (2007): Materials against materiality. In *Archaeological Dialogues* 14 (1), 1–16. DOI: 10.1017/S1380203807002127, checked on 08/17/2015.

Ingold, T. (2010): Footprints through the weather-world. Walking, breathing, knowing. In *Journal of the Royal Anthropological Institute* 16, 121-S139. DOI: 10.1111/j.1467-9655.2010.01613.x, checked on 08/17/2015.

Ingold, T. (2013): *Making: Anthropology, Archaeology, Art and Architecture*. London, New York: Routledge.

Jackson, P. W. (2006): John Dewey. In Shook, J. R., Margolis, J. (Eds.) *A Companion to Pragmatism*. (54-66). Oxford; Cambridge, MA: Blackwell.

Jackson, M. (2016): Aesthetics, Politics, and Attunement: On Some Questions Brought by Alterity and Ontology. In *GeoHumanities*, 2(1), 8-23. DOI: 10.1080/2373566X.2016.1165076, checked on 05/08/2017.

Jacobs, J.M., Cairns, S. & Strebel, I. (2012). Materialising Vision: Performing a Highrise View. In G. Rose, D. P. Tolia-Kelly (Eds.) *Visuality/ Materiality: Images, Objects and Practices*. (pp. 133–152). London: Ashgate.

Jones, P. (2011): *The sociology of architecture. Constructing identities*. Liverpool: Liverpool University Press.

Julier, G. (2005): Urban Designscapes and the Production of Aesthetic Consent. In *Urban Studies*, 42(5-6), 689-688. DOI: 10.1080=00420980500107474, checked on 06/10/2017.

Julier, G. (2006): From Visual Culture to Design Culture. In *Design Issues* (22)1, 64-76. Stable URL: http://www.designculture.info/reviews/ArticleStash/GJVisCultDesCult.pdf, checked on 06/12/2017.

Julier, G. (2007): Design Practice within a Theory of Practice. In *Design Principles & Practices: An International Journal*, 1(2), 43-50. Stable URL: http://designculture.info/reviews/ArticleStash/GJ_DesignPracticewithinaTheoryofPractice_final.pdf, checked on 07/29/2017.

Julier, G. (2009): Value, Relationality and Unfinished Objects: Guy Julier Interview with Scott Lash and Celia Lury. In *Design and Culture*, 1(1), 93-113. Stable URL: http://designculture.info/reviews/ArticleStash/GJLashLuryInterview.pdf, checked on 07/29/2017.

Julier, G. (2014): *The Culture of Design*. (3rd Ed.). London; Thousand Oaks, CA: Sage.

Julier, G. (2013a) From Design Culture to Design Activism. In *Design and Culture*, 5(2), 215-236. DOI: http://dx.doi.org/10.2752/175470813X13638640370814, checked on 06/09/2017.

Julier, G. (2013b) Introduction. In *Design and Culture*, 5(2), 145-150. DOI: http://dx.doi.org/10.2752/175470813X13638640370652, checked on 06/09/2017.

Julier, G. (Ed.) (2013c) Special Issue *Design Activism*. In *Design and Culture*, 5(2). Retrieved from: http://www.tandfonline.com/toc/rfdc20/5/2?nav=tocList on 06/09/2017.

Julier. G. (2017): *Economies of Design*. London; Thousand Oaks, CA: Sage.

Julier, G., Kimbell, L. (2016): *Co-Producing Social Futures Through Design Research*. Project Report. University of Brighton, Brighton. Retrieved from http://ualresearchonline.arts.ac.uk/10672/1/protopublicsreportfinal1.pdf on 07/13/2017.

Julier, G., Moor, L. (2009): *Design and Creativity. Policy, Management and Practice*. London; New York: Bloomsbury.

Kant, I. (Frierson, Patrick R. [Eds.]) (2011 [1790]): Observations on the feeling of the beautiful and sublime and other writings. ebrary, Inc. Cambridge: Cambridge University Press (Cambridge texts in the history of philosophy).

Kimbell, L. (2011): Rethinking Design Thinking: Part 1, In *Design and Culture,* 3(3), 285-306. DOI: http://dx.doi.org/10.2752/175470811X13071166525216, checked on 11/21/2016.

Kimbell, L. (2012): Rethinking Design Thinking: Part 2, In *Design and Culture*, 4(2), 129-148. DOI: http://dx.doi.org/10.2752/175470812X13281948975413, checked on 11/21/2016.

Kipnis, A. B. (2015): Agency between humanism and posthumanism. Latour and his opponents. In Hau: *Journal of Ethnographic Theory* 5(2), 43–58. DOI: DOI: http://dx.doi.org/10.14318/hau5.2.004, checked on 01/18/2017.

Klingmann, A. (2010): *Brandscapes. Architecture in the experience economy*. Cambridge, MA.; London: MIT Press.

Koolhaas, R. (1978): *Delirious New York. A Retroactive Manifesto for Manhattan*. New York: The Monacelli Press.

Kopytoff, I. (1986): The cultural biography of things: commoditization as process. In A. Appadurai (Ed.), *The Social Life of Things* (pp. 63-91). Cambridge, UK; New York, NY: Cambridge University Press.

Kraftl, P., Adey, P. (2008): Architecture/Affect/Inhabitation: Geographies of Being-In Buildings. In *Annals of the Association of American Geographers*, 98 (1), 213–231. DOI: 10.1080/00045600701734687, checked on 08/17/2015.

Küchler, S. (2008): Technological Materiality: Beyond the Dualist Paradigm. In *Theory Culture* Society, 25 (1), 101 – 120. DOI: 10.1177/0263276407085159, checked on 07/13/2017.

Larson, M. S. (1993): *Behind the Postmodern Facade: Architectural Change in Late Twentieth-Century America*. Berkeley, CA: University of California Press.

Lash, S.; Urry, J. (1994): *Economies of signs and space*. London; Thousand Oaks, CA.: Sage.

Latour, B. (2011): Networks, societies, spheres: reflections of an actor-network theorist. In *International Journal of Communication* (5), 796–810.

Latour, B. (2005): *Reassembling the social: an introduction to actor-network-theory*. Oxford; New York: Oxford University Press.

Latour, B.; Yaneva, A. (2008): ›Give me a gun and I will make all buildings move‹. An ANT's View of Architecture. In U. Staub, R. Geiser (Eds.): *Explorations in architecture. Teaching, design, research* (pp. 80–89). Basel, Boston: Birkhäuser.

Law, J. (2004): *After method: mess in social science research*. London; New York: Routledge.

Law, J. (2008): Actor-network theory and material semiotics. In B. S. Turner (Ed.) *The New Blackwell Companion to Social Theory* (3rd Ed.) (pp. 141–158). Oxford; Cambridge, MA: Blackwell.

Lefebvre, H. (1991): *The production of space*. Oxford; Cambridge, MA: Blackwell.

Lefebvre, H. (2009): *State, space, world. Selected essays*. (Brenner, N.; Elden, S. [Eds.]). Minneapolis: University of Minnesota Press.

Löw, M. (2016): The sociology of space. Materiality, social structures, and action. Basingstoke: Palgrave Mcmillan.

Lupton, E., Abbott Miller, J. (1996): *The ABC's of the Bauhaus: The Bauhaus and Design Theory*. New York City: Princeton Architectural Press.

Lury, C. (1996): *Consumer culture*. New Brunswick, N.J: Rutgers University Press.

Lury, C. (2009): Brand as Assemblage. In *Journal of Cultural Economy*, 2(1-2), 67-82. DOI: http://dx.doi.org/10.1080/17530350903064022, checked on 06/14/2017.

Luvaas, B. (2016, June 20): Design and Temporality: Deviation. [Correspondences, Cultural Anthropology blog post]. Retrieved from https://culanth.org/fieldsights/893-design-and-temporality-deviation on 06/12/2017.

Madden, D., Marcuse, P. (2016): *In Defense of Housing*. London; New York: Verso.

Manzini, E., Coad, R. (2015): *Design, when everybody designs: An introduction to design for social innovation*. Cambridge, MA: MIT Press.

Margolin, V. (2002): *The Politics of the Artificial*. Chicago, IL: The University of Chicago Press.

Margolin, V. (2007): Design, the Future and the Human Spirit. In *Design Issues*, 23(3), 4-15. DOI: http://www.mitpressjournals.org/doi/pdf/10.1162/desi.2007.23.3.4, checked on 07/29/2017.

Marres, N. (2012): *Material Participation: Technology, the Environment and Everyday Publics*. Basingstoke; New York, NY: Palgrave Mcmillan.

McCormack, D. P. (2008): *Engineering affective atmospheres on the moving geographies of the 1897 Andree expedition*. In Cultural Geographies 15 (4), 413–430. DOI: 10.1177/1474474008094314, checked on 07/23/2012.

McCormack, D. P. (2014): Atmospheric things and circumstantial excursions. In *Cultural Geographies* 21 (4), pp. 605–625. DOI: 10.1177/1474474014522930, checked on 07/23/2012.

McCormack, L. (2005): *Designers are Wankers*. London: About Face Publishing.

McNeill, D. (2009): *The global architect. Firms, fame and urban form*. New York: Routledge.

McRobbie, A. (2002): Clubs to companies: notes on the decline of political culture in Speeded up creative worlds. In *Cultural Studies* 16(4), 516-531. DOI: http://dx.doi.org/10.1080/09502380210139098, checked on 06/01/2017.

McRobbie, A. (2016): *Be creative: making a living in the new culture industries.* Cambridge, UK; Malden, MA: Polity.

Mehmetoglu, M. & Engen, M. (2011): Pine and Gilmore's Concept of Experience Economy and Its Dimensions: An Empirical Examination in Tourism. Journal of Quality Assurance. In *Hospitality & Tourism*, 12(4), 237-255. DOI: http://dx.doi.org/10.1080/1528008X.2011.541847, checked on 04/20/2017.

Melhuish, C. (1996): *Architecture & anthropology*. London: Academiy Groups.

Merleau-Ponty, M. (2013 [1945]): *Phenomenology of perception*. London: Routledge.

Miller, D. (Ed.) (1998): *Material cultures. Why some things matter*. Chicago: University of Chicago Press.

Miller, D. (2005): *Materiality*. Durham, NC: Duke University Press.

Miller, D. (2010): *Stuff*. Cambridge: Polity Press.

Miller. D. (2013): *A Theory of Shopping*. Cambridge, UK: Polity.

Mitchell, W. J. T. (Ed.) (2002): *Landscape and Power* (2nd Ed). Chicago: University of Chicago Press.

Molotch, H. L. (2003): *Where stuff comes from: how toasters, toilets, cars, computers, and many others things come to be as they are*. London; New York: Routledge.

Moor, L. (2008): Branding consultants as cultural intermediaries. In *The Sociological Review* 56 (3), 408–428. DOI: 10.1111/j.1467-954X.2008.00797.x, checked on 08/20/2015.

Müller, A.; Reichmann, W. (2015): The Secrets of Architecture's Actions. In A. Müller, A., W. Reichmann, W. (Eds.) *Architecture, materiality and society. Connecting sociology of architecture with science and technology studies*. (pp. 2-23). Basingstoke; New York, NY: Palgrave Mcmillan.

Muniesa, F., Millo, Y., & Callon, M. (Eds.). (2007a): *Market Devices*. Oxford; Malden, MA: Blackwell.

Muniesa, F., Millo, Y., & Callxon, M. (2007b): An introduction to market devices. In F. Muniesa, Y. Millo, M. Callon *Market Devices* (pp. 1-12). Oxford; Malden, MA: Blackwell.

Neff, G. (2012): *Venture labor: work and the burden of risk in innovative industries*. Cambridge, MA: MIT Press.

Negus, K. (2004): *Creativity, communication and cultural value*. London, Thousand Oaks, CA.: Sage.

Nettleton, S. (2015): Fell runners and walking walls: towards a sociology of living landscapes and aesthetic atmospheres as an alternative to a Lakeland picturesque. In *The British Journal of Sociology* 66 (4), 759-778. DOI: 10.1111/1468-4446.12163, checked on 01/31/2017.

Nixon, S. (2003): *Advertising cultures. Gender, commerce, creativity*. London, Thousand Oaks, CA.: Sage.

Nixon, S.; Du Gay, P. (2002): WHO NEEDS CULTURAL INTERMEDIARIES? In *Cultural Studies* 16 (4),495–500. DOI: 10.1080/09502380210139070, checked on 08/20/2015.

Ockman, J. (2015): Foreword. In P. Deamer (Ed) *The Architect as Worker* (pp. xxi-xxvi). London; New York: Bloomsbury.

Olcese, C.; Savage, M. (2015): Notes towards a 'social aesthetic': Guest Editors' introduction to the special section. In *The British Journal of Sociology* 66 (4), 720-737. DOI: 10.1111/1468-4446.12163, checked on 01/31/2017.

Pallasmaa, J. (1996): *The eyes of the skin: architecture and the senses*. London: Academy.

Pallasmaa, J. (2009): *The Thinking Hand: Existential and Embodied Wisdom in Architecture*. Chichester, UK: Wiley.

Pallasmaa, J. (2014): Space, place and atmosphere. Emotion and peripherical perception in architectural experience. In *Lebenswelt: Aesthetics and Philosophy of Experience*, 4, 230–245. DOI: 10.13130/2240-9599/4202, checked on 08/18/2015.

Papanek, V. (1971): *Design for the Real World: Human Ecology and Social Change*. New York: Pantheon Books.

Parsons, G. (2015): *The philosophy of design*. Cambridge: Polity.

Piketty, T. (2015): *The Economics of Inequality*. Cambridge, MA.; London: Harvard University Press.

Pine, B. J., Gilmore, J. H. (1998): Welcome to the Experience Economy. In Harvard Business Review [Online posting] Retrieved from https://hbr.org/1998/07/welcome-to-the-experience-economy, on 09/01/2015.

Pine, B. J.; Gilmore, J. H. (2011): *The experience economy*. Boston, MA: Harvard Business Review Press.

Pink, S. (2007): *Doing Visual Ethnography*. London; Thousand Oaks: Sage.

Pink, S. (2009): *Doing Sensory Ethnography.* London; Thousand Oaks: Sage.

Pink, S., Leder Mackley, K., Morosanu, R., Mitchell, V.; Bhamra, T. (2017): *Making Homes. Ethnography and Design*. London; New York: Bloomsbury.

Pink, S., Ardèvol, E, Lanzen, D. (2016): *Digital Materialities. Design and Anthropology*. London; New York: Bloomsbury.

Postma, C., Lauche, K., Stappers, J. P. (2012): Social Theory as a Thinking Tool for Empathetic Design. In Design Issues, 28(1). DOI: http://www.mitpressjournals.org/doi/pdfplus/10.1162/DESI_a_00122, checked on 07/29/2017.

Polanyi, M. (2009 [1966]): *The tacit dimension*. Chicago, London: University of Chicago Press.

Ponzini, D., Nastasi, M. (2016): *Starchitecture: scenes, actors, and spectacles in contemporary cities*. New York: The Monacelli Press.

Porter, N. (2016). *Landscape and branding: the promotion and production of place*. London; New York: Routledge.

Prieur, A., Savage, M. (2013): Emerging Forms of Cultural Capital. In *European Societies*, 15(2), 246-267. DOI: http://dx.doi.org/10.1080/14616696.2012.748930, checked on 06/14/2017.

Quito, A. (2016, October 31): "Design has nothing to do with art": Design legend Milton Glaser dispels a universal misunderstanding. [Online posting] Retrieved from https://qz.com/823204/graphic-design-legend-milton-glaser-dispels-a-universal-misunderstanding-of-design-and-art/?utm_source=dlvr.it&utm_medium=twitter on 06/06/2017.

Rauh, A. (2017): In the Clouds: On the Vagueness of Atmospheres. [Ambiances online article] DOI: 10.4000/ambiances.818. Retrieved from: http://ambiances.revues.org/818 on 06/14/2017.

Reckwitz, A. (2012): *Die Erfindung der Kreativität. Zum Prozess gesellschaftlicher Ästhetisierung*. Berlin: Suhrkamp.

Reimann, M.; Weber, B. (Eds.). (2011): *Neuroökonomie. Grundlagen - Methoden - Anwendungen*. Wiesbaden: Gabler.

Rendell, J. (2007): Critical architecture: between criticism and design. In J. Rendell et al. (Eds.) *Critical Architecture* (pp. 1–8). London: Routledge,

RIBA (2001): Procurement Policy. Building teams – achieving value. Retrieved from: http://studylib.net/doc/8403120/procurement-policy---royal-institute-of-british-architects on 06/14/2017.

RIBA (2015): RIBA Business Benchmarking 2015. London: RIBA.

RIBA (2015): RIBA Business Benchmarking Executive Summary 2015. London: RIBA.

RIBA (2013): RIBA Business Benchmarking Executive Summary 2012/13. London: RIBA.

Rittner, J. (2017): Teaching Diversity in Design. In *Design Management Institute Review*, 28(2), 16–18. DOI: 10.1111/drev.12068, checked 06/14/2017.

Rodaway, P. (1994): *Sensuous geographies. Body, sense and place*. London: Routledge.

Rose, G. (2017): Posthuman Agency in the Digitally Mediated City: Exteriorization, Individuation, Reinvention. In *Annals of the American Association of Geographers*, 107(4), 779-793. DOI: 10.1080/24694452.2016.1270195, checked on 06/13/2017.

Rose, G., Tolia-Kelly, D. P (2012): Visuality/Materiality: Introducing a Manifesto for Practice. In G. Rose, D. P. Tolia-Kelly (Eds.) *Visuality/ Materiality: Images, Objects and Practices* (pp. 1-11). Farnham, Surrey; Burlington, VT: Ashgate.

Rose, G.; Degen, M., Melhuish, C. (2014): Networks, Interfaces, and Computer-Generated Images: Learning from Digital Visualisations of Urban Redevelopment Projects. *Environ. Plann. D*, 32(3), 386-403. DOI: 10.1068/d13113p, checked on 06/13/2017.

Ross, A. (2010): Foreword. In P. Deamer, P. G. Bernstein, P. G. (2010) (Eds) *Building (in) the Future. Recasting Labor in Architecture.* (pp. 9-16). New York: Princeton Architectural Press.

Sangiorgi, D., Prendiville, A. (Eds.). (2017): *Designing for Service. Key Issues and New Directions*. London; New York: Bloomsbury.

Savage, M. (2016): End Class Wars. In *Nature*, 537, 475–479. DOI: 10.1038/537475a, checked on 03/27/2017.

Schön, D. A. (1983): *The reflective practitioner. How professionals think in action*. New York: Basic Books.

Selin, C., Kimbell, L., Ramirez, R., Bhatti, Y. (2015): Scenarios and design: Scoping the dialogue space. In *Futures*, 74, 4-17. DOI: http://dx.doi.org/10.1016/j.futures.2015.06.002, checked on 07/29/2017.

Sennett, R. (2009): *The Craftsman*. London: Penguin.

Shearer, S. (2016, June 2): Design and Temporality. [Correspondences, Cultural Anthropology blog post]. Retrieved from https://culanth.org/fieldsights/883-correspondences-design-and-temporality, on 08/02/2016.

Shove, E., Watson, M, Hand, M., Ingram, J. (2007): *The design of everyday life*. London; New York: Bloomsbury.

Shove, E., Pantzar, M., Watson, M. (2012): *The dynamics of social practice: everyday life and how it changes*. London: SAGE.

Shusterman, R. (2006): The Aesthetic. In *Theory, Culture & Society* 23 (2-3), pp. 237–243. DOI: 10.1177/0263276406062680, checked on 07/06/2012.

Simonsen, J, Robertson, T. (2013): *Routledge International Handbook of Participatory Design*. London: Routledge.

Skeggs, B. (2017): A Crisis in Humanity: What Everyone with Parents Is Likely to Face in the Future. [The Sociological Review blog post]. Retrieved from https://www.thesociologicalreview.com/blog/a-crisis-in-humanity-what-everyone-with-parents-is-likely-to-face-in-the-future.html on 05/27/2017.

Sklair, L. (2005): The Transnational Capitalist Class and Contemporary Architecture in Globalizing Cities. In *International Journal of Urban and Regional Research* 29 (3), 485–500.

Sklair, L. (2006): Iconic architecture and capitalist globalization. In *City* 10 (1), 21–47. DOI: 10.1080/13604810600594613, checked on 04/20/2014.

Sklair, L. (2010): Iconic Architecture and the Culture-ideology of Consumerism. In *Theory, Culture & Society* 27 (5), pp. 135–159. DOI: 10.1177/0263276410374634, checked on 04/20/2014.

Slater, D. (1997): *Consumer culture and modernity*. Cambridge, UK; Cambridge, MA: Polity.

Slater, D. (2002a): From calculation to alienation: disentangling economic abstractions. In *Economy and Society* 31 (2), 234–249. DOI: 10.1080/03085140220123144, checked on 08/20/2015.

Slater, D. (2002b): Capturing Markets from the Economists In du Gay, P. and Pryke, M. (Eds.) *Cultural Economy* (pp. 59–77). London: Sage.

Slater, D., Tonkiss, F. (2001): Market Society. Cambridge, UK; Cambridge, MA: Polity.

Slater, D. (2011): Marketing as a monstrosity: the impossible place between culture and economy. In D. Zwick, J. Cayla (Eds.) *Inside Marketing: Practices, Ideologies, Devices* (pp. 23-41). Oxford: Oxford University Press.

Sloane, M. (2014): Tuning the Space: Investigating the Making of Atmospheres through Interior Design Practices. In *Interiors*, 5(3), 297-314.

Sloane, M., Slater, D., Entwistle, J. (2016): *Tackling social inequalities in public lighting*. LSE-based Configuring Light/Staging the Social research programme, Configuring Light/Staging the Social, London, UK.

Sloterdijk, P. (2011): *Spheres. Bubbles: Spheres Volume I: Microspherology*. Cambridge, MA: MIT Press.

Sloterdijk, P. (2014): *Spheres*. Cambridge, MA: MIT Press.

Smith Maguire, J.; Matthews, J. (2014): Introduction: Thinking with Cultural Intermediaries. In J. Smith Maguire, J. Matthews *The cultural intermediaries reader*. (pp. 1-11). Los Angeles, CA: Sage.

Smith Maguire, J. (2014): Bourdieu on Cultural Intermediaries. In J. Smith Maguire, J. Matthews *The cultural intermediaries reader*. (pp. 13-24). Los Angeles, CA: Sage.

Spencer, D. (2016): *The architecture of neoliberalism: how contemporary architecture became an instrument of control and compliance*. New York: Bloomsbury Academic.

Spradley, J. P. (1979): *The ethnographic interview*. Long Grove, Illinois: Waveland Press

Star, S. L., Griesemer, J.R. (1989): Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. In Social Studies of Science, 19(3), 387-420. DOI: http://www.jstor.org/stable/285080, checked on 06/25/2017.

Star, S. L. (2010): This is Not a Boundary Object: Reflections on the Origin of a Concept. In *Science, Technology, & Human Values*, 35(5), 601-617. DOI: 10.1177/0162243910377624, checked on 04/12/2017.

Stevens, G. (1998): The Favored Circle: The Social Foundations of Architectural Distinction. Cambridge, MA: MIT Press.

Stewart, K. (2010): Atmospheric attunements. [Online posting]. Retrieved from http://rubric.org.au/wp-content/uploads/2010/05/Atmospheric-Attunements.pdf on 06/13/2012.

StudioFour (2014): *Production Information Manual*.

Suchman, L. A. (1987): *Plans and situated actions. The problem of human-machine communication*. Cambridge New York: Cambridge University Press.

Suchman, L. A. (2007): *Human-machine reconfigurations : plans and situated actions*. Cambridge; New York: Cambridge University Press.

Sumartojo, S. & Pink, S. (Eds.) (forthcoming): *Atmospheres and the Experiential World: Theory and Methods*. London; New York: Routledge

Sundbo, J.; Sørensen, F. (Eds.). (2013): *Handbook on the experience economy*. Cheltenham: Edward Elgar.

Svasek, M.; Meyer, B. (Eds.). (2016): *Creativity in transition: politics and aesthetics of cultural production across the globe*. New York: Berghahn.

Swenarton, M.; Troiani, I.; Webster, H. (Eds.) (2008): *The Politics of Making*. London: Routledge.

Tafuri, M. (1976): *Architecture and utopia: design and capitalist development*. Cambridge, MA: MIT Press.

Thibaud, J.-P. (2015): The backstage of urban ambiances: When atmospheres pervade everyday experience. In *Emotion, Space and Society*, 15, 39–46. DOI: https://doi.org/10.1016/j.emospa.2014.07.001, checked on 10/10/2015.

Thrift, N. (2004): Intensities of Feeling: Towards a Spatial Politics of Affect. In *Geografiska Annaler B* 86 (1), 57–78. DOI: 10.1111/j.0435-3684.2004.00154.x, checked on 10/10/2015.

Tilley, C. Y. (Ed.) (2006): *Handbook of material culture*. London; Thousand Oaks, CA: Sage.

Tombesi, P. (2010): On the Cultural Separation of Design Labor. In P. Deamer, P. G. Bernstein, P. G. (2010) (Eds) *Building (in) the Future. Recasting Labor in Architecture.* (pp. 117-137). New York: Princeton Architectural Press.

Tonkiss, F. (2002): Between markets, firms and networks: constituting the cultural economy. In S. Metcalf, A. Warde (Eds.) *Market relations and competitive processes* (pp. 114-129). Manchester: Manchester University Press.

Town and Country Planning Act 1990 (1990): Chapter 8. Retrieved from http://www.legislation.gov.uk/ukpga/1990/8/contents on 07/06/2017.

Townsend, S. (2016): Re-reading Design Methodology and the "Toolbox" Metaphor. In *Design and Culture*, 8(2), 199-204. DOI: 10.1080/17547075.2016.1187914, checked on 11/21/2016.

Vaughan, L. (Ed.). (2017): *Practice-based Design Research*. London; New York: Bloomsbury.

Venkatesh, A., Meamber, L. A. (2008): The aesthetics of consumption and the consumer as an aesthetic subject. In *Consumption Markets & Culture* 11 (1), 45–70. DOI: 10.1080/10253860701799983, checked on 08/10/2012.

Venturi, R. (1966): *Complexity and contradiction in Architecture*. New York: Museum of Modern Art.

Venturini, T., Ricci, D., Mauri, M., Kimbell, L. and Meunier, A. (2015). Designing Controversies and their Publics. In *Design Issues*, 31(3), 74-87. DOI: 10.1162/DESI_a_00340, checked on 07/10/2017.

Wainwright, O. (2015, June 25): Revealed: how developers exploit flawed planning system to minimise affordable housing. *The Guardian*. Retrieved from: https://www.theguardian.com/cities/2015/jun/25/london-developers-viability-planning-affordable-social-housing-regeneration-oliver-wainwright.

Walliser, B. (2012): From Psycho-Economics to Neuro-Economics. In *Recherches économiques de Louvain* 78 (3), 13. DOI: 10.3917/rel.783.0013, checked on 08/24/2015.

Wells, V. K., Foxall, G. R. (Eds.). (2013): *Handbook of developments in consumer behaviour*. Cheltenham: Edward Elgar.

Welsch, W. (1996a): Aestheticization Processes: Phenomena, Distinctions and Prospects. In *Theory, Culture & Society* 13 (1), 1–24. DOI: 10.1177/026327696013001001, checked on 07/07/2012.

Welsch, W. (1996b): *Grenzgänge der Ästhetik*. Stuttgart: Reclam.

Were, G. (2015): What's in a plant leaf? A case study of materials innovation in New Zealand. In A. Drazin, A., S. Küchler, S. (Eds.) *The Social life of Materials* (pp. 31-47). London; New York: Bloomsbury.

Whitehead, J. (2017): *Creating Interior Atmosphere: Mise en scène and Interior Design*. London; New York: Bloomsbury.

Wilkie, A. (2014): *Prototyping as Event: Designing the Future of Obesity*. In Journal of Cultural Economy, 7(4), 1-17. http://dx.doi.org/10.1080/17530350.2013.859631, checked 06/14/2017.

Winch, G., Schneider, E. (1993): MANAGING THE KNOWLEDGE-BASED ORGANIZATION: THE CASE OF ARCHITECTURAL PRACTICE. In *Journal of Management Studies*, 30(6), 923–937. DOI: 10.1111/j.1467-6486.1993.tb00472.x, checked 06/01/2017.

Winograd, T., Flores, F. (1986): *Understanding Computers and Cognition: A New Foundation for Design*. Norwood, NJ: Ablex.

Wittel, A. (2001): Toward a Network Society. In *Theory, Culture & Society*, 18(6), 51-76. DOI: https://doi.org/10.1177/026327601018006003, checked 07/30/2017.

Wood, A. (2017, June 30): The Elephant is the Room: Sociology and Architecture. [The Sociological Review blog post]. Retrieved from https://www.thesociologicalreview.com/blog/the-elephant-is-the-room-sociology-and-architecture.html on 07/28/2017.

Yaneva, A. (2009a): Making the Social Hold: Towards an Actor-Network Theory of Design. In *Design and Culture* 1 (3), 273–288. DOI: 10.2752/174967809X12556950208826, checked on 07/05/2012.

Yaneva, A. (2009b): *The making of a building. A pragmatist approach to architecture.* Oxford, Bern, Berlin, Bruxelles, Frankfurt am Main, New York, NY, Wien: Lang.

Yaneva, A. (2009c): *Made by the Office for Metropolitan architecture. An ethnography of design*. Rotterdam: 010 Publ.

Yaneva, A. (2012): *Mapping Controversies in Architecture*. London; New York: Routledge.

Yaneva, A. (2017): *Five Ways to Make Architecture Political*. London; New York, Bloomsbury.

Yaneva, A., Guy, S. (Eds.) (2008): Special Issue *Understanding Architecture, Accounting Society*. In *Science & Technology Studies* 21 (1). Retrieved from: https://sciencetechnologystudies.journal.fi/issue/view/3883 on 07/28/2017.

Yaneva, A., Latour, B. (2008): Give me a Gun and I will Make All Buildings Move: An ANT's View of Architecture. In *Explorations in Architecture: Teaching, Design, Research* (pp. 80-89). Basel: Birkhäuser.

Zumthor, P. (2006): *Atmospheres. Architectural environments, surrounding objects*. Basel: Birkhäuser.

Zumthor, P. (2015): *Thinking architecture*. Boston: Birkhäuser.

Websites

Autodesk http://www.autodesk.co.uk/solutions/building-information-modeling/overview

The Architecture Lobby http://architecture-lobby.org/

Building Regulations on Gov.uk https://www.gov.uk/building-regulations-approval/when-you-need-approval

RIBA https://www.architecture.com/

Southwark Council http://www.southwark.gov.uk/

Oxford Dictionaries https://en.oxforddictionaries.com