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The Formation of Urban Design Theory in Relation to Practice

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I, Hooman Foroughmand Araabi confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This dissertation investigates the complex and dynamic interaction between theory and practice in urban design. In doing so it hypothesises that there is a gap between the two.

First, a literature review pins down what the writers define as urban design theory and how it relates to urban design practice. An innovative methodology is then employed in order to address the complex, dynamic, messy and ever-changing nature of this relationship, as well as the ways in which theory and practice are generated. At the core of the methodology is a reading of Gilles Deleuze's philosophy.

The empirical analysis that follows is in two parts. First, the manner in which the literature is adopted in universities, urban design readers and journals is examined before, second, twenty-two in-depth interviews with influential practitioners and theorists of urban design are interrogated. The research reveals the influential interactions between theory and practice as a network of connections, and following the philosophical approach of Deleuze, characterises this as a rhizome. This implies that the network is an open system which enables continual innovative change and presents a better understanding of influential factors in the relationship between the theory and practice of urban design.

The dissertation contributes both to the theory of urban design and to its philosophical underpinnings (its epistemology, ontology and normative). It also contributes a better understanding of how urban designers conceptualise the connections between theory and practice.

Publications from this thesis:

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1. Introduction

Urban design is, by its nature, a practical field in that urban design knowledge is not supposed to remain in universities, books or people's minds. Rather, urban design should result in actual projects and successful places. However, built environments should not be the final destination for knowledge. Built environments are obvious measures with which to test and revise the knowledge that is in universities, books and peoples' minds. Thus there is a circular process between the generation of knowledge (theory) and the built environment (practice). This loop in principle will enhance urban design knowledge. However, when it comes to reality, the interaction is more complex and messy. There seem to be many gaps and interruptions in the co-evolution of the theory and practice. Such gaps, as well as the mechanisms of the interaction between theory and practice, are not happening in a vacuum. They are formed in relation to their social, institutional and individual conditions.

The study of such mechanisms and gaps is the subject of this research. Similar studies have been done albeit in simplified form. For example, in the history of science, there are many studies of the way in which knowledge develops but they have often neglected the complex and messy process involved. This process often is 'full of mistakes', includes 'accidental breakthroughs', and involves 'opportunistic researches' challenging restricted methodologies. But when reported, it is usually simplified to the normal models of scientific research (Feyerabend, 2002). However, this study aims to acknowledge the complexity of the interaction between theory and practice in order to provide a better understanding of the process. The overarching aim of this research is to understand the process of the generation of theory (and knowledge), in order to make a framework to improve the relationship between theory and practice in the future. Reflecting on its assumptions, this research addresses individuals' involvement in the development of influential academic works and inspiring practices. In doing so, the research aims to provide a picture of the mainstream urban design debates which supposedly legitimise the profession and provide departure points from which individuals define their specific stances.

It is not clear what urban design is, nor is it clear who is an urban designer. A huge variety of subjects are considered to belong to the urban design domain. "It seems that every person and their dog is an urban designer; it's sexy and it's chic" (Lang, 2005, p. Intro). Each citizen has his or her opinion on how to improve the quality of parts of a city. Therefore, this research has to find systematic ways of studying the subject. In doing so, the first consideration is to find the specific characteristics of urban design. The main aim of the literature review is to find such characteristics. Understanding urban design makes it possible to scan the literature in order to find out what it has to offer in response to the research question. The literature review then clarifies the methodological requirements of this research. The methodology then attempts to fulfil such requirements. This approach is suitable for studying the existing condition of knowledge because it does not reduce the reality to the scope of any grounded theory, nor does it assume that the topics of the study follow any rigid structure. In this respect, this research does not provide new definitions of urban design but provides a new understanding of the existing condition. The existing condition of knowledge is understood to have two distinguishable levels, both of which are studied here. First, the existing condition of knowledge is studied at the professional community level i.e. common level; this is called the shared body of knowledge in this research. Second, it is studied at the individual level, of how professionals use the shared body of knowledge and how they define their own stance in regard to it.

It could be concluded that this work falls into the category of fundamental research providing materials for future investigations into the topic (Terre Blanche, Durrheim, & Painter, 2006). Moreover,

this research can be informative for urban design education. What follows in this chapter defines the research questions and objectives.

Research rationale: problem, research gap and questions

The first chapter explains the problem that necessitates this research. In order to ground the problem, the research question is divided into sub-questions, and for each question, objectives are discussed in order to provide a convincing response to the research need. In this way, the research objectives are formed in accordance to the research questions.

What is the problem and why does it matter for urban design?

It seems that there is a gap between the theory and practice of urban design. This has been mentioned by multiple scholars. Moudon believes that the gap between knowledge and practice is hard to bridge (Moudon, 1992). Separation between theory and practice means that research is developed discretely from practice (Jarvis, 1980). Hypothetically, under this condition, practitioners do not get the most from theory and theorists do not learn sufficiently from practice.

The first question is whether this gap results in a real disadvantage to the field. Is this gap one of the characteristics of urban design? Do urban designers feel a need to bridge this gap? Even if the gap was bridged, would there be any traffic on that bridge?

Thinking and doing are often considered to be irreconcilable. Can the separation between thinking and doing be the reason for the gap between theory and practice? In this case the gap is inevitable. Hillier takes "the split between understanding design thought and action" (Hillier & Musgrove, 1972) as a natural phenomenon. But this dissertation takes a different approach, following these reasons.

a) The fact that professionals are repeatedly mentioning the gap makes it worth studying; the result of the study can then contribute to an understanding of the field.
b) Even if the gap inevitably exists, its characteristics can vary through time. This means that assuming that the gap is always the same is debatable and that repeated investigation is required.
c) Understanding of the gap as a simple gap between two sides, like two banks of the river, is based on oversimplified understanding of the interaction between theory and practice (see Figure 3 p.58). This dissertation tries to address the complexity of the interaction and avoid oversimplifying. In this sense, the term 'gap' means when theory and practice miss opportunities for better collaboration.

Urban design is traditionally considered to be located between planning and architecture. In planning, a similar problem is distinguishable. "Academics are accused of being too removed from the realities of practice and professionals of maintaining the status quo without a wider view. While academics may overemphasise the abstract, professionals can fail to understand how history and theory are relevant to today's planning problems" (Edwards & Bates, 2011). Nevertheless, the gap in planning is not absolute and groups on each side of the gap do interact. Nagel Taylor believes that planners improve their theory as they learn from their mistakes, but "these mistakes have been learned from practice rather than from theory. Many people's lives have been adversely affected by the environments they now have to live with. The lesson is clear: it is better to improve our understanding and our theories of planning before we put them into practice" (Taylor, 1979, p. 159). On the other

hand, in architecture, theory seems to be twofold: theory that is inspiring for design and theory that studies architecture e.g. the history of architecture (Borden, 2000). The latter does not specifically aim to be beneficial for architectural practice.

Considering the literature on the gap between theory and practice in planning and architecture, it could be concluded that further research may be beneficial for a wide range of future endeavours. But in order to define the subject of this dissertation as a beneficial topic of study, it is also necessary to show that critiquing can make a change to the field. This is important in order to recognise the contribution of this research to the generation of theory and practice rather than being a purely intellectual endeavour. It is argued that critical review can be helpful to the field of urban design.

In order to show how urban design literature has been responding to previous criticism, it is helpful to mention a few examples. Criticizing urban design had already begun by the time of the Harvard Conference in 1956, where different speakers suggested the necessity of developing urban design as a new field but also criticised each other's approaches (Krieger & Saunders, 2009). Later, Lynch criticised urban design because of not covering critical aspects of the process of shaping urban form. He proposed to replace urban design by *city design,* which is more encompassing (Lynch, Banerjee & Southworth, 1990). Many critiques of urban design suggest new forms of urbanism and titles for their approach (Barnett, 2011; Inam, 2014). While the professionals would not widely accept new titles, as was the case with Lynch's suggestion, they did respond to the content of the critiques.

One example of a critique, which informed many subsequent works, is about the way in which urban design deals with complexity. Jane Jacobs believed urban planning posed too much order onto cities in an oversimplified manner. She advocated that cities need to be understood and treated as complex organic entities (Jacobs, 1992). In this way, urban design should work with the life of cities. In line with this, Alexander critiqued both theory of content and theory of process of urban design because of their oversimplified and segregating (tree-like) thinking (Alexander, 1965, 1987). Criticizing urban designers for not taking complexity into account has changed the dominant discourse in the field. Nowadays complexity is one of the key considerations within urban design.

Since the mid-90s, criticism has been more focused more on the theoretical underpinnings of approaches to urban design (Madanipour, 1996). Following this, many recent urban design scholars picture urban design in close relation to socio-political theories (Cuthbert, 2007b; Knox, 2011). Another example where critique contributed to the literature, is the considerable response to Cuthbert's accusation that urban design does not have any substantial theories (Biddulph, 2012; Dovey & Pafka, 2015; Marshall, 2012; Verma, 2011).

It seems that scholars tend to respond to criticism. Therefore, it could be said that critically evaluating the field has contributed to the evolution (Gosling & Gosling, 2003) or the progress of the literature. Although this is not always the case. Sorkin's *End(s) of Urban Design*, where he elaborates on urban design's disability to control the real city's growth, did not received much response. However, this might be due to the fact that his criticism was highly subjective in reducing urban design to *nostalgia* and *inevitabilism* (Sorkin, 2009). From these examples, it could be concluded that critically studying the field can make a contribution which may be more substantial when the critique opens up further discussions. This argument explains how the critical approach of this research may inform future works thus contributing to urban design.

Research questions

The primary question of this research is how do theory and practice of urban design interact? From this there are two main sub-questions (secondary questions); How does theory inform the development of practice? And how does practice inform the development of theory?

In order to provide a clearer picture of what these questions mean, a set of introductory questions need to be addressed. These introductory questions are presented on two different levels (shown in the grey-shaded cells in Table 1). This table presents the conceptual hierarchy of the questions and their connections to the key research tasks, using the vocabulary suggested by Maxwell for research (2013).

Primary question	Primary questions (Level 1)	Secondary questions (Level 2)	Research tasks
How do theory and practice of urban design interact?	What is urban design?	Why a specific definition is preferred	• To define the terminology • To ground the research
		Which methodology meets the requirements of this research?	• To analyse and justify the methodology for this research
	What is urban design theory?	What is 'theory'?	• To find the definition and function of theory in related fields • Drawing on philosophical understanding of theory
		What has been meant by theory in urban design?	• To find urban design's key theoretical texts • Categorise and analyse the key theoretical texts • Interviewing authors of these texts
		How other theories influence urban design	• To find most-referred to theories in urban design and see how they have been used • Interview with theorists
		How urban design theories have been made	• To find ways and specific concepts that influence developing theoretical arguments
	What is urban design practice?	Which practitioners influence urban design theories?	• Find some inspiring practices • To interview practitioners to see how they connect to theoretical arguments
		What is the nature of influential urban design practices/practitioner?	• To categorise practice based on their relationship with theory
	How does theory inform the development of practice? How does practice inform the development of theory?	• **How theorists and practitioners use theory or adjust theory, according to each other's work** • **Do they use other sources? How?**	• **To trace the question in the texts** • **To interview with theorists and practitioners**

Table 1: Research questions and objectives.

Assumptions

Each research relies on a specific set of assumptions. Such assumptions are not examined in the research. Nevertheless, it is valuable to clarify them in order to make it possible to revise and assess the research. This part introduces the key assumptions that this dissertation is based on.

This work takes an innovative approach to investigating the problem by focusing on how theorists interact with and draw from practice, and how practitioners and their projects use theories. The key assumption is that, to a far extent, the interaction between theory and practice is happening consciously. However, less conscious interaction between theory and practice does happen; for instance, when urban design procedures, standards, processes and mind-sets are taken into account. In these cases, the professionals are not always conscious that they are applying learning from theory/practice. Technology is also capable of routinizing theory thus making unconscious links between theory and practice. Actor-Network Theory illuminates this type of connection between *things* and *people* (Latour, 1992).

This dissertation focuses only on the conscious interaction between theory and practice for two reasons. Changing the unconscious ways in which theory and practice interact is far too broad a remit for this study, and it is challenging to change non-conscious behaviours. In general, it is easier to change the conscious actions through intellectual argumentations. As the last section showed, critiquing has made contributions to the progress of the field. Following this assumption, unconscious interaction between the theory and practice of urban design falls out of the scope of this research.

Another assumption of this research is that it is possible to study the complex ways in which theory and practice interact. This assumption has been the topic of numerous methodological studies (Healey, 2007; Johnson & Johnson, 2009; Kasprisin, 2011). Based on this assumption this research aims to study the complex[1] interactions between the theory and practice of urban design.

Conntextualising the question through terminology

Like any research, the main research questions aim to put light on less-known aspects of the field. In order to ground the question in its context, it is necessary to provide a picture of 'what this question means' in regard to the existing literature. This would start from the meaning of *urban design*. Urban design has been approached differently over time. Scholars have tried to define urban design (Cuthbert, 2007a; Gosling & Maitland, 1984; Madanipour, 1996). This has led to a rich and varied arguments as to the definition of urban design. It seems that a precise definition not only is impossible, but also its contribution would be questionable. Scholars have also tried to describe urban design instead of defining it (Carmona, Heath, Tiesdell, & Oc, 2003; Lang, 2005; Madanipour, 2014). Often urban design has been described through either the literature or history.

Prior to this, it is important to see if urban design is a theoretical field or not. If not, the research question is pointless. It is impossible to determine whether or not urban design is a theoretical field without pinning down what is meant by theory.

Theory, as it will be argued in the following chapter, is artificial, therefore considering the field of urban design as either theoretical or a-theoretical is in itself a matter of theoretical preference. In order to enable the systematic progress and application of knowledge, it makes sense to assume that urban design is a theoretical field of study, however imperfect (Verma, 2011).

[1] Complexity emerges when multiple agents, that are making independent decisions according to feedback from the systems, are competing for better achievements (Johnson, 2009). This is evidently the conditions in the field of urban design.

There are many urban design theories available in the literature that seem to be inspiring for practice. They also indicate that urban design is a theoretical field. There must have been a need for these theories otherwise they would not have continued to be referred to over time.

The next question is whether it is possible to have urban design practice without theory? It may not be possible to reach a conclusive answer for the question 'what is the role of theory in urban design practice?' The first impression is that some projects are relatively theoretical and some far less. Gaining an insight into the ways in which practice and practitioners link to theory is one objective of this research. The relation between theory and practice of urban design seems to be complex, dynamic and messy in its reality. Therefore, it may not be fully understood. This research provides *a reading* of this subject and by no means aims to represent it in its totality.

In order to provide a picture of what is understood by the term urban design theory, both concepts of urban design and theory will be explored in the literature review at length.

Goal and expected findings

The objectives of the research were introduced in regard to the research question (Table 1). Achieving the objectives will bring about the main aim of this research, which is providing an understanding of the interaction between theory and practice. This understanding relies on specific definitions of the theory and practice of urban design. The reading of the interaction, following the assumptions of this dissertation, is reflecting how individuals are involved in the generation of theory and practice, how they are predominantly divided into two groups of academics and practitioners, what are the characteristics of each group, how these groups interact with each other and their peers, and which sort of knowledge they are exchanging in their interactions and how.

This research focuses on examples where professionals have been successful in making a substantial contribution to the field. There are numerous examples of unsuccessful interactions between theory and practice; many urban design projects with no contribution to the literature and many theoretical publications with no substantial contribution to practice. In order to better understand the interaction between theory and practice the study aims to investigate examples where the gap is at its minimum.

It would then follow to ask what is a successful example of the interaction between theory and practice? Where and how could such examples be investigated? The methodological chapter explains these questions.

The methodology is also expected to make a framework that is able to meet the research goal. In so doing, the methodology finds ways for collecting and interpreting data. In turn, the research findings result from the interpretation of the collected data.

The intended findings of this research include:

- **Investigating the meanings of urban design theory in the existing literature**. A critical review of the literature provides definitions of what commentators mean by urban design, theory, and how they are supposed to be employed.
- **Developing an appropriate methodology**. This research is tackling a complex and comprehensive topic. Therefore it needs a methodology that is capable of acknowledging the characteristics of the subject of this study. In this way, it is expected that the methodology of this research be applicable to similar topics.
- **Overview of the core body of knowledge**. An overview of what forms the core body of urban design knowledge. This overview derives from three ways of investigating the key texts of urban design.

- **Explorations of different understandings of theory amongst professionals.** Based on definitions of urban design theory and readings of the core texts of urban design, this research shows how individuals have specific understandings of urban design.
- **The real application of theory in practice**. How, when and why practitioners visit urban design literature will be explored through a set of interviews with those who this research justifies as successful practitioners.
- **The ways in which the knowledge is being transferred from one professional to another**. The research will explore the channels through which different forms of knowledge are being transferred amongst urban design professionals.
- **The process of theory building.** First, how the process of theory building is discussed in the literature. Second, how professionals draw on the literature and practice of urban design when they generate their own theory.

All these objectives put light on the subject of the study. The overarching contribution of this research is to improve the process of theory building by providing better understanding of the ways in which theory is being made and employed. A typology of urban design theory and a brief description of the nature of urban design theory are also by-products of this research.

The findings of the study pave the way for future cross-theory/practice researches. The documentation of the current condition of the interaction between theory and practice may also be useful for similar studies in the future.

The dissertation structure

This research aims to provide an overview of the ways in which the theory and practice of urban design are interacting. Why this topic is important, how it is possible to study the topic and how such a study can contribute to the literature were discussed in the introduction. The second chapter presents the literature review and the research background. The literature review investigates the subject of theory from the two perspectives of philosophy and urban design literature. The concept of urban design within the literature is also critically reviewed. In order to illustrate the background of the topic, the key arguments on urban design theory are explored through the main texts. In order to make sense of these contributions, a typology of urban design theories is introduced. Because this typology reflects the functionality of theories, it will be employed in both of the empirical studies in this research.

The conclusion of the second chapter shows what is meant by urban design theory in the literature, and describes the expected requirements of the methodology.

Based on the literature review, the methodology chapter tests established methodologies against the requirements of this study. It is concluded in this chapter that none of the existing methodologies in urban design sufficiently meet the requirements of this research. Therefore, a Deleuzian methodology (in line with Gilles Deleuze's philosophy) is introduced. The success of this methodology will be evaluated in the final chapter.

Formed by the methodology, the empirical study consists of two chapters. In the first, the research identifies the core body of urban design knowledge through three methods (studying what is being offered at different urban design courses, studying what is being picked as key urban design texts in readers, and analysing the journals of urban design).

The second empirical chapter utilises interviews with *successful* urban design theorists and practitioners in order to explore how theory comes into being and how it is utilised in practice. The research analyses the findings and reflects on the whole research process in a final chapter.

Conclusion

The fact that many urban design commentators tend to mention a gap between the theory and practice of urban design justifies this study. Such a study can itself contribute to the literature through revealing whether the gap between theory and practice is a misconception or not, and by elaborating on the characteristics of this gap. However, this is broad subject so it is necessary to further define a specific area for research. Two research questions facilitate this: How does theory inform the development of practice? And how does practice inform the development of theory? These two questions can be further clarified by asking: How do theorists and practitioners use theory, or adjust theory, according to each other's work? Which sources of knowledge do they use in order to enhance the knowledge or implement it? And how do these processes happen in reality?

The introduction explained the problem, research questions, assumptions and expected results. These topics will be discussed more thoroughly in the following chapters. The introduction in this respect sets the structure of the research. Thus, the framework established in the introduction was used as the guiding framework for conducting the research.

2. Literature review

The literature review looks at two fairly discrete areas. First is a general understandings and definitions of *theory* that meet the research's requirement. Second is the mainstream understanding of urban design theory from the literature. As will be explained in the methodology chapter, these two areas will provide an overview of urban design theory. This overview will be examined in the empirical study. Therefore, this chapter examines the literature, seeking to explore responses to the research question. The literature review also refines the research question and defines the requirements for the methodology.

What is a theory and why is it important?

The first step is to clarify the concept of theory. Like the term 'urban design', 'theory' is a concept that does not directly refer to a physical entity in the outside world, even though the subject of theories can well be physical realities. Theory is a generic term and this research goes beyond urban design texts and borrows explanations of theory from other fields in order to find an appropriate understanding of *theory*. Philosophy of science is the main reference when studying the concept of theory, due to its long history of conceptualising theory.

Theory has different, and at times controversial, meanings. The aim of this research in respect to the concept of theory is twofold. First, it tries to picture what is being understood by urban design theory. Second, it aims to criticise and enhance this understanding by drawing on broader, more robust discussions on theory in general. Accordingly, the literature review is critical.

The argument starts with definitions of theory in regard to the scope of the research. The key characteristic of a theory is for it to be re-applicable to more cases. Theory should not be exclusively functioning for one specific case (Reynolds, 2007, p. 12). This means that a theory has a level of abstractness from time and space. Theories have different levels of abstraction (Reynolds, 2007); for example historic theories (e.g. why the French Revolution happened) are far less abstract than economic theories as they are bound to a specific time and geography.

Theories are also inter-subjective meanings in the sense that there is an agreement about their meaning due to their inherent logical rigour within a field. In this sense, theories and professionalism are interconnected. Theory can be seen as a means for communication amongst a profession, either between different circles of professionals or generations. As a means for communication, theory reveals its relation to power, history and subjectivity. This defines ongoing connections between a theory and its contexts. Examples of the context of a theory are the institutions (e.g. university) that follow it, the city/country where the theory is being formed or, at a more common level, the place and time that influence the formation of the theory (Foucault, 1977). Studies on the differences between the development of science and technology in East and West before the collapse of the Soviet Union endorse the importance of context in the formation of theory (Snow & Collini, 2012). Another generic characteristic of theory is that theory has empirical relevance, which distinguishes it from pure philosophy (McDonald, 2006, p.4). This means that theory is about a certain reality. Some of the key aspects of theory are that it is re-applicable, purposeful, influenced by its context and related to empirical relevance.

What follows elaborates on these aspects. However, before that, it is helpful to highlight the general notion of theory. Almost all fields have theoretical debates explaining the purpose of theory for the field. They pay attention to theory in relation to their own specific needs; yet the generic importance of theory is due to the ways in which human beings deal with the outside world. The fact that a human being gathers *knowledge* from experience, and that he[1] is able to transfer it to others, is the fundamental reason for theory. Theory being re-applicable means knowledge learned from a lesson (in a specific time and space) is transferable to another situation/person. It may or may not be fully successful. Nevertheless, human civilization relies heavily on the basic notion of theory in this sense.

Theory in philosophy and philosophy of science

This section explains what a theory is and what makes a good theory. The focus is on those aspects that could be applied in urban design as well as those aspects that have been used previously in urban design literature.

What is a (good) theory?

In order to understand the outside world, human being needs theory. Otherwise, he would not see the causation between different events. He needs to develop mechanisms to understand why things happen in the way they are happening. Experience on its own does not tell him much. Experience is only a series of events. It is the human mind that finds the co-relationship between events.

Even causal relationship is not enough. When having two events (A and B) happening together, one can think A causes B. But without theory, no more explanation is provided. When one is "psychologically certain that B will follow A", a theory begins to explain how these two events are related. David Hume is the main thinker who manifested theory in this way (Curd & Cover, 1998). Therefore, theory is necessary for making sense of the world.

Understanding the world is necessary to control the world. This is a broad meaning of theory. In this sense, theory is not fundamentally separable from myth and religion, both of which explain why and how things are happening. The similarity (and relationship between) theory and a human being's belief has recently been discussed in the philosophy of science (Feyerabend, 2011, pp. 3–26). But in the mainstream philosophy of science, theory is treated more systematically, as myths and believes cannot be systematically tested. Still, at this level, theory has various meanings.

Theory can be treated as a law. It could be a hypothesis or a perfect law, regarded as speculative, the nature's law. This law can be about unobservables like electrons or evolution because the evidence about unobservables is felt to be inevitably inconclusive. Another meaning of theory is to conceptualise it as a unified system of statements or hypotheses, with explanatory force (Kuhn, 1996). Despite scientific theories being fragmented, the second understanding of theory is what the majority of the scientists are seeking for. A theory could also be seen as a field of study (e.g. in philosophy: theory of knowledge, logical theory). In many cases, theory as a law, hypothesis and field of study overlap with each other (Lacey, 1996, p. 178).

Another categorisation of theory suggests three different types of theory: 1) Theories as a set of laws that have successfully overcome experiments (if a statement is not yet examined, it is a hypothesis). 2) Theory as a set of definitions, axioms or propositions: this is more like mathematics where concepts are all defined independent from experience. 3) Theory as a set of descriptions of

[1] Using 'he' in reference to human beings here refers to both genders. The use of 'he' should not be understood as sexist language in this text.

causal processes: this is a systematic set of laws that explain, predict and make a typology possible (McDonald, 2006, pp. 3-4).

It seems that various meanings of theory suit different theoretical endeavours. The interaction between theory and practice is the focus of this research. Therefore, a set of questions appear here. How and why a theory emerges? Is it possible to observe facts, and design, without any theory? What is theory and how it could be tested (valued or devalued)? For a long time, these questions have been the subject of inquiry in philosophy of science. Nevertheless, answers to such questions do not belong exclusively to science, as it will be discussed these debates have been used in other fields like urban design.

Theory in science explains observations but does not restrict to limited observations.

> "What is distinctive about a theory is that it goes beyond the explanations of particular phenomena…. a theory will go on to explain why the generalisation obtains and to explain its exceptions – the conditions under which it fails to obtain. When a number of generalisations are uncovered about the phenomena in a domain of inquiry, a theory may emerge which enables us to understand the diversity of generalisations as all reflecting the operation of a single or small number of processes. Theories, in short, unify, and they do so almost always by going beyond, beneath and behind the phenomena empirical regularities report to find underlying processes that account for the phenomena we observe" (Balashov & Rosenberg, 2002, p. 129).

This will follow with the question of what indicates a good theory. How can a theory be proved or refuted? Karl Popper used the concept of refutability (falsification) as the main criterion for validating theory. He believed that a theory could not ever be fully proved. But it must be developed in a way that makes it refutable. Even if a theoretical statement is successful in the experiment thousands of times, there is always a possibility of future failures. So, a theory can only be refuted and never be proved through experiments. For Popper, a good theory is a theory that could be examined and possibly be refuted. For this purpose, any theory must have the possibility to be refuted in an imaginary/possible experience. Popper's point of view on refutability was condemned by many, Feyerabend and Kuhn for example (Godfrey-Smith, 2003). Nevertheless, his point that a theory logically could not be proved is valuable for this research while urban design theories seems not to be capable of being proved. This view towards theory also helps to find out which statements are not theoretical. Based on Popper's view of theory, statements that cannot be tested by experiment are not theory. Ideological statements therefore cannot be considered as theory because they would escape refutability. Compared to more recent philosophers, Popper's view has been less referred to by urban designers, Rowe and Koetter, Cuthbert and Marshall are exceptions (Rowe & Koetter, 1978; Marshall, 2012; Cuthbert, 2005). But urban planners before the 1970s, especially Faludi, employed Popper's philosophy view to legitimise planning (Hall, 2002).

Scientific realism suggests that scientific explanation is the reality (Suppe, 1989). This view is supported more by scientists than philosophers. Theories are manifestations of reality through which understanding the world is possible. In this view "A theory is a good theory if it satisfies two requirements: It must **accurately describe** a large class of observations on the basis of a model which contains only a few arbitrary elements, and it must make definite **predictions** about the results of future observations" (Hawking, 1995, p. 54).

Scientific realism seems to rely too much on theory. It may function for science but considering the nature of urban design theory (discussed later on in this chapter), it seems an instrumentalist view provides more helpful insights. "The central claim of the instrumentalist view is that a theory is neither a summary description nor a generalised statement of relations between observable data. On the contrary, a theory is held to be a rule or a principle for analysing and symbolically representing certain materials of gross experience, and at the same time an instrument in a technique for inferring observation statements from other such statements" (Balashov & Rosenberg, 2002, p. 201). This simply

means that a good theory is the one that *works better*. Accordingly, good theories are those theories that better serve research and practice.

Theories are deeply related to practice in this sense, but they are not directly resulted from observations. On the contrary, they make sense out of observation. "The raison d'être [reason for existence] of the theory is to serve as a rule or guide for making logical transitions from one set of experimental data to another set. More generally, a theory functions as a 'leading principle' or 'inference ticket' in accordance with which conclusions about observable facts may be drawn from given factual premises, not as a premise from which such conclusions are obtained" (Balashov & Rosenberg, 2002, pp. 201–2). This means a theory not only helps to understand observations but also leads observations. A theory helps to understand "*what we are observing"*. Consequently, observations are theory-laden. Theories help observations, so by taking this approach, a good theory is the one that explains better and leads well. In finding the subject or "what to observe", the theory also plays an important role. "The total pattern of perceiving, conceptualising, acting, validating, and valuing associated with a particular image of reality that prevails in a science or a branch of science" (Kuhn, 1996).

In order for a theory to function well, it needs to define certain conceptual components. There are two sorts of concepts here. The first kind is widely-known concepts, like facts or common sense. The second kind is concepts defined within and for that theory specifically.

Many theories employ unobservable components, for example the concept of 'force' in physics. This kind of concept refers back to Hume's view on causation. Hume stated that (in making theory) the human mind can only perceive the sequential events and not the causation; causation is made in a human's mind. Therefore, for explaining the causation between two phenomena, a set of invented concepts are necessary. For example, we can see an object falling but the concept of gravity is unobservable. This point is crucial in more complex conditions; in urban design problems, finding casual relations between concepts is challenging. Often a combination of unobservable variables is used.

When defining concepts, the field's traditions play an important role. Traditions are often not systematically validated. In Kuhn's words, this is an arbitrary phase of making theory. Popper also believed that making theory is not a systematic process and it does not matter for functionality of the theory. But what is important is to adjust the theory through research (Godfrey-Smith, 2003).

Following these views, although theory helps to understand the outside world, reality cannot be fully reduced to it. In urban design, it seems important not to take any given theory or set of theories as the only tool for understanding the reality. In this regard, the question is how to indicate which theory is better than another.

Theories are human creations and are based on a set of assumptions. However, there are theories that function better than their rivals.

> "Some theories are superior to others – either because one theory serves as an effective leading principle for a more inclusive range of inquiries than does another, or because one theory supplies a method of analysis and representation that makes possible more precise and more detailed inferences than does the other" (Balashov & Rosenberg, 2002, p. 205).

Another indicator of a good theory is simplicity. Generally, if two theories explain the same phenomenon, the one that is simpler is preferable. The more complex theory does not yield conclusions in better agreement with the facts than the conclusions of the simpler theory (Balashov & Rosenberg, 2002, p. 208). When theories are able to explain phenomena, simplicity, precision and comprehensiveness are the criteria for a good theory.

In one of his last works, Kuhn proposed five criteria for a good theory as: **accuracy** (consequences deducible from a theory should be in demonstrated agreement with the result of existing experiments and observations), **consistency** (applicable to related aspects of nature), **broad**

scope (extends far beyond the particular observations), **simplicity**, **fruitfulness** (disclose new phenomena) (Kuhn, 1998).

After discussing the criteria of a good theory, the next step is to find out when there is need to make or change a theory. This has been studied outstandingly by Thomas Kuhn.

Kuhn's conception of the progress in theory and science

Thomas Kuhn is an outstanding philosopher of science. His book *The Structure of Scientific Revolutions* (first published 1962) is the main reference for his philosophy. Despite the fact that the examples and focus of the book are mostly on scientific argument, the scope of book is by no means limited to science. In fact, Kuhn's science is indistinguishable from knowledge. Perhaps for this reason, this book has been a reference for many scholars of built environment studies (Taylor, 1999; Cuthbert, 2007b, 2011; Lang, 1987). Kuhn's is one of the most influential books about theory. "It affected city planning as it affected many other related areas of planning and design" (Hall, 2002, p. 360). It also offers a set of vocabulary, especially the concept of paradigm shift, which has been used to describe planning changes from 1960 to 1970.

Kuhn carefully chose his terms. For example, putting the two terms of *revolution* and *structure* in the title of his book echoes both revolutionary and structural thinking (dominant intellectual discourses of the 1960s). Without understanding his terminology, it is impossible to elaborate on his philosophy. In *The Structure of Scientific Revolutions,* Kuhn defines the term '*normal science'* as: "Research firmly based upon one or more past scientific community acknowledges for a time as supplying the foundation for its further practice" (Kuhn, 1996, p. 10). He defines the term paradigm[1] as closely related to the concept of normal science. Paradigm is "some accepted examples of actual scientific practice – examples which include law, theory, application and instrumentation together – provides model from which spring particular coherent traditions of scientific researches" (Kuhn, 1970, p. 10). Later he considers three meanings for paradigm: 1) As a scientific community shared structure. 2) As a constellation of group commitments. 3) As shared examples (Curd & Cover, 1998).

Following this, "scientific revolution" is defined as "necessitated community's rejection of one time-honoured scientific theory if favour of another incompatible with it" and his example is the shift from Copernican to Newtonian physics (Kuhn, 1996, p. 6).

According to Kuhn, a shift from one paradigm to another is *scientific revolution*. In such scientific revolutions, the progress is nonlinear. He sees research as "a strenuous and devoted attempt to force nature into the conceptual boxes supplied by professional education" (Kuhn, 1996, p. 5).

Why and when do such paradigm shifts happen? Kuhn argues that paradigms explain most observations (normal science) and some observations remain problematic. As long as the level of unexplained observations is ignorable, the current paradigm is legitimised. At a certain point, the number of unexplained observations reaches a level where a new paradigm is needed. The new paradigm then must explain observations better than its predecessor.

One of his important contributions here is that making theory is deeply based on its context and the group of scientists supporting the theory. This is particularly exemplified when a paradigm shift happens. Construing to what Popper pictures, academic circles are not working to falsify theories. Rather they try to keep the existing paradigms. Therefore, the majority of researches enhance the existing paradigms.

[1] He used the word paradigm in many different ways, for example in a broad way: "a view of the world and a way of doing science", and a narrow way: "examples that serve as model, inspiring and directing further work" (Godfrey-Smith, 2003, p. 77).

About making a theory, Kuhn believes that there are three types of phenomena about which a new theory can be made. The first is phenomena already explained by existing paradigms, when there is neither motive nor point to change these theories. This means a new theory usually emerged to explain unknown/unexplained phenomenon. The second are those whose nature is indicated by existing paradigms but their details can be understood only through further theory articulation. This type of changes of theory is in fact changing within a paradigm which constitute the majority of researches. Only when these attempts at articulation fail, scientists encounter the third type of phenomena: the recognised anomalies whose characteristic is their stubborn refusal to be assimilated to existing paradigms. This type of building theory happens when a new paradigm emerges (Kuhn, 1996, p. 97). This is *scientific revolution*.

The Structure of Scientific Revolutions is one of the most successful books about theory. But since its publication, it has been criticised widely. Kuhn actively responded to critics for decades. One of the key critiques is about indicators that distinguish between good and bad theory. In other words, when two theories explain one phenomenon, how is it possible to decide which one is better? Earlier in this chapter, five criteria of a good theory were explained. In response to further critiques, Kuhn added that theories receive their validity from "the decision of the scientific group" (Kuhn, 1998, p. 102). '*The decision of the scientific group',* as an additional criterion of a good theory, has a significant contribution in developing the methodology of this research. Emphasizing on the shared body of the urban design literature in the methodology reflects the 'decision of the scientific group'.

Certain scholars believe that a theory could be validated even if no one accepts it or even understand it; "the cognitive value of a theory has nothing to do with its psychological influence on people's mind. Belief, commitment, understanding are states of human mind" (Lakatos, 1998). This view is not able to explain the social aspects of making and using theory, thus is not suitable for this research. Therefore, Kuhn's view is taken for the methodology of this research.

Probabilistic theory and the level abstractness

Two more factors in relation to theory are helpful to be explained here. First is the level of abstractness. Second is whether a theory is deterministic or probabilistic.

Abstract theory is applicable to further cases regardless of time and place. Concrete theories, on the other hand, can only explain events in a particular time and place (Reynolds, 2007). Basically, theories that can explain more cases are preferred. But, at the same time, more precise theories are better. In this way, abstractness of theories makes a balance between precision and number of examples that the given theory explains.

Urban design considers local and cultural aspects of city (Banerjee & Loukaitou-Sideris, 2011) as well as time and sense of time (Lynch, 2009). Time and place alter urban design. Consequently, it could be stated that urban design theories cannot be highly abstract because it is inevitably bound to time and place.

The second important feature of a theory is the determination level of theory. This must be distinguished from their abstractness. For example, if studies show that smoking doubles the chance of cancer, then for any smoker this chance is doubled. Smoking increases the probability of cancer in this case but it does not *determine* cancer. Nonetheless, the studies of this example can be well abstract (i.e. applicable to different societies). This is a probabilistic relationship between two criteria (smoking and chance of cancer).

It seems urban design theories are not determinist. Urban design scholars acknowledge uncertain outcome of design. For example, sense of place may or may not emerge after design (Carmona et al., 2003; Dovey, 2010); design can provide a given environment with more or less capacity of certain behaviours but whether those behaviours happen or not is uncertain (Lang, 1994; Lynch, 1981). Also, many urban design texts criticise the modern movement of architecture (symbolised by Le

Corbusier) for being deterministic (Gosling & Gosling, 2003; Lang, 1987; Madanipour, 2007). Therefore, urban design is probabilistic.

This section explored philosophy of science in order to underpin the meaning of theory. Theory in this regard is a set of explanations that helps to provide the sense of understanding and controlling the future events. Urban design theory is socially produced in the way that it varies from a time-place to another.

What is 'urban design'?

After exploring the concept of theory, it is necessary to pin down what is meant by 'urban design'. In this section, urban design is defined and conceptualised according to the needs of the research. A key objective of this research is to focus on mainstream urban design. Therefore, what has been accepted by the majority of the professionals as urban design is being taken as the valid, or correct, definition. Few aspects that help to answer what is urban design for this research are discussed in what follows. First is the 'design' aspect. Design distinguishes urban design from other urban study fields. Consequently, urban design theories are required to help designing in urban spaces. This reflects the normative aspect of urban design theory which will be discussed later in this chapter.

Urban design has been defined in various ways (Carmona et al., 2003; Cuthbert, 2007b; Inam, 2014; Lang, 2005; Madanipour, 1996) yet it does not have a fixed definition. One of the approaches towards defining urban design is to see what *urban* and *design* mean and then define *urban design* as the combination of those terms in a linguistic manner. Such an approach has been applied by certain scholars, like Cuthbert (Cuthbert, 2007a). But it seems that this approach is not rigorous enough, because it assumes that the valid understanding of the field lies behind its linguistic meanings. Kevin Lynch believed that urban design is an inaccurate term, thus he preferred to call it *city design*[1]. Additionally, focusing on the words 'urban' and 'design' excludes many important texts on urban design, such as *The Death and Life of Great American Cities* (Jacobs, 1992) which is not specifically concerned with 'urban' and 'design' yet it is key a text of urban design.

Defining urban design, some scholars suggest a change in the field. For example, Cuthbert and Madanipour argue that urban design is better to connect societies and the built environments. Based on this view, they offer a definition of (new) urban design. Their definition of urban design is deeply informed by sociological theories. Works of Wirth's *Urbanism as a Way of Life* and Manuel Castells's *The Cities and Grassroots* were inspiring for Cuthbert (2007a), and Henri Lefebvre's work on the meaning and social production of space for Madanipour (1996) was inspiring in defining urban design. This approach shifts the basis of urban design to social sciences. These are approaches in defining urban design.

Another way of defining urban design is to define the field according to innovations (Barnett, 2011). Due to its radical stance, innovative definitions of urban design cannot provide an overview of the existing condition of urban design nor can they picture the progress of the field. Although all the mentioned ways of defining urban design can be insightful for various works, this research is focused on interaction between theory and practice so a mainstream definition is needed. In other words, the

[1] "What is usually called urban design today is more often large-scale architecture, which aims to make an object in one sustained operation, according to the will of a gifted professional… Try city design – dealing with the ongoing sensed environment of the city, in collaboration with the people who sense it – hardly exists today" (Lynch, Banerjee & Southworth, 1995). However, it seems that what he meant by city design is nowadays included in urban design.

emphasis is more on the existing characteristics of urban design rather than what urban design should be. This approach will be operationalised in the methodology chapter.

The most important way for studying the current condition of urban design is to focus on the shared body of knowledge. The shared body of knowledge could be traced in university reading lists on urban design theory courses where the knowledge is being shared with to-be professionals.

It is not easy to pin down the mainstream urban design literature. Theories that only provide understanding of cities are not considered to belong to urban design in this research. As has been mentioned by Inam (Inam, 2011), these theories influence urban design indirectly and are not urban design theory. There is an almost endless list of such theories with influence on urban design, as it seems that urban design has been inspired by everything (Carmona, 2014b).

The starting point for studying the mainstream urban design is to pin down urban design key characteristics. Many texts on urban design point at the interaction between the environment and the society (Bentley, 1999; Carmona, 2014b; Carmona et al., 2003; Cuthbert, 2003; Gosling & Gosling, 2003; Inam, 2014; Lynch, 1981; Madanipour, 1996). Therefore, for this research the first condition of urban design theory is to acknowledge both the society and the built environment. Ultimately, urban design is supposed to be for people (Gehl, 2010; Tibbalds, 2000).

Dealing with uncertainty and complexity, urban design constantly learns from the society and changes accordingly. For example, values and norms for designing a good space vary with the passage of time. While urban design aims to make good public places for people, it is concerned with a common understanding of *good* environment. Since the understanding and demands of good environment is changing thorough time, the relationship between urban design theory and a user's need should be flexible. Thus, urban design theory is not a fixed model to be followed in all circumstances at all times.

Another characteristic of urban design is that there is no absolute *true* or *false* decision. Theories and changes in the built environment can nevertheless compare different decisions as better or worse (Carmona, Heath, Tiesdell, & Oc, 2003; Moughtin, 2003). Whether because theories are not advanced enough to indicate the right decision with certainty or because it is part of the nature of design, currently this uncertainty and complexity are features of urban design (Kasprisin, 2011, p. 185).

Defining urban design and its key characteristics can happen from outside urban design. There are other disciplines and movements discussing similar issues as urban design and representing similar characteristics. Amongst them are environmental design, landscape urbanism and green urbanism. It is impossible to put a line between urban design and such movements, as is the case with urban design and planning and architecture. Because such disciplines distance themselves from urban design by avoiding urban design terminology, here they fall out of the scope of this study.

Another condition that defines urban design is the goal of urban design. The majority of urban design texts mention that improving the quality of public spaces is the main purpose of urban design. This goal has been manifested differently; for example, aesthetic and behavioural design that meets human beings' need in the public spaces (Lang, 2005), *making place* (Carmona, 2014b; Carmona et al., 2003), making user-friendly environments (Tibbalds, 2000), providing more choice (democratic space) in public spaces (Bentley, 1985; Gehl, 2010), and *Good City Form* (Lynch, 1981). Variations in terminology may picture a chaotic condition, but generally it could be said that enhancing the quality of public spaces (making place) is the key objective of urban design. However, what is good and how urban design enhances the quality of the built environments are important arguments that fall outside of the scope of this research.

There are many other characteristics that could be considered for urban design. Nevertheless, the mentioned criteria (being entitled as urban design, considering both form and the society, focusing on enhancing the quality of the public spaces, elaborating on design) clarify what is meant by urban design. However, this set of criteria does not indicate how to find urban design theories.

How to find urban design theory

It could be assumed that theories of urban design are best available in the literature in forms of books and articles. Theoretical arguments in other places cannot be taken as a platform for common understanding amongst professionals[1].

It is necessary here to highlight that not all theoretical arguments are entitled as 'theory'. Nevertheless, as long as their meet characteristics of a successful theory, mentioned earlier, they can be considered to be theory for this research.

In this respect, one of the expectations from the methodological arguments is to adapt methods of finding key theories of urban design. This research starts from well-known theories in urban design from the literature. Reviewing academic literature does not mean that successful theories are those that are well-known and acknowledged in academia. "The decision of the scientific group," as Kuhn argues, is one criteria for measuring the success of theory (Kuhn, 1998, p. 102). The success of theory should also be seen in its relation to practice, as urban design is a practical field.

Scanning the literature; theory in urban design texts

In reviewing the literature, it appears that authors manifest different understandings of theory. Therefore, without having a kind of mechanism structuring theories, comparing them is impossible. Further in this dissertation, a typology is proposed in order to provide the framework for this purpose.

Urban design as a relatively comprehensive field and as an academic discipline emerged in response to post-war built environments (Ellin, 1999; Lang, 2005). The earlier topic of urban design arguments reflects on the reasons behind emerging urban design as an academic field. Early urban design texts were informed by criticisms of the post-war urbanization (Jacobs, 1992; Lang, 1987; Lynch et al., 1990; Trancik, 1986).

Three texts were examined for the first part of the literature review; Alexander Cuthbert (2007a, 2007b), Anne Vernez Moudon (1992) and Nan Ellin (1999). Any references to urban design theory found within these three texts were then included. Additional texts were then selected from a literature review that searched for the term "urban design theory" in Google Scholar and UCL's databases. Only texts which make an original contribution to the discussion about urban design theory were included. Texts which outlined past debate through referring to and describing the contribution of others were not included.

Cuthbert's main idea about urban design is that urban design does not have substantial theory, because urban design theory has failed to make clear connections to political economy. Unfortunately, the methodology behind selection of the texts is not clear, and important texts such as *The Responsive Environment* (Bentley, 1985) are not in his list.

Modoun's list covers a wide range of texts that had an effect on urban designers. Many of them do not belong exclusively to the urban design field. Another limitation of this paper is that the list was published more than 20 years ago (Moudon, 1992). Additionally, Moudon does not explain her methodology behind choosing the texts for her article.

Nan Ellin's *Timeline of Postmodern Urbanism* is an appendix of her book *Postmodern Urbanism* (Ellin, 1999). It aims to explain writings and events that contributed to the urban design theory. This is a long list of texts started from 1943 and, like the two other leading references, does not explain how this list is achieved. Therefore, it is not clear why some texts are included and some are excluded. Ellin's

[1] The empirical study of this research (chapter 5) shows that there is a sort of knowledge, mostly specific about sites, in form of projects and reports that transfer knowledge between professionals.

focus seems to be rather historical and her definition of urban design is much more inclusive than the first two.

Based on the above texts and what previously was defined as theory, theoretical urban design texts are discussed in what follows. The main purpose of this review is to find out what is being conceptualised as urban design theory in the literature, and how this theory is connected to practice. In doing so, all the texts are examined against the need of this research in particular, in order to find out what could be adapted from them for this research.

The Image of the City (Kevin Lynch 1959)

For any planner and designer, Lynch is a familiar name. He is probably the most-referred author in urban design. Lynch studied city planning at MIT, where he was influenced by Lloyd Wright. It is worth mentioning that Wright's idea about cities was deeply cultural and naturalist (Choay, 1965; Parker, 2004). In his writings, Lynch refers to a wide range of theories but studying the built environment in relation to nature and culture appears to be the leitmotif of all his works.

Lynch's first book, *The Image of the City* (Lynch, 1960), is a seminal text. It develops a method to study the cognitive map of cities and shows how it can improve the quality of the built environments. Thus, it is a theoretical text meeting the criteria of successful theory discussed earlier.

The Image of the City relies on arguable assumptions that have been challenged afterwards. Thirty-five years later, Lynch wrote an article reflecting on the existing critics and challenges (Lynch, 1995). For example he had discussed that feeling lost "carries overtone of utter disaster" (Lynch, 1960, p. 4) which seems to be a rather exaggerating statement, he believes.

The purpose of the theory in this book is to make cities more legible. In doing so, Lynch introduced five elements (paths, edges, districts, nodes, landmarks). The methodology behind developing these elements is presented clearly in the book as induction from interviews about way-finding and memories of the city. The interviews are all from three post-war big America cities: Los Angeles, Boston, and Jersey City (Lynch, 1960). One could argue that if the interviews had happened in Europe, a different set of elements and arrangement would be achieved (Dovey & Pafka, 2015).

Therefore the theoretical structure of this text, including the aim, means and the methodology, is clear. It has a defined goal and an intended way to achieve it. Many scholars continued this idea (Appelyard, Lynch, & Myer, 1965; Nasar, 1997).

The widespread application of the book implies that this theory provides the sense of controlling the future through interventions. To be precise, by carefully designing the five elements, an urban designer would achieve a higher level of legibility in cities.

A Theory of Good City Form (Kevin Lynch 1981)

Lynch's most comprehensive study on theory appears in the book that is originally called *A Theory of Good City Form* (1981). The title is changed in the second edition into *Good City Form* (1984). After a long study of different types of theory, this book suggests a new normative theory for urban design. Lynch is one of the pioneers who study theory as the subject of a research. *Good City Form* has been considered to be one of the most important theoretical books on urban theory and urban form (Inam 2011; Shane 2005). Banerjee and Southworth believe that *A Theory of Good City Form* is Lynch's most important book (Lynch, Banerjee, & Southworth, 1995). Nevertheless, it seems that the book received less attention in UK.

Compared to *The Image of the City*, this book projects a more complex understanding of theory. It defines three branches of theory related to a city form or those theories that explain cities as a spatial phenomenon (Lynch, 1981, p. 37): First, *planning theory* that asserts how complex public decisions about city development should be made. Here it seems he includes those theories about current

process and procedures. The second category is *functional theories* that focuses on cities' mechanisms, aiming to explain why they take the form they have and how that forms function. Lynch allocates a long appendix on examples of these theories (Lynch, 1981; Banai & Rapino, 2009). Third is *normative theory.* By normative he means a theory that "deals with the generalizable connections between human values and settlements' form, or how to know a good city when you see one, this is our concern" (Lynch, 1981, p. 37). This indicates that the main aim of a theory is to explain what a good city is and how its form is connected to human values.

The book then seeks the main normative theories of urban form in history and comes up with three categories (*cosmetic*, *city as a living thing*, *city as a machine*). Cosmetic normative theories connect the urban form to the divine values. In city as a living thing, values derive from thinking of cities as living organisms. For city as a machine, however, values come from functionality of form. Three types of values that lead urban form consider cities to represent divine values, or suggest to deal with cities as living organisms or machines. None of them conceptualise cities as cities, rather they define cities through other models of thinking.

Lynch presents the three models in a historical order. Lynch argues that none these systems is sufficient. That is why he develops his own normative theory consisting of a set of seven values: Vitality, Sense, Fit, Access, Control, Efficiency and Justice. "[H]e believed that a normative city theory could be built on the evaluation of a real proposed city's ability to fulfil a set of performance characteristics including vitality, access and efficiency" (Shane, 2005). In developing his theory of good city form, values are linked to socially accepted concepts such as vitality. This locates normative theories as an extension of what a society desires.

Thanks to Banerjee and Southworth's book on writing and projects of Kevin Lynch, it is possible to trace the formation of the theory back in Lynch's previous works (Lynch et al., 1995). It seems that he was concerned with functional or "positive" theories in his early works. Then he became more interested to find what a city *should be* and how the values are linked to the built environment. There are two reasons for this shift. First is that he found functional theories somewhat "disappointing and dull". Second is because these theories seem not to help much in explaining why contemporary cities do not serve basic human purposes and values well (Lynch et al., 1995, p. 351). Ultimately, Lynch concluded that a comprehensive urban design theory should be normative. But in order for a theory to be normative it needs to be able to explain the existing situation: "A developed theory of cities will be simultaneously normative and explanatory [because] it is impossible to explain how a city should be, without understanding how it is. An understanding of how a city depends on a valuing of what it should be. Values and explanations are inextricable" (Lynch, 1981, pp. 38–39).

A normative theory is not entirely scientific. Scientific theory does not state how things should be; but a normative theory does. Nevertheless, it is necessary for design theories to be normative. Without normative theory, it is impossible to design and evaluate the built environments. But normative theories are not generated through pure rationality. If we have some ground for understanding what cities are, we have practically no rational ground for deciding what they should be (Lynch, 1981, p. 99).

In addition to having a normative aspect, a good theory needs to be able to successfully function. "…Theory is not written for entertainment, yet when it is a successful and succinct explanation of the inner working of a formerly confusing phenomenon, it is by its nature absorbing to read" (Lynch, 1981, p. 343). Therefore, a successful theory would be disseminated and absorbed by those who need it.

Moudon considers Lynch's research approach in making theory as rationalist-positivist (Moudon, 1992). There are few lines in the book confirming it. "Since decisions about the form of cities affect many people, they must at least appear to be explicit and rational. More than that, since rationality, however cumbersome, is the only means we have for making better decision" (Lynch, 1981, p. 107).

The references from which Lynch made his theories are expansive. Built environments, experiments and the well-established knowledge are all used by him. In *The Image of the City (1960)*, he makes his theories based on interviews. He also provides some psychological statements supporting his theory. Additionally, in *A Theory of Good City Form*, he applies common senses and abstract concepts in order to find common normative values. He expectedly refers to a wide range of texts in the fields. But selectively, he did not appreciate Cullen's (Gosling & Gosling, 2003) and Norberg-Schulz's (Cuthbert, 2003). It is not clear how and why he selected the references but the book is highly informed by the existing literature of the time. Lynch also mentions the ways in which he developed his theories. Nevertheless, his methodology has been rarely re-evaluated. Despite Lynch books being the most seminal texts in the field, his points at the time have been interpreted differently. Therefore "absorbing" theory is not a neutral action.

The (Concise) Townscape (Gordon Cullen 1961)

Around the same time when Lynch and Jacobs were forming the American movements in urban design, in Britain, Gordon Cullen was studying the visual aspect of cities. He was the main writer of the series of articles titled Townscape in the journal of *Architectural Review* (Orillard, 2009). Based on these articles, Cullen published a book called *Townscape* in 1961, and shortly after that he published *The Concise Townscape*. He did not present this as a book of theory but *The Concise Townscape* meets the criteria of successful theory.

Finding theory between the lines of Gordon Cullen's book is relatively harder compared to Lynch's and Jacobs's (Marshall, 2012). Cullen's focus is the visual aspect of the cities but he appreciates other aspects such as perception and memory. The key concept of *The Concise Townscape* is conceptualising the design as the "art of connection". Derived from this connection, *The Concise Townscape* focuses on movement in the town and serial visions. In this regard, Cullen's book is an improvement from Camillo Sitte's work (*City Planning According to Artistic Principles,* first published 1889) where the built environment is studied in a more static manner.

The Concise Townscape can be considered to meet characteristics of a successful theory because it provides a 'sense of understanding' of what makes a great visual design. Cullen's sketches, notations and ideas about serial visions have been frequently repeated in different urban design books that could be seen as a common platform or language for designers (Carmona et al., 2003; Gosling & Gosling, 2003; Gosling & Maitland, 1984; Moor & Rowland, 2006; Moughtin, 2003).

Cullen's methodology in developing the argumentation relies on studying the successful European pre-modern cities. He investigates the principles that make a beautiful townscape. This method assumes that such principles are repeatable and they are likely to produce similar qualities. Despite the outstanding influence of *The Concise Townscape*, its theoretical ground has not been systematically validated, as Marshall argues (Marshall, 2012).

The Death and Life of Great American Cities (Jane Jacobs 1961)

Unlike Cullen, Jacobs considers the social context of cities. Jane Jacobs along with Kevin Lynch is one the most influential writers on urban planning and design. It is argued that she has changed the understanding of cities (Allen, 1997). However unlike Lynch, Jacobs gained broader attention from different disciplines. Perhaps that is why her work and life is well documented (Alexiou, 2006; Allen, 1997; Goldsmith & Elizabeth, 2010; Hirt & Zahm, 2012; Page & Mennel, 2011).

Jacobs did not have an academic background in planning or design, yet the level of change that her works propose is dramatic. Certain scholars see Jane Jacobs's suggestions as a paradigm shift in planning (Page & Mennel, 2011, p. 7). Nevertheless, following the concept of paradigm shift (discussed

earlier), Jacobs's cannot be considered as an instance (Taylor, 1999). Her works surely broadened the scope for professionals.

Jacobs addresses various topics such as safety, management, economics, social values, agriculture many of which, for example mixed-use planning (Angotti & Hanhardt, 2001; Grant, 2002; Rowley, 1996), respect for history (regeneration) (Montgomery, 2003), variety (Searle, 2004), complexity (Batty, 2008), small (organic) changes (Hill, 1988) and security (Adler & Laufer, 2013, p. 427). These are influential ideas that fall out of the scope of this research. It seems that the central point of her seminal book *The Death and Life of Great American Cities* (1961) is advocating urbanity. Additionally, she calls for multiplicity by continually highlighting that one description cannot work for all cities (Jacobs, 1992). Opening space for multiplicity has a great contribution in criticizing the modern movement of architecture and urbanism. Nevertheless, her criticism of Ebenezer Howard has gained far less attention amongst the professionals, especially in Britain.

Jacobs's urban logic and philosophy is being discussed recently (Hirt & Zahm, 2012). It appears that in Jacobs's theory, cities cannot be fully known. Consequently, urban theories must aim to collaborate with agents of change. This conception of theory strongly connects theory to practice. The community is best capable of making change and designers must be facilitators of such changes. In this regard Jacobs highly supports democracy, yet she keeps her distance from extremist liberal democracy (Hirt & Zahm, 2012; Jacobs, 1992). Urban design theory thus should facilitate urban change but the bottom-up forces indicate the demand and objectives of the change. As a result, it could be claimed that urban design theory, for Jacobs's, aims to facilitate people's right to form, manage and change their settlements.

Common sense plays an important role in the way Jacobs develops her ideas. She also emphasises understanding cities through walking and experiencing the environment (Jacobs, 1992). This way of understanding cities (or epistemology) is comparable to Lynch's. Jane Jacobs herself believed that her work has lots in common with Kevin Lynch's although the two works provide radically different reading experiences (Rowan, 2011, p. 49). Both have criticised the modern movement of city planning, and both approaches are related to human experience and understanding cities from people's senses. Their methodology differs when Lynch surveyed citizens in order to generalise an idea but Jacobs's method is far less systematic. It could be said that her way of understanding urban spaces is to an extent anti-professionalist. For Jacobs, the knowledge about cities appears through interactions of various actors in the city. However, her argumentation at the time faced harsh criticisms. Lewis Mumford was amongst the first critics (Krieger & Saunders, 2009).

Jacobs's way of building theory is important for this research. Predominantly, her approach towards cities and the built environment can be considered to be systematic if only her proposals be taken as hypothesis. Jacobs herself suggests that her work is "clear questions and theoretical purpose" which resulted in logically structured form of debates (Page & Mennel, 2011, p. 69) and not a systematically testified theory. She in fact called for testifying her proposals in the city. "Cities are an immense laboratory of trial and error, failure and success, in city building and city design. This is laboratory in which city planning should have been learning and forming and testing its theory. Instead the practitioners and teachers of this discipline have ignored the study of success and failure in real life" (Jacobs, 1992, p. 16). Despite her suggestions being clear and robust, her way of making theory is personal and deeply based on her perception of cities or the way she saw the cities (Goldsmith & Elizabeth, 2010). Contrary to what she called for, there are very limited attempts (Weicher & John, 1973) to testify her theory which is followed by very limited attention (Marshall, 2012). It is also argued that the applicability of her theory for rapid urbanization is far too limited (Larson, 2013). In this case, it seems that her proposals are taken for granted by many professionals.

Jacobs made a great contribution to many disciplines. Marshall Berman considered *The Death and Life of Great American Cities* as the most important face of the 1960s, as a symbol of objections to

modernization, as a call to return to streets (Berman, 1983). In doing so she criticised Robert Moses's big scale projects (Laurence, 2011; Rennie Short, 2006). In fact, "Jacobs crafted her theory of city development at what might be considered the ground zero of the cultural revolutions of the 1950s and 1960s, but you never know it." In this respect she was the voice of a new movement. Her house, and perhaps the windows which was the origin of 'eyes on street', was located in the centre of avant-garde of new forms of art, dance and literature in New York (Page & Mennel, 2011, p. 11). This emphasises the role of social context in theory-making.

Jacobs's approach to the literature was highly critical. In addition to criticizing Le Corbusier (and the modernist movement), Ebenezer Howard's Garden cities and Robert Moses's big plans, Jane Jacobs admired Ed Bacon's book *Design of Cities* (Bacon, 1976) especially Bacon's point on considering cities as living structures and his approach of design's mission in redevelopment and regeneration (Laurence, 2011, p. 32).

Jacobs's involvement with practice is underestimated. At first she believed, and participated, in urban renewal projects. In the late 1950s, when she started writing *The Death and Life of Great American Cities,* she not only she critiqued renewal plans but also regretted her participations (Laurence, 2011, p. 35). One of the influences of this experience is the rejection of standardisation. Following this, Jacobs did not want her theory to be used as prescribed model – "standardised approach is not helpful," she stated. Places are different and it is vital to adapt theory for each case and after all, cities are unpredictable: "it is impossible to force urban activity to occur" (Grant, 2011, p. 101). Some found this approach as *the lens of no theory* (Goldsmith & Elizabeth, 2010, p. 66). However, considering what she mentioned about her proposals needing to be tested in towns, it seems that she had a theoretical view, but rather a complex theory.

Jane Jacobs became a figurehead of urbanism. Even New Urbanism, which has less pro-city stance, refers to her. While they support mixed-use planning, they work in a smaller scale. "Jacobs has become an essential ally for new urbanists to (mis)use as they make their claims for public attention and support" (Grant, 2011, p. 103).

The Death and Life of Great American Cities intentionally avoids proposing any design guide. Later on, from *The Responsive Environments* (Bentley, 1985) onwards, Jacob text has constantly being used in design guidelines. Nevertheless, the nature of Jacobs's theory in this way is reduced to be deterministic and standardised. Later on in this dissertation, her complex understanding of cities (ontology) will be revisited in order to generate the methodology of this research.

Life Between Buildings (Jan Gehl 1971)

Jan Gehl is an advocate of Jane Jacobs (Goldsmith & Elizabeth, 2010) and one of the pioneers who discussed design methods. His background in architecture and his sociological view, affected by his sociologist wife, form the foundation of his theory presented in his first book *Life Between Buildings: Using Public Space* published in Danish in 1971. It took thirteen years until the English translation of the book was published (1984). This shows that language draws more meaningful borders for theory than national borders.

Gehl's continuous practice in Copenhagen for the last four decades makes a unique case of the interaction between practice and theory. In this respect, he had the opportunity to take the city as his lab. Observing citizens' behaviour and extracting the connection between the built environment and the formation of social activities is the key method. His key contribution in design is making pedestrian- and bike-friendly spaces (Gehl, 2010). Another theoretical contribution of Gehl is moving the focus of theory from the buildings to the space. Public spaces are not leftover of the buildings but space needs to be at the focal point of design, in harmony with building (Gehl, 2011).

Gehl's argument provides a 'sense of understanding' as well as methods of controlling the cities. Nevertheless, the term 'theory' is not mentioned directly in Gehl's works. The physical form of the built

environment cannot determine the emergence of social behaviours but the form facilitates the behaviour. Therefore Gehl's theory is probabilistic.

Social activities in the public places in this regard indicate the success of places. Therefore Gehl is counted as a member of behavioural study tradition in urban design (Moudon, 1992).

To an extent, Jan Gehl is following Jacobs (Goldsmith & Elizabeth, 2010). Designing pedestrian-friendly streets, active facades, windows as active fronts and mixed-used planning are amongst Jacobs's influences on Gehl. But Gehl's urban design projects seem to be similar regardless of their context.

A specific point about Gehl is his use of statistics for his observations. This method of observing cities is both robust and communicable. But what he does to the statistics is not mathematical analysis but theory-laden interpretation. Gehl believes that design can solve the urban problems. Many urban critical thinkers would not agree with this approach since it does not reflect on bigger issues of capitalism, segregation, alienation of space and right to the city. Gehl selectively uses few concepts throughout his academic and practical works. But Gosling, in what follows, studies a bigger picture to see how urban design concepts are being emerged and used.

Concepts of Urban Design (David Gosling 1984)

David Gosling, a British planner and architect (1934-2002), is amongst writers who specifically paid attention to the subject of theory in urban design, in *Concepts of Urban Design* (1984). He continued studying the knowledge of urban design presented in *The Evolution of American Urban Design* (Gosling & Gosling, 2003). The latter is focused on American literature but it reflects the concepts from the first book. Therefore, despite the second book being more successful, for the purpose of this research Gosling's first book is examined here.

Gosling begins with highlighting the importance of theory and urban design progress through interaction of theory and practice. Gosling appreciated *The Image of the City* (Lynch, 1960) as an extremely important theoretical text. He believed it is the first book that defines what urban designers should be concerned about and how they might achieve the end. Lynch's book paved the way for Jacobs, Alexander and Norberg-Schultz to define the task of urban designer (Gosling & Maitland, 1984, p. 48). In this respect, theory legitimises methods, responsibilities, goals and the profession.

Gosling himself did not develop a theory but he puts the knowledge as the topic of his study[1]. The importance and success of Gosling books reflects the importance of the topic.

Gosling divided the sources of theory into two categories. First, the one of 'natural models' that is being informed by the history and the historical environments that survived the time. Second, the one of 'artificial models', hypothetical thoughts looking at the future form of the built environments. He sees the first one as organic and the second as utopian (Gosling & Maitland, 1984, p. 33). His third source for urban design theories is borrowing from other fields that "have taken two forms, analogy and translation" (Gosling & Maitland, 1984, p. 40). Sources of theory are of importance for this research. In which areas theory and practice share their sources will be discussed in the final section of this chapter.

This categorisation provides the sense of understanding of the seemingly chaotic arguments under the title of urban design, therefore it can be considered as theoretical contribution. Utopian models provide comprehensive models whereas analogies use metaphors, usually for some specific subject (metaphors like 'city as machine' or 'living creature'). The analogies mostly borrow from art and science (fields like psychology, semiotic etc.). Gosling's categorisation is able to clarify which established concept in urban design comes from which field, which enables tracing the theories to their roots in other disciplines.

[1] Later on in this dissertation, this kind of study will be considered as theories about the knowledge of urban design

Gosling mentioned Jacobs, Alexander, Newman, Cullen, Le Corbusier and Gestalten school as theories that borrowed from other fields. However, it is not clear how he made this conclusion. Referring to Jacobs, Gosling points at the importance of practice and learning from success and failure of theories. He also counts utopian thinkers like Fourier and Owen as theorists (Gosling & Maitland, 1984). Is utopia a theory? In Gosling's works there is no mechanism distinguishing theory from not-theory.

There are more inconsistencies in Gosling's theory. He considers urban design "both as art and science." Such a conception raises the question of interaction between science and art (Cuthbert, 2007a, p. 172). Although urban design has creative aspects as well as theoretical-experimental aspects, considering its content as both science and art requires more explanations. This can mean that urban design either follows the logic of science and art at the same time or at it follows different logics at different times? The first can only be true when both art and science share similar logics which seem not to be the case in existing conceptions of art and science. If the latter then is the case, but urban design is perhaps neither art nor science.

Worth noting here that *Concepts of Urban Design* identifies a trend in urban design entitled "urban design as method as a value-free, purely technical procedure of design." Gosling mentions Thiel, Appleyard and Alexander's *Notes on The Synthesis* as examples of this trend (Gosling & Maitland, 1984, p. 127). The relationship between theory and method is not the topic of this dissertation, but from a theory it is expected to provide a ground for methods in order to control the future events. Methods cannot be taken as purely technical entities. Theories and methods derived from them are connected to the society (Madanipour, 2014) or professionals' mindset (Lang, 1987).

Like Lynch, Gosling was concerned with what urban design is and what it should be in the future. He provided a list of possible directions for urban design future (Gosling & Maitland, 1984) which made an interesting platform for him that is revisited in the next book (Gosling & Gosling, 2003).

The conclusion of *Concepts of Urban Design* introduces three necessities for any urban design theories as **definitions of elements, rules for their association** and **correspondence with functional organizations** (Gosling & Maitland, 1984, p. 153). Gosling and Maitland continued to assess theories based on these three criteria. This assessment system does not reflect on practical influence of theories, nor does it reflect on how much such theories are absorbed by professionals. It could be concluded that Gosling detaches theory from context and does not consider the body of professionals' opinion as a key indicator of a good theory.

The Social Logic of Space (Bill Hillier 1984)

Despite Gehl's focus of urban design method and Gosling's elaboration on the relationship between theory and method, it was Space Syntax that robustly contributed to this topic. *The Social Logic of Space* (Hillier and Hanson, 1984) is in fact a breakthrough in urban design methods and theory where Space Syntax is introduced for the first time. Although it seems that Hillier is not keen on putting Space Syntax under the title of urban design exclusively, currently Space Syntax is applied in urban design (Moughtin, 2003) more than other fields.

Hillier begins his argument with a broad understanding of design. Any design is supposed to fulfil a need. In other words, design emerges because of its function. Forms of cities are therefore meant to fulfil social needs. But some parts of the physical environments are more successful in fulfilling the social needs. Hillier's next step is summarizing the relation between urban form and social needs to few criteria. Access and accessibility for him were the most important points. Accordingly, he uses certain mathematical methods for analysing connection between different public spaces (Hillier and Hanson 1984; Hillier and Musgrove 1972). Despite the fact that Space Syntax has robust methodology, its assumptions can be questioned, such as the influence of visual access to using space and safety.

Space Syntax is undoubtedly a theory. This theory, unlike many others, has its own institutions located between theory and practice. Space Syntax has continuously been updated by Hillier and others in the centre of Space Syntax at UCL. This centre, in addition to academic research, has been heavily involved in design practices for different cities. This is a unique example of institutions that supports one theory.

Space Syntax has been an influential movement in urban design but measuring its success is not easy. There are two methodological reasons for this. First it focuses on certain aspects of urban design within which it is successful, but is it successful from a more comprehensive perspective? It is also impossible to refute Space Syntax method, in other words in the way it is conceptualised, its failure could easily be reinterpreted. These two issues are amongst theoretical limitations of Space Syntax.

Despite its jargons and professionalism, Space Syntax is an influential theory that acknowledge the need to consider the built environment in relation to the society (Hillier, 2008). Space Syntax provides a robust method for design, assessment and understanding the built environment and space.

Finding Lost Space; Theories of Urban Design (Roger Trancik 1986)

Trancik, like Gehl and Hillier, focuses on space but his work unfolds the elements that waste public spaces.

Roger Trancik is an architect by training. He has also studied urban design at University of Harvard. Inspired by Jane Jacobs, Trancik criticises the modern movement of architecture and urbanism. He elaborates on Collin Rowe's *Collage City* (Rowe & Koetter, 1978) as a theory for composition of urban patterns. He also refers to *The Image of the City* as an important theoretical text. In addition to American scholars, American cities and lessons from them are inspiring for *Finding Lost Space*.

Trancik's outstanding contribution is defining the concept of the *lost spaces*. Lost spaces are spaces that are left without any purpose. Lost space for Trancik is a theoretical way of understanding why modern spaces are not as successful as their predecessors. It seems that Trancik thinks of this book as a theory. In fact the subtitle of his book is 'Theories of Urban Design' (Trancik, 1986).

The goal of this book is to bring back the richness and variety of public life, "important ingredients in cities of the past" which Trancik states is caused by the modern movement in design and the domination of automobiles in cities (Trancik, 1986, p. 11).

Trancik's theory is informed by history. "The design of successful new urban spaces depends on a critical understanding of examples, good and bad, of space that have been tested by users and analyses by designers" (Trancik, 1986, p. 61).

He identifies "three theories of urban spatial design" as: *figure-ground theory*, which is about "relative land coverage of buildings as solid mass (figure) to open void (ground)"; *linkage theory,* which is about "connecting elements" place theory which responses "to context often includes history and the element of time"; therefore the *Place theory* attempts to improve the relation between design and existing context. Although he claims that these theories are distinguishable, the last one encompasses the first two.

It seems that by the term 'theory', Trancik meant a combination of the subject of study, approaches and values of design. He wrote "each of these **approaches** [my emphasis] has its own value, but the optimum in one that draws on all three" (Trancik, 1986, p. 98). Interestingly, what Trancik means by theory is interchangeable with *approach* throughout the book. This highly reflects on the normative aspect of urban design theory.

In the last chapter, Trancik suggests an integrative theory of urban design by combining three theories of spatial design. He points at the role of the designer, the nature of the designing process and strategies for implementation (Trancik, 1986, p. 216) all of which Trancik believes need to be addressed in an integrative urban design theory.

Finding Lost Spaces, despite vague definition of theory, has considerable theoretical contribution. It manages to define the problem (through defining the concept of the lost space), analyses the cause of the problem through analysing the changes in urban form, and offers a guideline for design.

A New Theory of Urban Design (Christopher Alexander 1987)

Christopher Alexander is one of the key theorists of urban design. He has made a wide range of theoretical arguments that, at times, appear contradictory, from structuralist approach in *Notes on the Synthesis of Form* (first published in 1964) to post-structuralism in *A City Is Not A Tree* (Alexander, 1965). His works cover a wide range of subjects such as understanding the essence of cities (*A City Is Not A Tree* (Alexander, 1965)), behavioural studies (*Community and Privacy* (Chermayeff & Alexander, 1965)), designing process (*A New Theory of Urban Design* (Alexander, et al., 1987)) and philosophical arguments on design (Alexander, 2002). His theories are now applied in different fields, such as architecture, planning, computer science, gaming etc (Alexander, 1999). It is no wonder that Alexander's name often is repeated more than once in the important lists of urban design texts (Cuthbert, 2007a; Ellin, 1999; Moudon, 1992).

One of his first influential books is *A Pattern Language* (Alexander, 1977) which identifies repeated patterns of behaviours in the cities. This book tries to ground designing in relation to such patterns. From the book it appears that these patterns are extracted and induced from studying the existing mechanisms (Alexander, et al., 1977).

His way of theory building in *A Pattern Language* was based on two key ideas: First "to get a handle on some of the physical structures that make the environment nurturing for human beings", second "to allow this to happen on a really large scale". Alexander tried to make a generative theory of design but the actual result of his theory seemed unsatisfactory for him. Recently he added the criteria of 'living' to his theory in *The Nature of Order* (Alexander, 2002). To do so, he chose another strategy to ask people if wholeness is increasing in the presence of new changes. Then he found striking agreement about 80% to 90%. According to this questioner, Alexander found a list of criteria that increase the sense of wholeness (Alexander, 1999). Alexander described development of his theory as "a fairly radical departure from what *A Pattern Language* in the earlier theories contained" (Alexander, 1999). While in *A Pattern Language* theory is elitist and in *The Nature of Order,* theory is derived from people's perception, in *A New Theory of Urban Design* (1987) Alexander combines the two. Here he introduces a method for developing design process. In this book he rarely refers to any literature; the main sources are existing processes in the built environment and the common understanding of the group that collaborated in writing the book. In this regard, theory building relies heavily on the common sense. From his texts it could be concluded that the evaluation of theory or functionality of theory is almost always up to people. This is rather a unique way of making theory.

A New Theory in Urban Design, as Marshall (Marshall, 2012) and Cuthbert (Cuthbert, 2007b) point out, is directly related to urban design theory. Alexander sees this book "a formulation of an entirely new way of looking at urban design, together with a detailed experiment which shows, in part, what this new theory can do. The fact that the theory is – so far – still full of holes, and incomplete, doesn't alter the fact that it is, in principle, an entirely new theory" (Alexander, 1987). This book is about a process that enhances the sense of wholeness. Alexander compared a city to a biological organ and provided examples of historical cities (Alexander, 1987). 'Theory' is normative and procedural in this book.

Creating Architectural Theory (Jon Lang 1987)

Jon Lang is one of the few scholars who write specifically and in length about *theory,* its generation and application. Many of his earlier works are about behavioural studies referring to Maslow's hierarchy of human needs. Lang adapts Maslow's theory for the built environment (Lang, 1996). He also applies typology in order to make sense out of products, procedures and paradigms of urban design (Lang, 2005). Referring back to criteria of a successful theory, classification and categorizing that help understanding are theoretical contributions.

Lang's first book in theory, *Creating Architectural Theory,* has received less attention compared to his later work *Urban Design American Experience* (Lang, 1994). However, *Creating Architectural Theory* is most important for this research particularly because it explains the way in which its theory is generated.

Lang in *Creating Architectural Theory* defines the relationship between theory and practice (see Figure 1). His understanding of theory relies on the philosophy of science (Popper and Kuhn in particular) as well as Lynch's *Good City Form* (Lynch, 1984). Lang's theory also is inclusive to the built environment (architecture, landscape and urban design).

He first tackles the concept of theory:

> "Theory is an ambiguous word. It means different things to different people. To some people, a theory is a system of ideas or statements that is believed to describe and explain a phenomenon or a group of phenomena… this type of theory will be referred to here as positive theory. The term positive theory is used because it consists of positive statements, assertions about reality. This should not imply that it also coincides with the tenets of positivist epistemology. Theory is used in at least three other ways; it can refer to a *model*, a way of perceiving reality that imposes a structure on that reality… Theory can also refer to a *prediction* that certain outcome will be achieved by certain action… the other way "theory" will be used here is as a *prescription* for action; this is the normative theory in architecture, design principles, standards and manifestations are examples of such theory" (Lang, 1987, p. 13).

It is clear from this definition that for Lang, theory is inclusive of both design theory and scientific theory. Lang defines positive theory as: theory that aims to provide explanations. It is a creative process in that it involves the construction of conceptual structure both to order and explain observations. The goal for these structures to describe what is happening and predict what is going to happen. Successful theories consist of simple but powerful generalisations about the world and how it operates that enable us to accurately predict future aspirations (Lang, 1987, p. 14). Based on Popperian arguments, theory is not about facts and "[it] cannot be proved. It stands until it is disapproved" (Lang, 1987, p. 14). Applying this to the built environment, there will be an expectation that theory cannot be tested in the same manner as science. This is contrasting Marshall's argument in relation to theory of urban design (Marshall, 2012).

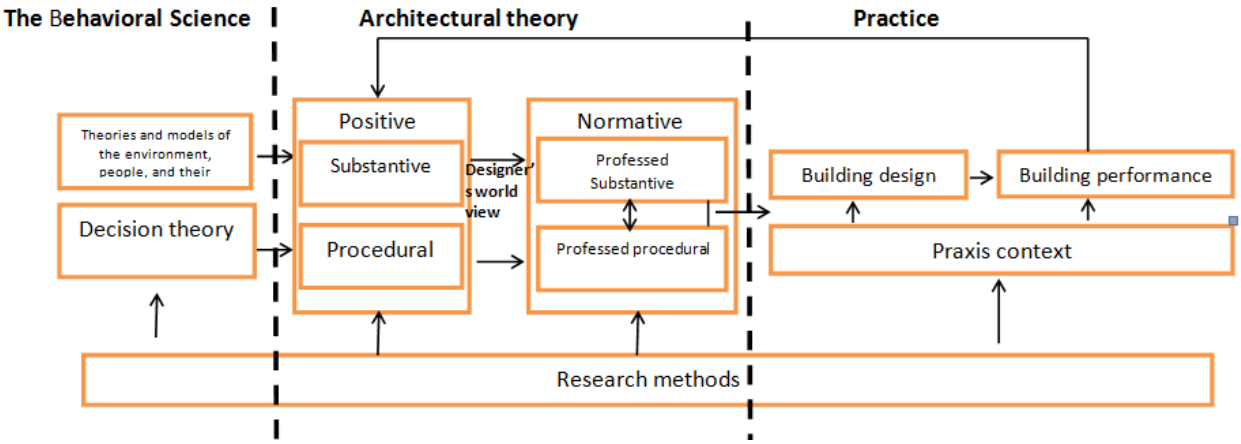


Figure 1: Lang model of interaction of theories and practice and behavioural science, adopted from (Lang, 1987) .

In this respect, the role of practice is not to test the theory but to establish it (Lang, 1987, p. 14). The next point about positive theories would be the criteria based on which a theory is formed. Lang points at the principle of the "economy of thought" as explain more observations with simpler theoretical principles. Lang argues that positive theories are not value-free but they are value-laden. This means that theory has its own directions and interests. Therefore, it is not possible to observe without judgement. But (following Kuhn's argument) observation is possible because of pre-judgements. The best observations are those that are based on well-theoretical values. This means a good theory is the one that is simplest and provides legitimate judgements in the most possible cases.

Normative theory means "what has been consensually agreed upon, the norm for given time". It can also consist of statements on "what ought to be, what a good world is". Lang chose the latter *like what Lynch meant by normative theory*. "Normative theory consists of overtly value-laden statements of philosophers, politicians, and others, on what ought to be. Normative theory is based on an ideology or world view even if this not explicitly mentioned." Normative theories reflect perceptions of good and bad, right and wrong, desirable and undesirable, what is working well and what is working badly. Sometimes the relationship between positive and normative theories is explicit, but often it is not (Lang, 1987, pp. 15–16). Normative theories are built on positive theories. They are based on perceptions of how the world works (Lang, 1987, p. 16). In other words, first one needs understanding of the real world to set norms for it; this is what is different from normative values and utopian values.

As Lang defines normative theory, urban design is impossible without normative theory because normative theories indicate what is good and bad.

Lang's final important point for this research is the connection between theory and practice. He believes practice has more impact on positive theories compared to normative theories.

> "Knowledge propagates itself when united in theories. It has been noted that positive theory, research and practice should be linked in a continuous way, this is done through the testing of hypotheses – every urban, landscape, or building design is a hypothesis or set of hypotheses – that are the components part of theory, this can be done through the systematic evaluation of the built form from the designer's, the sponsor's, and the user's viewpoints after it has been constructed and being used" (Lang, 1987, p. 17).

Lang added another categorisation for both positive and normative theories as substantive versus procedural. Substantive theory is concerned with the nature of the phenomena; procedural theory is concerned with the nature of practice in the environmental design fields. The objective of the development of the procedural theory is to have a body of knowledge that can enhance both environmental design education and practice (Lang, 1987, p. 33). This categorisation of theories makes is perplexing yet its contribution is not clear.

Despite this model being based on clear definitions, it does not sufficiently meet the needs of this research in order to be the leading text for methodology. The key problem with this model is the fact that it reduces the reality of interaction between theory and practice to what it should be in an ideal circumstances. In reality, the generation of theory and its connection to theory is complex and flexible. Since this research focus on what *is* the interaction, it does not adapt this model.

Lang expands this model in his next book *Urban Design the American Experience* (1994) which has been more referred in the shared body of knowledge. Lang's text is a theory about theory. These theories could be addressed as theories of knowledge. Borden uses the same term for theories that investigate architectural history (Borden, 2000). Lang's latest book can also fall into this category.

Urban Design: A Typology of Procedures and Products (Jon Lang 2005)

Urban Design: A Typology of Procedures and Products explores goals, approaches and movements of urban design. This book studies the current condition of urban design in its existing

situation. That is why it is more concerned with practice and case studies. Case studies in this book endorse the suggested typology (Figure 2).

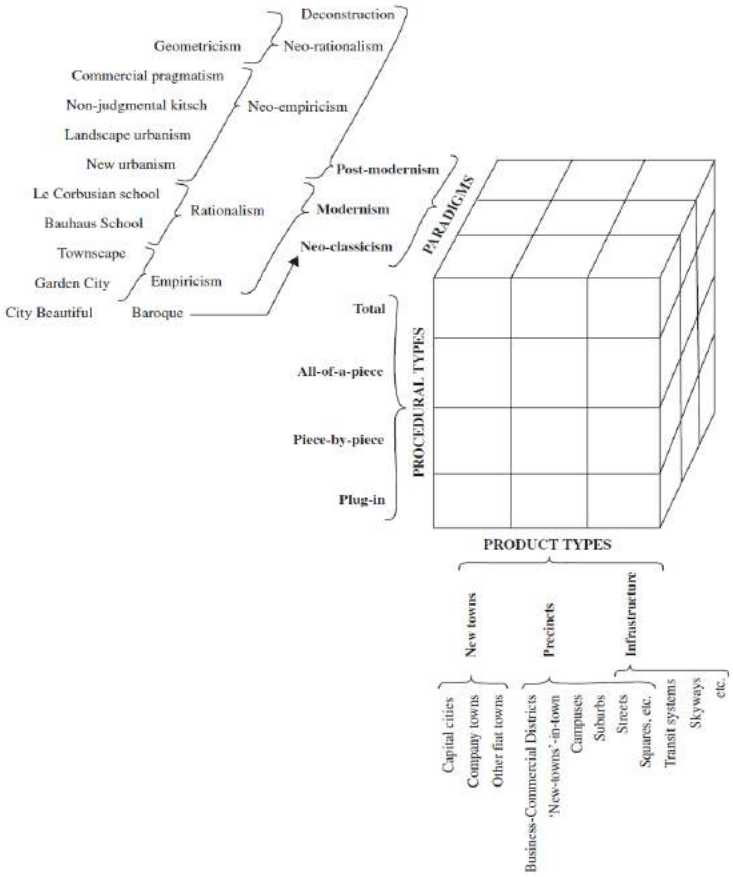


Figure 2: Lang's typology of products, procedures and paradigm of urban design (Lang, 2005, p. 56).

Lang mentions the necessity of having typology for urban design and suggests a typology for urban design projects in this book that is the heart of his work. His typology tries to pigeonhole the case studies into three axes of products, procedures and paradigms.

The paradigms of urban design introduced in this book (modernism, postmodernism and neo-classicism) are one of its challenging contributions. In *Urban Design: A Typology of Procedures and Products,* Lang refers to mainstream trends in the twentieth century as paradigms. The word paradigm, as was discussed, is an important concept for Kuhn in order to describe the progress in human knowledge. Nevertheless, Lang's classification of paradigms does not provide a framework for understanding urban design theories. These paradigms are more like movements. "To be done well urban design needs to have a sound knowledge base. That base can probably be better coordinated in the form of an abstract descriptive and explanatory theory of urban form and the forces that shape it but designers generally do not care to derive solutions from such a knowledge base" (Lang, 2005). *Urban Design: A Typology of Procedures and Products* remains as a valuable text that makes sense of existing arguments and project of urban design. The interaction between theory and practice in this text is less precisely defined.

A Catholic Approach to Organizing What Urban Designers Should Know (Anne Moudon 1992)

Anne Vernez Moudon, like Lynch, Gosling and Lang, studies the knowledge of urban design. However, she critically looks at what the knowledge was at the time. In this regard, her work is of extreme importance for this dissertation. It is being referred at few parts of this dissertation. First, Moudon's list of important texts was discussed earlier in this dissertation. Second, the concept of theory and its interaction with practice is discussed here. Third, what the article offers for methodology is investigated in the next chapter.

Moudon's article has continuously been referred in the literature (Cuthbert, 2003, 2007a; Inam, 2014; Larice & MacDonald, 2007; Madanipour, 1996; Punter, 1991). The aim of her article is to find out the most important texts that inform urban designers. In order to do so, she classifies theories of urban design from different angles.

There are important points about Moudoun's article to be discussed here. First is focusing on the existing condition of knowledge/theory. When studying the knowledge, the predecessors were mostly descriptive in relation to the theory. In this respect she investigates the shared body of knowledge or important texts in each topic. Although she does not mention the methodology behind her selections (Larice & MacDonald, 2007, p. 438). Moudon highlights the ambiguity of urban design theory and its importance for practice. She considers the relationship between theory and practice and concludes that there is a hard-to-bridge gap between these two.

As Moudon investigates the existing body of knowledge, her view toward urban design theory is more comprehensive than her predecessors. Her classification consists these aspects: Normative-prescriptive versus substantive-descriptive, concentration of inquiry (subject of study), research study (philosophical approach), modes of inquiry, research focuses (whether subjective or objective), and research ethos (nature of resources) (Moudon, 1992). Normative or prescriptive information, Moudon argues, is *should-be* while substantive knowledge emphasises *what-is*. This conceptualisation of normative theory is similar to Lynch and Lang, both of which she refers to.

Moudon's inclusive approach to urban design prevents her to provide a clear definition of urban design. By putting the recommended texts together, an amalgamation of seemingly unrelated texts represents urban design.

Postmodern Urbanism (Nan Ellin 1996)

'How has urban design been developed through history? How it has been formed and informed by other disciplines and trends? Is urban design knowledge the result of intellectual thinking or the product of the context?' Responding to these questions is the purpose of *Postmodern Urbanism* (Ellin, 1999), an influential book written by anthropologist-urban planner Nan Ellin.

Ellin does not mention 'urban design' in the title of the book due to her broad perspective. However, in the end of her book the subtitle *'The Timeline of Postmodern Urbanism'* related to those events that contribute to 'urban design theory' (Ellin, 1999).

In the book, Ellin:

> "proceed to describe the predominant theories guiding urban design from the 1960s to the 1980s, this time emanating primarily from Great Britain and North America: the townscape movement; advocacy planning, community participation, environmentalism, and feminism; regionalism and vernacular design; Ventury and contextualism, historical eclecticism; historic preservation and gentrification; critical regionalism; master-planned and gated communities; neo-traditional urbanism; and edge cities" (Ellin, 1999).

Postmodern Urbanism investigates the intellectual, cultural and political contexts in which urban design movements emerged. Ellin considered the intellectual network of thoughts in a comprehensive way through the history of urban design. Despite *Postmodern Urbanism* providing 'sense of understanding' of the field, it does not directly make ground to control the future. This is rather a unique example amongst texts in this section, where theory predominantly aims to provide

understanding which has not practical implementations. Ellin's next texts, *Integral Urbanism* (Ellin, 2006) and *Good Urbanism* (Ellin, 2013) are more focused on how to create a successful design.

The Form of Cities: Political Economy and Urban Design (Alexander Cuthbert 2003/2007/2011)

Alexander Cuthbert, emeritus professor of University of New South Wales, continuously investigates the subject of theory in urban design. His background in architecture, urban design, economics, and political science helps him to consider urban design from the political economy's perspective. He published three books that are all parts of his project on the socio-political aspect of urban design. The trilogy starts with a reader on urban design, *Designing Cities* (Cuthbert, 2003). This book collects pieces that are making the setting for his second, and perhaps most important book, *The Form of Cities* (Cuthbert, 2007a). His final book tackles the problem of methods in urban design and is called *Understanding Cities* (Cuthbert, 2011).

Cuthbert also published many articles, one of which is directly related to the topic of this research: *Urban Design: requiem for an era – review and critique of the last 50 years* (Cuthbert, 2003). This article was originally part of his second book but the publisher preferred not to publish it.

Despite the fact that Cuthbert's approach is political economy, it seems that what he means by 'theory' is close to the philosophy of science. He frequently refers to philosophers of science; people like Popper, Kuhn and Feyerabend (Cuthbert, 2007a, 2011). Similar to Faludi (1986), Cuthbert distinguishes between theories *in* urban design and theories *of* urban design (Cuthbert, 2003). Theories of urban design theorising the entire urban design, they are integrative whereas theories in urban design are defined within the field.

Cuthbert's main criticism is that urban design does not have substantial theory particularly theories of urban design. For Cuthbert, theories *of* urban design are those theories that relate urban design to political science and picture an external overview of urban design. This approach is claimed to be able to make robust assessment of urban design (Cuthbert, 2005). Cuthbert discusses that mainstream urban design theories are theories *of* urban design. In this respect, he highlights the need for theories of urban design.

Although Cuthbert's work relies on political economy, it is possible to divide his arguments into two parts. First, criticizing the mainstream urban design and second, his proposals of applying political economy in urban design. Considering the citation of his works (Adam & Jamieson, 2014; Biddulph, 2012; Ganjavie, 2015; Linovski & Loukaitou-Sideris, 2013; Marshall, 2012), it seems that his criticisms (the first part) gained more under attention compared to his suggestions (the second part).

Cuthbert's theoretical argument is not practical. In fact, in his final book he himself acknowledges it (Cuthbert, 2011). If such debates do not have an influence on practice, due to the practical nature of urban design, then one may ask how these debates belong to urban design domain. This issue will be discussed in chapter five.

Cuthbert criticises the conventional classification of theory. "It must also be observed that theory is divided into two fundamental uses, first as explanation and secondly as praxis. While there is no clear and necessary relationship between these two functions, there is a tendency within the environmental professions in general and urban design in particular, to conflate one with the other" (Cuthbert, 2001, p. 302).

Cuthbert's criticism is highly informed by Marxian thinkers such as Manuel Castells, David Harvey and Ross King. In this sense, he echoes such Marxist political economy in urban design domain. It could be asked whether Cuthbert made any new theory or not. Nevertheless, his contribution and criticisms is of importance for this research.

Additional urban design texts

The systematic literature review resulted in the texts that were discussed in the previous section. Nevertheless, there are other texts that elaborate on urban design theory. Here, a complimentary review of the literature provides a list of texts that are focused on urban design theory but fall out of the first method of literature review.

The aim in this section is to investigate the key texts that contribute to the topic in order to explore their potential applications to this research.

Additional texts on urban design theory can be explained under four categories; texts that focus on social sciences and urban design theory, texts that elaborate on the nature of urban design theory, texts that reflect on the existing condition of urban design theory, and radical texts.

Social science and urban design theory

Cities are products of socioeconomic processes. This would follow that theories that are designing cities must reflect socioeconomic theories. According to such an argument, certain scholars tend to study urban design from social science perspective.

Madanipour investigates the importance of socio-political understanding of space and urban design (1996). Reflecting on Henri Lefebvre, to Madanipour space is inevitably a social production and is associated with social meaning and functions. On the other hand, urban design is spatial design thus it should be aware of social forces. Madanipour developed this view in his recent book, analysing urban design "by conducting six overlapping analyses": linguistic term, technical ,relational (how it relates to other disciplines), functional, contextual (the relationship between urban design and urban context), diagnostic analysis (range of problems that urban design faces) (Madanipour, 2014, p. 3). This view concludes that urban designer must work with existing social forces with understanding of the specific characteristics of the space for which he designs.

Echoing this conclusion, Carmona suggests a new theory that defines urban design as the continuum of socio-political forces, in this sense the dichotomy between sociology and physical design is re-conceptualised in order to see how urban design can contribute to the process of shaping public places (Carmona, 2014b).

Fran Tonkiss is a sociologist who has recently moved on to study built environments. In her book *Cities by Design,* Tonkiss aims to conceptualise urban design as an extension of sociological theories that are concerned about the connection between the built form of cities and the society (Tonkiss, 2013).

Studying social forces behind urban form and conceptualising urban design in line with such forces has been inspiring for various discourses. For example, assemblage theory considers the built environment and humans (human and non-human using their vocabulary) together as an active component of a network that dictated the function and meaning of urban settings (Dovey & Fisher, 2014; McFarlane, 2011c; Sendra, 2015).

Nature of urban design theory

Texts that examine the nature of urban design theory are often in the form of academic articles. Biddulph points at difficulties of urban design. Biddulph suggests that urban design practice is thinking *for* urban design; a creative activity involved with art with a weak connection to social sciences. On the other hand, thinking *about* urban design or theorising the field is a critical activity with a stronger connection to social sciences. He argues that the existing knowledge has more developed in thinking for part and the totality of the knowledge widens the gap between thinking for and thinking about urban design (Biddulph, 2012). Biddulph's article is a response to Cuthbert's article *Urban Design: Requiem for an Era—Review and Critique of the Last 50 Years* (Cuthbert, 2007b). In fact, Biddulph's point is that the

nature of urban design theory has formed in response to dealing with wicked problems; urban design benefits from science, art and social sciences but it cannot be reduced to any of them because the logic of urban design theory is creatively responding to ever-changing problems.

Another example of studying the nature of urban design theory is Verma's article. Niraj Verma rejects the claims that urban design is an a-theoretical field by distinguishing between two types of theory as high theory and low theory. He identifies urban design theory to be low theory with the following characteristics (Table 2). In this regard, urban design is a theoretical field that employs low theory. Urban design would be a-theoretical only when high theory is taken into account as the right form of theory.

High theory	**Low theory**
Meaning is defined	*Meaning is created*
Search for Truth	*Make a Difference*
Axiomatic logic	*Logic can be self-referential*
Covets certitude	*Recognises contingency*
Rigour has primacy	*Relevance is prized*
Theory precedes practice	*Theory interwoven into practice*
Rational	*Rational and emotive*

Table 2: Urban design as low theory (Verma, 2011, p. 66).

Verma expands the definition of theory in order to study the existing condition of urban design. The similar approach is being adapted in this research.

Verma's key argument is that the nature of theory in urban design is different from what is being manifested as theory in science. Urban design theory creates meanings whereas high theory (a scientific theory for example) employs defined meanings. Low theories are generated to make difference (i.e. through design) in the world whereas high theories reveal the truth. Logic in low theory can be self-referential whereas high theory only follows axiomatic logic. Consequently, urban design theories are following the cities' logic that is manifested through the theory itself. Jane Jacobs's conception of cities in the final chapter of *The Death and Life of Great American Cities* is an example of such a self-referential logic.

Verma's conception of theory necessitates revising the epistemology (the ways in which knowledge is achieved) and ontology (the philosophical understanding of the world) of urban design theory. This is one of the requirements of the methodology in this dissertation.

Science, Pseudo-science and Urban Design (2012) by Stephen Marshall is another article that addresses the topic of urban design theory. The article is in fact a respond to Cuthbert's article (Cuthbert, 2007b). Stephen Marshall argues that urban design theories, at least in their main examples, have got scientific aspect and, unlike what Cuthbert claims, they have substantial contents. However, Marshall emphasises that scientific aspects of urban design theories have been largely ignored by professionals. Therefore, urban design does not progress according to systematic validation of the existing thoughts. This dynamic makes the nature of knowledge close to pseudo-science. It then follows that urban design does not progress in Kuhninan or Popperian ways, because new paradigms do not fulfil the needs of the previous paradigm nor the theories are falsified.

Dovey and Pafka, responding to Marshall's article, examine six key urban design theories (Sitte, Cullen Lynch, Alexander, Jacobs and Cerdá). They claim that urban design theory is more than scientific methods. These theories are not and cannot be empirical science. Urban design theories for Dovey and Pafka cannot be reduced to language (they inevitably have to use diagrams). More importantly, urban design theory follows multiple logic thus it cannot be reduced to certain set of logic. Therefore, testing them cannot refute the theory but it reflects on the ways in which a theory (e.g. Jacobs's) is reduced to certain criteria.

Nevertheless, urban design theories are results of careful observations. These observations are neither inductive nor deductive but abductive; abduction of the best explanation when observing. What Dovey and Pafka mean by "best explanation" needed more development but it seems to rely on both common sense and empirical understanding.

Urban design theories are often complex in the way that linear correlation between two criteria and testing them would lead to nowhere. Dovey and Pafka validate urban design theories based on their ability to *explain* yet they dispute uncritical practicing urban design theories (such as Lynch's image of city). In this respect, urban design theories need critical employment instead of scientific testification[1].

All in all, it seems that there is a sense of progress in texts addressing urban design theory. Many of them are in fact built upon their predecessors and the scope of their perspective appears to be expanding.

Reflecting on existing condition of urban design theory

Texts that explain and criticise the existing condition of urban design theory are gathered together here as the third category of texts about urban design theory.

Defining Urban Design: CIAM Architects and the Formation of a Discipline (Mumford, 2009) and many sections in *Urban Design* (Krieger & Saunders, 2009) explain the historical events that helped the emergence of urban design. Understanding historical events in this respect unfolds the basic directions that urban design established as it became a discipline. Krieger's book continues to reflect on the existing condition of urban design. Krieger investigates, conceptualises and suggests outstanding critiques about urban design; such as urban design being understood as a set of fixed values and scholars not reflecting the urban change onto the knowledge. *Urban Design* for Krieger and Eric Mumford is the knowledge that enables architects to design in urban scales. This knowledge is produced in the history mostly through the intellectuals' contributions and creativity.

In contrast to Krieger and Mumford, Aseem Inam critiques the existing condition of urban design. Inam believes that urban designers' mindset of urban design is big scale architecture. He also states that urban design is deterministic. In order to solve these problems, he suggests to move on to another conceptualisation of urbanism (Inam, 2014). Here he presumes that conceptualising new forms of urbanism can solve the problem better than reforming the existing situation. This implies that he believes the field cannot easily be reformed. Inam's understanding of urban design is a rigid set of values and assumptions, in line with Krieger's point.

Sorkin, in his inspiring article, argues that urban design has reached its dead end because it does not have substantial debate, it cannot influence the urban transformation. Sorkin believes urban design defines itself between *nostalgia* and *inevitabilism* (Sorkin, 2009). The increasing use of urban design for Sorkin does not indicate the vitality of the field. He thinks this buzz will disappear soon.

Unlike what Sorkin states, there are many attempts on making urban design theory more substantial. Many of them have been explained in this chapter. Another example is Ernest Strenberg's *An Integrative Urban Design Theory* (2000). Strenberg critiqued the existing models of organizing urban design theory of being too much encompassing and not being clear about the subject of the profession. Nevertheless, he argues that the existing literature is aiming at evoking human experience and making "good design". As a part of his substantive theory, he suggests a set of principles including good form, legibility, vitality and meaning. Strenberg's critique has been widely referred to and absorbed by the professionals.

[1] Term used by philosophers of science to explain the ability of theories to be tested against experiments (Kuhn, 1996)

Reflecting on the existing literature, theory gains its meaning throughout the critical assessments.

Radical definitions of theory

Radical definitions of urban design fall out of the scope of this research because this research studies the main tradition and movements of urban design.

Nevertheless, it is helpful to acknowledge the fact that many inspiring arguments about theory appear in radical texts, for example David Graham Shane's suggestion for a new model of normative values as a connection between high-tech and nature. Both nature and technology have organic wisdom that can be function without fully being theorised (Shane, 2005). Shane developed this approach to look at the models of urban formation (Shane, 2011).

From a completely different angle, Kim Dovey investigates the issues of power and sense of place through a highly philosophical perspective (Dovey, 2010, 1999). In this case, urban design theory is made through more fundamental concepts such as Bourdieu's *habitus,* Foucault's *power* and Deleuze's *assemblage*.

This part of the literature is open to a wider range of thinkers. For example Charles Montgomery, a writer-journalist who has studied the relationship between happiness and cities, pinning down how urban design can transform people's lives (Montgomery, 2013). In Montgomery's book, theory heavily relies on common sense and the author's observations, echoing Jacobs's nature of theory.

Radical urban design arguments suggest completely different conceptions of theory. These arguments are radical as long as they have not been absorbed by the majority of the professionals. Then they became mainstream.

A discussion on urban design theory

Reviewing the urban design literature in regard to the concept of theory, it is necessary to highlight the fact that urban design scholars and researchers often do not limit themselves to what is called urban design. Rather, they find inspirations in a wide range of literature, common sense and other resources. This literature review here does not assume that urban design theory is, and can, be independent from other branches of human intellectuality and knowledge. In fact, no part of human knowledge can be entirely self-sufficient. The focus of the literature review is rather the core collection of what is being portrayed as urban design theory within the literature.

This section critically reviewed the key texts that contribute to the discussion of urban design theory. From the literature review, it is evident that the subjects within urban design theory is becoming more inclusive and the approach is becoming more complex (compare Lynch 1984 to Dovey and Kafka 2015).

It is important to highlight here that an urban designer may not benefit from such theoretical arguments. In reality, many urban design texts and project are indirectly address issues discussed here. Many practitioners prefer to employ methods and techniques from guidelines. There are many examples of such texts. *Responsive Environments* is one of the first examples that aims to make more choices for people (Bentley, 1985). *Making People-Friendly Towns* is another example (Tibbalds, 2000).

Later on in this chapter, a framework is suggested that explains the different employments of theoretical texts for different purposes.

How theory from other fields helps urban design

Studying the main texts of urban design theory shows that urban design debates are informed by discussions from other fields in form of borrowing theories, adapting theories and analogies. It is

impossible to pin down all references of urban design theory. Many sources of influences can be applied without any acknowledgement. Nevertheless, an attempt to trace the main influences of other fields on urban design can be constructive. It is constructive because firstly, it highlights the fact that the human knowledge is not a segregated area, and secondly because it shows there is not a fixed way of learning from other disciplines.

Classically, urban design used to be defined as the bridge between urban planning and architecture (Inam, 2014; Moudon, 1992). Madanipour investigates the relationship between urban design and other fields in more depth. He believes that separation between architecture and planning makes the nature of urban design as in-between discipline. Urban design also bridges the gap between art and science, between landscape planning and landscape architecture (Madanipour, 2014, pp. 18–24). Additionally, institutional location of the urban design departments in different universities influences the field, for example in some European countries urban design departments are located in a school of geography (Palazzo, 2011).

Supposedly, a brief discussion about theory in related disciplines would be helpful to see whether the nature of theory is distinguishably different in urban design or it inherited in-between characteristics. A study on co-evolution of planning and design argues that planning and design have both gone through a mutual dialectical evolution. Consequently, some aspects of both fields are getting closer. Amongst such aspects are institutionalization of planning and design (i.e. universities, professional organizations), both fields moved towards more flexible policies and both fields are sharing clearer understandings of aesthetic (Van Assche, Beunen, Duineveld & de Jong, 2013). This study suggests that the nature of theory is not distinguishably different in planning and design.

Philosophy of science has been used in planning theory during the 1960s but since 1970 planning theory became closer to social sciences (Allmendinger, 2009; Hall, 2002; Taylor, 1999). The moderated version of this shift could be seen in urban design. However, as was mentioned before, writers on urban design still use philosophy of science's terminology. For example, the concepts of theory in Lynch, Lang, Cuthbert and Marshall are affected by philosophy of science (Cuthbert, 2007a; Lang, 1987; Lynch, 1984). Recent texts draw on social science more often (Cuthbert, 2007a; Inam, 2014; Madanipour, 2014; Tonkiss, 2013).

On the architecture side, theory during the last century has experienced dramatic changes, movements and trends (Giedion, 2009; Hays, 1998). There are certain thinkers that have been frequently referred to and admired in both fields: architectures such as Robert Venturi, Leon and Rob Krier, and Rem Koolhaas, and more philosophical thinkers such as Henri Lefebvre, Michel Foucault, and Gill Deleuze (Hays, 1998). Additionally, few architectural movements directly influence urban design (Ellin, 1999). But although theory is a vague concept in architecture, there are theories of studying architecture (Borden, 2000) and theories of design. Without historical and socio-political context that binds the architectural trends to one another, finding the substantial theory *of* architecture is impossible.

The concept of theory in urban design seems to be affected by what is being discussed in planning and architecture. There are fewer attempts to link urban design theory to sociology and philosophy, nevertheless the concept of theory in urban design is becoming more and more self-referential (Dovey & Pafka, 2015). These characteristics will be explored in the empirical study and in the following sections.

Trend and methods

Table 3 shows the characteristics of the main theoretical texts discussed earlier in the literature review. The table demonstrates the main subjects of the theories, which problems they try to address, from which fields they borrow theories, the nature of theory and how they have been made. This table

is derived from the literature review, however as it will be discussed in the methodology chapter, the formation of theory cannot fully be derived from the text itself. Therefore, in order to meet this research's needs, it is necessary to adjust a methodology that can reflect on the reality of the generation of the knowledge. Table 3 also shows the influence of theories on one another. Generally, authors have been influenced by their predecessors. It follows that despite the fact that it is hard to pin down theoretical trends in urban design, the potential for such trends already exists.

The methods by which theories have been built vary from one case to another. Few writers use their personal understanding of the built environment as a source of knowledge; some generate the knowledge from systematic experiments. Another fairly popular way of theory building is studying the current condition of knowledge. Gosling, Moudon, Cuthbert are examples of such a way of theory building.

Theorist	Focus of theory	Problem	Field from which theory is borrowed	To which urban design precedes it refers	Methods of building theory
Lynch	Image of city	Legibility of cities	Psychology		Case study testifies the five elements
Lynch (Good City Form)	Normative urban theories	What is good design and bad design		Lynch	Common sense, (history of) urban form studies
Jacobs	Urbanity	Unliveable cities	Economy, sociology	Bacon	Personal experiments of the city, common sense
Gosling	Urban design knowledge	What is urban design		Lynch, Cullen, Jacobs	Studying the knowledge
Cullen	Visual aspects	Ugly built environments	Architecture		Observing the historical cities
Hillier	Morphology	Social function of urban form	Mathematics, sociology		Abstracting cities to mathematical concepts; inducing the findings
Alexander	Process design	Holistic urban environments			A group experiment of designing a place (common sense as validating tools)
Lang	Making behavioural theory	Lack of a theoretical framework for behavioural design	Environmental studies, philosophy	Lynch	Applying behavioural studies to the built environment theories
Moudon	Fields of study in urban design	Vagueness of urban design arguments and references			Classification of the fields of study in urban design
Ellin	Historical/intellectual trends in urban design		Intellectual historical studies		Studying the historical trend, effects and movement in relation to urban design
Cuthbert	Political economic-laden theory of urban design	Weak connection between political economy and urban design	Sociology, economy, philosophy		Criticizing urban design theory based on political economics
Lang	Typology of procedures, products and paradigms	Structuring he knowledge		Ellin, Lang,	Proposing a typology, supporting it by case studies
Madanipour	Connection between urban design and social science	Lack of understanding of urban design as socio-spatial field	Social science, planning, architecture		Studying the condition of knowledge and forces in urban change

Table 3: Urban design theories problems and methods.

Needs for a structure in dealing with theories

As was shown in the previous section, urban design theory can be divided into distinguishable categories. Almost all scholars distinguish between two types of theories. First, prescriptive/normative or theories that discuss what urban design should be. Second, descriptive/substantive or those theories that discuss what urban design is.

Nevertheless, there are some problems with this classification. Firstly there is a dichotomy between the two which begins from the fact that "one cannot logically derive normative judgement from factual knowledge" (Taylor, 1979, p. 61). This means that by studying the existing condition of a city, it is not possible to define the norms. Despite this theoretical gulf between two types of urban

design theory, in reality the great number of texts have both aspects. *The Image of the City* (Lynch, 2009), *The Death and Life of Great American Cities* (Jacobs, 1984) and *The Form of Cities* (Cuthbert, 2007a), despite having a different approach, subject of studies and understanding of theory, have both prescriptive and descriptive aspects. These examples make it possible to question the purpose of this classification. It seems that the logic of this classification is fairly strong but it does not help to understand the general concept of theory, nor does it clearly classify the existing literature.

The same problems in urban planning enticed Faludi to suggest a different form classification: Procedural-substantive and explanatory-prescriptive (Yiftacjel, 1989). Moving on from this classification, Faludi suggested to consider urban planning theory as the methodology (Faludi, 1986). Urban design theory, however, seems not to have more updated classification.

Another classification for urban design theory is to distinguish theories *of* urban design and theories *in* urban design (Cuthbert, 2007a). Long before Cuthbert, a similar classification had been introduced in planning by Faludi (Yiftacjel, 1989). This classification distinguishes between those theories that are theorising the whole field and those theories that are applied in the field. Relatively, this is far more practical typology. The limitation of this classification is what is theorised by theories does not imply their function, thus this classification cannot reflect on functionality of the theories.

Friedmann conceptualises theories in planning as those that are focused on several specializations, or those theories that address all the theories within the discipline of planning. For Friedman, the latter is inevitably critical and the first one can be practical (Friedmann, 2003). Following this manifestation, only those theories that take the whole knowledge as the subject of their study can be theory *of* planning but they must be critical. For Cuthbert, such theories only can be critical if they consider the bigger socio-political contexts. Friedmann's argument reflects on functionality of theories and is an inspiration for the suggested model in what follows.

Earlier in this chapter, Jon Lang's classification of urban design theories is discussed. From all above examples, it can be concluded that typology is a widely accepted method for understanding the body of knowledge and theory. Typology is a familiar concept in the field of urban design – different typologies of space, behaviours, processes and products are present within the literature (Gehl, 2011; Krier, 1993; Lang, 2005; Larice & MacDonald, 2007). Yet the word 'typology' is ambiguous. In its purest sense it refers to "the study and theory of types and of classification systems" (Lang, 2005, p. 43). Classifying systems and the idea of type have long been used by human beings in order to make sense of the world. "Theories of typology can be traced back to concepts of Platonic ideal form and to the Enlightenment practice of botanical categorisation and encyclopaedic method" (Larice & MacDonald, 2007, p. 251). The idea of typology is most helpful when some similarity exists between phenomena (Foroughmand Araabi, 2015). The following section suggests a typology of urban design theories.

Three types of urban design theory

Typology can be applied to help making sense from specific phenomena. Any typology needs a set of criteria to meaningfully classify the subject of its study. If the typology relies on robust criteria, inevitably the outcome is sound. A typology has three basic functions: 1) It corrects misconceptions and confusion by systematically classifying related concepts. 2) It effectively organises knowledge. 3) It facilitates theorising (Allmendinger, 2009, p. 34).

Making a typology requires a theoretical basis. One aspect of the theory is to categorise arguments within the field study. A successful typology is based on a method of classification that provides a typology which is exhaustive and exclusive and, more importantly, could be useful for other purposes of the field (Reynolds, 2007). In order to make sense of seemingly opposing arguments under

the title of urban design theory, in this section a typology of urban design theories is proposed. This typology is based on distinguishing between theories of object, theories of a subject and theories about the knowledge of urban design. This typology will be examined in the empirical study in chapter five and six.

It is not possible to list all urban design theories. Even if such a list were possible, it probably would not be helpful. A helpful typology is a thinking model that can classify the future theories. Consequently, the logic of the proposed typology aims to help making sense of urban design theory.

The classifying criterion is the topic of each theory. In other words, the answer to 'what this theory is about' constitutes the logic for the typology. This is a sound criterion. Any theory is supposed to explain a phenomenon, thus considering what is it that the theory is explaining would constitute a practical typology. Categorizing theories based on their subject also helps to trace the trends in the literature, thus it can be seen as a navigating system in the literature.

The logic of suggested typology is a similar to Moudon's classification of areas of urban design study. But the typology offers a hierarchical relationship between different types. This is potentially a helpful method to address the existing condition of urban design theories.

The query to find the topic of theories led to three distinguishable layers of urban design theory. *Theories of subjects within urban design*, *theories of objects in urban design* and *theories of the knowledge of urban design*.

Type one: Theories of subjects within urban design

Type one theories are theories on specific subjects within urban design. This type usually discusses what to do in order to achieve an intended result for the specific subject. In this respect, they are akin to 'what ifs'. Type one theories are also generic in the sense that they can be applied in different cases more easily. Therefore, they are less critical on their own unless, as Dovey suggested, one actively applies them in a critical manner (Dovey & Pafka, 2015).

Designers tend to adjust type one theories in their design examples based on their own interpretations. Theories in this category often start by explaining a real problem of the built environments and end with a set of general suggestions. The relation between the suggestions and the problems is often explored in plural examples within the texts.

Type one theories usually do not use the term 'theory' in their titles. Nevertheless, according to what is defined as theory earlier in this dissertation, type one theories have obvious theoretical contributions. Type one theories rely on widely accepted values such as democracy or safety.

Type one theories are not multidimensional or comprehensive. Type one theories are focused on one subject, and in studying the subject they often borrow from other disciplines. Examples of type one text can be presented in subcategories (their subjects) as what follows.

- **Theories for compositing mass and space:** like (Sitte, 2013) (Hillier & Hanson, 1984), (Moughtin, 2004), (Krier, 1993), (Spreiregen, 1965). These theories imply methods of designing buildings in relation to their surrounding space. Traditional arguments belonging to this category often do not consider the social aspect of space and focus on the form of space and building. However, more recent examples are more comprehensive. This subcategory is broad and it could be divided according to their strategy (strategy of Space Syntax is based on social theory of people, while Moughtin values follows historically successful environments). This category includes designing roads, paths and in general accesses. Studying the accesses in many classic texts have been a key subject (Buchanan, 1963). But transport design, in the technical sense, seems not to fall outside of the key urban design arguments. Theories of composing mass and

space can facilitate a collaboration with traffic engineers, for example Travel in London Report 7 (TFL, 2014).

- **Theories for designing the visual:** like (Bentley, 1985; Cullen, 2012). These theories are concerned with the façade and visual aspects of cities. There is a rich body of knowledge about the building's appearance in architecture. When these theories look at connections between few buildings, they are more helpful for urban designers. *Responsive Environments* (1985), for example, argues how designing urban façades contribute to making democratic spaces.
- **Theories of safety:** like (Crowe & Fennelly, 2013; Jacobs, 1984; Newman, 1975). These theories try to improve the safety of public places through design. They establish different strategies such as lighting and mixed use to 'eyes on the street'. These theories learn from environmental studies and crime studies.
- **Theories of the image of the city:** like (Appelyard et al., 1965; Lynch, 1960; Nasar, 1997). These theories aim to improve the mental or subjective aspect of cities. Lynch is the pioneer of these theories. However, this approach has improved and now includes other aspects of cities. This category has both learned from and lent theories to other disciplines (Martin, 2014).
- **Theories of involving other senses in design**: like (Bentley, 1985; Diaconu, 2011; Henshaw, 2013). These theories are concerned with involving senses other than sight into design. These theories could be seen as the extension of the previous subcategories because they are both concerned with how the cities are perceived. Nevertheless, this subcategory is distinguishable, new and often interdisciplinary.
- **Theories of the sustainability/city and nature:** like (MacHarg, 1992; Ritchie & Thomas, 2009; Thomas, 2003). These theories look at the relationship between nature and design. Although examples of this type could be traced back to the early 20th century (Geddes, 2012), sustainable development is the dominant title for this category. Energy and ecological resilience are more recent topics (Larice & MacDonald, 2013) of this category.
- **Theories that enhance the social behaviours:** like (Gehl, 2011; Whyte, 1980). These theories try to enhance social interaction by making public places more convivial. They are focused on making third spaces (Oldenburg, 1999). It seems that historically this type of urban design theory became more and more comprehensive. While environmental studies were the dominant approach, nowadays more sociological approaches and technological aspects are being discussed in relation to social behaviours and urban design.
- **Theories for economic aspects of design:** like (Carmona, 2001). Urban design happens in an economic context, it can also influence the economy of the contexts. These texts theorise economic aspect of urban design. Recent argument of stockholder and estate agents can be allocated to this category.
- **Theories to enhance identity:** like (Butina-Watson, 2007; Lynch, 2009; Rowe & Koetter, 1978). Identity is a vague concept. Nevertheless, enhancing the unique character of different space has long been an interest for certain urban design texts.
- **Theories of meaning of the built environment:** like (Knox, 2011). Close to the previous subcategory, there are texts that consider the built environment as a symbolic tool of communication and interaction. Cities as language and semiotic aspect of the built environment can be located here.

- **Theories on health:** like (Angotti & Hanhardt, 2001; Moughtin, Signoretta, & Moughtin, 2009). Improving the public health through design is the topic of this subcategory. Scientific studies of public health are changing the picture of how urban design can improve public health (Banerjee & Loukaitou-Sideris, 2011; Jackson, 2003).
- **Theories of implementation and management:** like (Carmona, Magalhães, & Hammond, 2008). How to manage urban design projects and urban spaces is the topic of this category. These theories need to define the role of urban designers in relation to other actors. Thus this category borrows from management theories.
- **Theories of process of urban design:** like (Lang, 2005; Moughtin, 2003; Shirvani, 1985). Texts belonging to this category theorise the process of urban design. This subcategory is closer to management and also can be affected by planning, since urban planning process has long been a topic of study.

Presenting subcategories in this part won't necessarily make a framework to put a text on one subcategory only. The fact is that many books offer theories for few categories. The intention of this typology is not to pigeonhole texts, but to find a framework for understanding urban design theories. Categorizing type one theory shows how urban design relies on borrowing theory from other disciplines.

Type two: Theories about the object of urban design

Type one theories on their own do not allow a comprehensive view over urban design, nor do they provide a theoretical framework for understanding urban design. In order to have such a view, another kind of theoretical debate is needed, one which makes sense of all the separate theories. Therefore, the second type of urban design theories is theories that portray urban design as a cohesive field.

These theories explain how *designing as a conscious activity* forms urban places. Type one theories could be seen as theories *in* urban design and type two as theories *of* urban design. To be more precise, it is possible to consider type two theories as *theories about the object of urban design*. These theories are critical, critiquing the existing condition of urban design. This is a distinguishing point from Friedmann's classification of planning theory (2003).

Theories about the object of urban design are based on type one theories. In other words, type two theories try to integrate type one theories. In order to create a comprehensive field that can improve public spaces in general, type two theories enable designers to employ various type one theories in a project. Attempts at theorising the object of urban design can be divided into two categories: those that provide a comprehensive view of what urban design object is about (descriptive emphasis) and those that try to explain how to improve the object of urban design (prescriptive emphasis). This categorisation does not mean that the subcategories are fundamentally discrete, but a successful prescription relies on a proper description. Nonetheless, since the aims of the texts falling into subcategories are fundamentally different, it is helpful to distinguish them here.

- *Comprehensive view of what urban design object is about (descriptive emphasis)*: Even though scholars have different understandings of the object of urban design, texts falling into this subcategory deeply reflect the existing literature in response to the object of urban design. *A Theory of Good City Form* (Lynch, 1981) and *Public Places Urban Spaces* (Carmona et al., 2003) are examples of this subcategory. Despite the fact that they do not propose a manual, they are insightful for understanding of the topic.

- *How to improve the object of urban design (prescriptive emphasis)*: Texts belong to this subcategory try to operationalise discussions from the previous categories. *Responsive Environments* (Bentley, et al., 1985) is one of the earliest texts that can be allocated to this subcategory. Since the practice of urban design has been in a high demand of guidelines, there are many texts written with similar intention. In some cases these texts provide generic solutions for generic problems, for example, the permeability (Bentley, et al., 1985). When applying these generic solutions, it is important not to let theory dominate the first-hand understanding of the problems. Otherwise, generic solutions imposed on the contexts may well generate more problems. In other words, unquestioning application of a generic solution could restrict new thinking.

Type two theories provide an understanding of urban design as a combination of a wide range of theories, some of which may be contradictory. In order to present an integral understanding of urban design, type two theories need theoretical arguments to connect the sometimes controversial theories they use. For example, *Making People-Friendly Towns* (Tibbalds, 2000) applies the concept of *place* as the key concept that binds the theory.

Comprehensiveness distinguishes the first type of theory from the second. However, being comprehensive is a relative concept. Texts considered comprehensive when published can later be regarded as incomprehensive. One example of a re-evaluated text is *Finding Lost Spaces* (Trancik, 1986)[1] .Once regarded as a comprehensive theory of urban design, the development of urban design arguments means it can no longer be placed in the second category. A dynamic typology of knowledge reflecting time and place is clearly needed.

In allocating a theoretical text to this type, there can be a problem in deciding whether a book provides a new theory or is a new combination of old theories. Urban design handbooks (Cowan, 2002; Llewellyn, 2000) and readers (Carmona & Tiesdell, 2007; Cuthbert, 2003; Larice & MacDonald, 2007) are examples of this point.

Are they merely a new amalgamation of previous theories, or are they suggesting new arguments? There might not be a robust answer to this question. There are texts that might be seen as falling on the borderline between a collection of theories and an integral theory. This article considers them to fall into type two.

Type three: Theories about knowledge of urban design

The third type of urban design theory includes theories that consider the actual *knowledge* of urban design as the subject of their study. They are relatively less concerned with specific case studies and may not have a direct impact on designing cities.

Generally, type three theories emerged after the second type. An example of type three is *Design of Urban Space* (Madanipour, 1996) where it is argued that urban design derives from both spatial and social processes. As another example, in *Urban Design* (Lang, 2005) the author proposes a theoretical framework in order to make sense of projects, procedures and paradigms that are currently existing in urban design.

Theories belonging to type three can be criticised as unhelpful to actual urban design practice. Considering the practical nature of urban design, there might be some reluctance to consider these theories as urban design theories. Nevertheless, because they provide 'a sense of understanding' of the field of urban design, they are considered in this article as valid theories.

Type three texts are intellectual studies of theories falling into the categories of type one or two. As a result, applications of this type are typically found in theoretical endeavour, such as in postgraduate courses and research.

There are two subcategories distinguishable within this type. Both attempt to construct theories about urban design, but their aims are slightly different. The first subcategory of this type consists of texts that are trying to study urban design knowledge in connection with other disciplines. The second focuses on urban design from within its own theoretical domain.

- *Theorising urban design knowledge from the perspective of other disciplines:* Texts in this type are trying to define the discipline by applying more fundamental concepts from other disciplines, usually social sciences. For example, in *Design of Urban Space* (Madanipour, 1996) the concept of *space*, which is seen from a social science perspective, is the key element. In this example, space is seen as a social production, and its inevitable relation to power and economy is of extreme importance. Texts belonging to this subcategory generally explain the forms of cities and the knowledge related to them as the extension of socioeconomic forces. They are often less interested in studying the physical forms of urban spaces than texts falling into the second subcategory.
- *Theorising urban design knowledge from within:* Texts that fall into this subcategory are grounded within the existing problems of the urban design discourse. However, these arguments may be informed by discussions from various fields. Owing to the theoretical stance of texts belonging to this category, they are concerned with the actual space and the ways in which it changes, such as (Carmona, 2014b). These texts are less critical of the existing body of knowledge compared to the previous subcategory of this type. However, there is a limited number of texts that can fall into this subcategory.

How do these three layers interact? Three-tiered model of urban design theories

The final step of this typology is to define the interaction between the three types. Understanding the interaction between the three types of theory can provide a framework for following their application in practice and academia.

The type of urban design theory suggested here rests on the idea of layers: to have a second layer, the first layer is necessary, and for the third, the first two are needed. This means that these types are working as layers upon which the next layer forms. Urban design as a field became established only when a comprehensive knowledge claiming to improve public places for people – the second type of theories – emerged. Institutes and universities then legitimised this new field.

Understanding the interaction between the three types of theory can provide a framework for following their application in practice and academia. The typology proposed here could also improve general understanding of theories of urban design.

In relation to other fields, the first layer seems to be more linked to other disciplines; it is easier to borrow and adapt theories in type one. For type two, theories are relatively independent from other disciplines. Type three theories in some examples rely on borrowed theory, and in other examples they are relatively self-sufficient.

Type three theories are not directly connected to the practice of urban design. If type three theories do not directly influence practice of urban design, the question then is how they belong to urban design? The definition of theory as a set of statements that provide explanation in fact is valid about type three theories. Also the definition of characteristics of urban design theory can be applied to these theories, with the consideration that the subject of these theories is the knowledge thus they enable making a better knowledge and understanding, which would enhance public spaces. In this regard, type three theories are functioning at a different level compared to the other types. The third

layer is often critical toward the existing body of knowledge, that is how they suggest new possibilities for the field.

Type one theories are expected to be more useful in the practice while type two theories provide understandings for the practitioners. Type three might be of less interest for the practitioners. This is to be tested in the empirical studies.

Does this typology have any advantage?

Classification, and structuralism in a more general sense, is never perfect. There will always be members of one category that can be allocated to the others (De Landa, 2006). The typology suggested here is not aiming to be a rigid model for urban design knowledge. Rather, it makes a platform for further critical approaches to the topic (Foroughmand Araabi, 2015). Despite the fact that a typology will never be perfect in classifying the subjects, there are many applications for it. In particular, this typology is validated in two parts of this research (chapters five and six). Here it is helpful to demonstrate potentials of the typology in making sense of the fields.

One of the problems with current understanding of urban design is the emergence of the field. For example, Gosling believes "urban design, as opposed to urban design theory, is as old as civilization itself" (Gosling & Gosling, 2003, p. 9). Gosling's conception reflects on the bigger issue of the interaction between theory and practice. The proposed typology seems to be better capable of illustrating the emergence and development of the field. The proposed typology would relate attempts that aim to enhance a specific aspect of a settlement to type one.

Theories that have been used in urban design date back to different periods of time, but a theoretical framework of urban design that considers these theories in a cohesive manner (second layer) emerged in the twentieth century. It seems that the typology helps to explain the progress of urban design theory more vividly in a hierarchical system.

Another advantage of this typology is that theories here are classified based on their subject rather than their approach, strategy and philosophical view. The typology would be more useful for restructuring the body of knowledge. For example, normative vs. prescriptive – despite being helpful in making sense of knowledge – would not gather similar theories in one type, whereas thinking about urban design theory in relation to the subject of theory would provide a practical framework for future actions.

For this research, the proposed typology provides a framework for organizing theories of urban design and picturing the body of knowledge (chapter five). The typology is also employed in investigating how practice is connected to the body of knowledge (chapter six).

From theory to practice

> "Design is a relatively simple set of operations carried out on highly complex structures which are themselves simplified by 'theories' and modes of representation" (Hillier & Leaman, 1974)

While urban design aims to improve the built environments, the goal of urban design theory must be understood in regard to *practice*. The famous expression is applicable here: '*Nothing is more useful than a good theory.'* (Vansteenkiste & Sheldon, 2006)

Theory, despite it being an incarnation of lessons from practice, cannot be followed step by step when it comes to practice as it often does not fit the problems in hand. In fact, practice does not happen in a vacuum; there are many influential factors that form the employment of theory in practice. In reality, practitioners, local communities and other sectors adjust theory for their problems in hand.

The question here is what influences the employment of theory in practice and how practitioners adjust theory.

There is never-ending conflict between theory and practice. Theory by its nature is a generic statement, but practice is a creative response to a very specific situation. “Even when a problem has been constructed, it may escape the categories of applied science because it presents itself as unique or unstable. In order to solve a problem by the application of existing theory or technique, a practitioner must be able to map those categories onto features of the practice situation” (Schon, 1984, p. 14). Practitioners have to adjust theory in order to deal with the problem in hand. The expression ‘Something works in theory but in reality it won’t‘ reflects the common understanding that theory can be detached from the reality. “Most disciplines experience tension between their practice and theory-building wings ”(Brooks, 2002, p. 26). It is because “knowledge and experience are thus incomplete guides to action; they present the ‘given’, not the ‘yet to be’” (Boltan, 1980). In this case, one can conceptualise practice to be more comprehensive than, and ahead of, theory.

In addition to common conflict between theory and practice, it appears that many urban design professionals address a gap between theory and practice. “Educators and academics assure neophytes that professional theory offers substantive direction to practice. At the same time, however, practitioners may find professional theory difficult to apply in their daily pursuits” (Grant, 1994). Like what is happening in applied science, practitioners may interpret a theory in order to support their practice. But eventually it is theory that legitimises the profession and professional activities (Kelbaugh, 2002).

Investigating the generic tension between theory and practice helps to identify the characteristics of the gap between theory and practice of urban design. From the early days when the Greek word *praxis* and *theoria* were used, there was a conflict between them. Praxis means action and *theoria* means looking at (‘theatre’ is derived from the same term). In this respect, theory is concerned with understanding and being apart from action or doing (Lobkowicz, 1983).

In some philosophical contexts, theory could be totally independent of practice; rationalists reject the value of any empirical knowledge (Broadbent, 1995). This point will be explored more when the philosophical foundation of this research are discussed. Nevertheless, many postmodern philosophies are calling for connecting theory and practice (Braidotti, 2013; Foucault, 1977)[1]. They argue that theory and practice are two mechanisms for the same intention (controlling the world). Theory and practice need each other or need to transfer to one another when each of them faces a blockage.

In urban design contexts, pure abstract theory is not possible since the ultimate goal of urban design is practical: Improving the built environments. Referring to the typology proposed earlier in this chapter, if any theory is more abstract than type three, it arguably does not belong to the urban design domain.

1 “We’re in the process of experiencing a new relationship between theory and practice. At one time, practice was considered an application of theory, a consequence; at other times… In any event, their relationship was understood in terms of a process of totalisation. For us, however, the question is seen in a different light. The relationships between theory and practice are far more partial and fragmentary. On one side, a theory is always local and related to a limited field, and it is applied in another sphere, more or less distant from it. The relationship which holds in the application of a theory is never one of resemblance. Moreover, from the moment a theory moves into its proper domain, it begins to encounter obstacles, walls, and blockages which require its relay by another type of discourse (it is through this other discourse that it eventually passes to a different domain). Practice is a set of relays from one theoretical point to another, and theory is a relay from one practice to another. No theory can develop without eventually encountering a wall, and practice is necessary for piercing this wall” (Foucault, 1977).

What is urban design practice?

There are various understandings of urban design practice amongst the professionals. Two scholars from the same department can have opposing opinions on this matter. Alexander Cuthbert considers everything that makes urban meaning to be urban design practice (Cuthbert, 2007a), whereas for Jon Lang, urban design practice is urban design projects (Lang, 2005). Is urban design everyday life or 'shaping places through use', or is it knowledge-based design?

As was explained in the introduction, this research is about conscious interaction between theory and practice. This means that, in order to be included in this study, urban design practice must consciously apply urban design knowledge. Echoing what was discussed in chapter one urban design practice is defined in line with what professionals consider to be urban design practice. This is reflected in the research methodology.

Referring back to Kuhn's argument about theory-laden nature of observation, it is hard if not impossible to define observation and experiment without referring to a theory. Investigating practice from the theory point of view is to "force nature into the conceptual boxes supplied by professional education" (Kuhn, 1996). But it is the only way to make academic comment on practice.

It is also important to distinguish between urban design projects and urban design practice. Urban design projects are an amalgamation of a wide range of theories applied by different groups. Whereas urban design practice is a broader term describing what urban design practitioners do. Therefore, urban design projects can be distinguished from urban design practice.

The term practice is used with two meanings in this dissertation. There is a distinction made between *practices that inform urban design* and *practice of urban design*. There are plenty of examples of practices that inform urban design and not all of them follow urban design principles. Baron Haussmann's interference in Paris, Le Corbusier's projects for modern cities and Robert Moses's large developments in New York are examples that inform urban design knowledge but they do not necessarily follow urban design values. By no means could Moses's project be considered to be practice of urban design. On the other side of the spectrum, some of the best historical examples of places were made long before the emergence of urban design as a field. These built environments are extremely informative for urban design but they are not urban design practice. According to the approach of this dissertation, only practices based on a theory of urban design are considered to be urban design practice.

Theories of urban design, practices that informed urban design, and urban design practice are all linked when a broader concept of knowledge is taken into account. "Theorists are generally trying to abstract and generalise experience while practitioners must confront the concrete uniqueness of actual situation" (Boltan, 1980). If knowledge becomes more specific/concrete it is practice, and when it is more general it is theoretical.

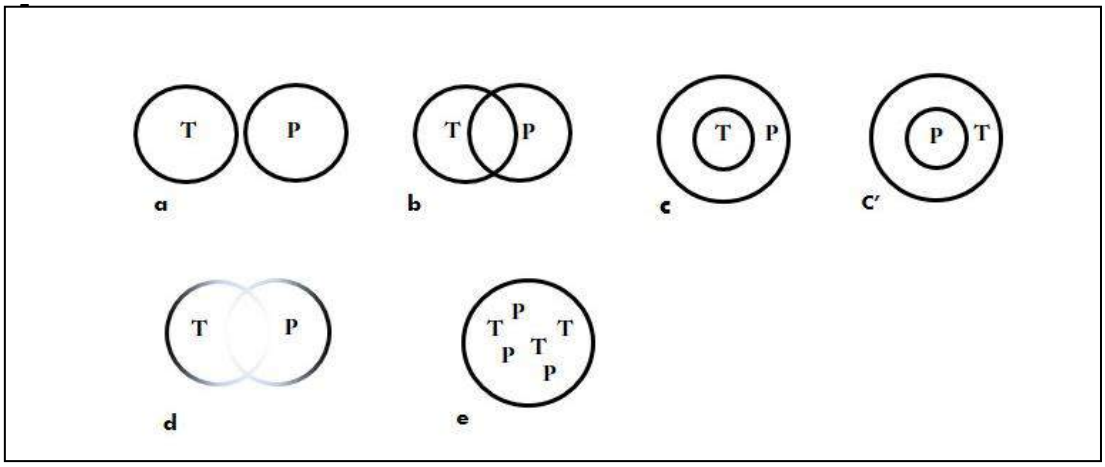


Figure 3 Six different conceptions of the interaction between theory and practice

Figure 3 shows six different conceptions of the interaction between theory and practice. In (a) theory and practice are distinguishable and totally separate from one another. In (b) theory and practice are distinguishable but there is an overlap between the two. In (c) and (c') theory and practice are distinguishable but one is more comprehensive than the other. In (d) theory and practice are not distinguishable but there is a concentrated area of theory and practice. In (e) theory and practice are not separated nor is there a concentration of either in any area. So far, according to the literature, all conceptions except for (a) and (e) are possible in relation to urban design.

Practice has a different nature compared to theory. For practice "Theories are tools that mask as much as they reveal" (Allmendinger, 2009, p. 29); model (c'). This debate remains abstract until more empirical studies elaborate on the nature of the interaction between theory and practice.

Theory and practice interact through the professionals as the agents that generate both theory and practice and transfer one to another. In addressing the groups of professionals, the role of the groups in legitimizing knowledge is important. Groups of professionals are often identified by their allocation to certain institution. In this sense, knowledge in itself is a kind of social production or the result of social practice (Bourdieu, 1992). Taking this view, urban design actors including *theorists* as producers of the knowledge, *teachers* as establishers of the knowledge and *practitioners* as producers of the practice can be identified as supporting groups.

Beyond neutrality, finding the supporting groups

Theory and practice do not interact in a vacuum. Rather, they both appear in a society and are produced by society (Eagleton, 2003, p. 23). Anthony Giddens argues that human acts and knowledge are institutionalised at the same time as institutes form human agency, power and traditions (Giddens, 1984). The current condition of the interaction between institutes and individuals is the result of hundreds of years of history.

If traditions are forming knowledge, power and agency then creativity can be seen as departing from the fixed forms to new possibilities. Creativity, whether in theory or practice, is associated with sense of freedom. Going back to Aristotle's philosophy, both theory and practice are free activities, and by free Aristotle meant free from polis or society (Bernstein, 1972). This means that despite theory and practice being connected to society, they have some aspects that go beyond the social contexts.

In this conception, when a society accepts any given creativity, the creativity will become routine and be captured by the society. This means that all mechanisms in the society had once been new (Giddens, 1984).

On the other hand, the society's directions impact theory and practice in general ways. Although science was long supposed to be free from social values (value-neutrality), in reality contextual values are being acknowledged to be influential in the formation of scientific theory (Curd & Cover, 1998, p. 112). The interaction between society (contexts) with theory and practice plays an important role in the formation of any profession. Involved groups can possibly have different relationships with their society. Generally, there are four recognised norms that govern a scientific society: Universalism, communism, disinterestedness, and organised scepticism. Universalism argues that each scientific community is universal and it is totally independent of its context. Communism is taking the opposite view, explaining how norms and awards lead a scientific society. "The norms describe a structure of social behaviour, and the reward system is what motivates people to participate in these activities" (Godfrey-Smith, 2003, p. 122). Considering the importance of the context, it seems that universalism and disinterestedness cannot be the case for urban design.

Different circles of professionals have different sets of norms and values. For urban design as a fairly small field which has been struggling for its domain, there might be more values in common amongst the professionals. These values, needs and normatives indicate the process in which theory is being produced. "People promote theories that fit their normative perspectives. Theories that become part of popular culture meet community needs and expectations, similarly, the credibility of planning experts derives only partially from academic and other credentials" (Grant, 1994, p. 74).

The mutual relationship between knowledge and the university (as the most relevant institutes) is a fundamental issue here. This research investigates this matter in the empirical study. In order to define a ground for that stage, it is vital to investigate this issue in the literature. Jean-François Lyotard in his seminal book *Postmodern Condition; A Report on Knowledge* (1984) identifies two traditional narrations legitimizing knowledge in relation to academic institutions; narrations that legitimise the existence of knowledge and university in societies.

First is that of considering the access to knowledge as the nation's right. Lyotard argues that this approach was applied in the French Revolution and the public education's developments afterwards. This approach argues that society has the right to have access to knowledge; therefore universities are mechanisms of establishing knowledge through society. The second narration is considering the knowledge itself as the legitimiser of the universities. This narration, being inherited from German idealism, was insightful in developing German modern universities (Lyotard, 1984, pp. 29–41). In this narration, universities are institutes that explore the world and produce new knowledge for those who need it. These two traditions are still recognizable in the current role of universities. Universities have two complementary but distinctive roles in relation to the knowledge: *teaching* and *research* (Ringer, 1990). Both roles are discrete despite encouraging interaction (Robertson & Bond, 2001, p. 6). This is more the case in relation to the core body of knowledge (see chapter 5).

However, Lyotard's main argument is that in the *postmodern condition,* the grand narrations do not legitimise the knowledge of universities but small narrations are doing so. According to Lyotard, this could be seen as the *shift from the end to the means*. Whatever caused this shift, a result was that the hierarchy and the classical dividing lines between various fields was called to question, overlapping occurred and new territories appeared. The legitimisation (of knowledge or institutes) in this case can only spring "from their own linguistic practice and communicational interaction" (Lyotard, 1984, p. 41). Consequently, knowledge and institutes are legitimised due to small narrations and their practicality for the society; this is the understanding applied in this research.

In relation to small narrations, it is possible to conceptualise urban design as a *research programme*[1] referring to Lakatos. He debates that rival groups in any field try to support their point of view and their clients choose the one that seems more practical. In the conception of fields as *research programme,* each group gets benefits from their ideas (Godfrey-Smith, 2003).

Acknowledging the influence of context in generation of the knowledge and practice unfolds the socio-political aspect of this research. It is famously argued that educational institutes, along with *prisons*, *hospitals* and *madhouses*, are key social organizations that discipline the modern society (Foucault, 1991). In post-industrial societies (Braidotti, 2013) and knowledge-based cities (Madanipour, 2013; Phillips et al., 2011), universities are becoming important institutes to the level that it is argued that universities are replacing the factories (Raunig, 2013).

Following this argument, two paradoxical traditions take place at universities. First is one of producing standardised knowledge methods: measurement means such as university ranking, highly qualified certificates, peer-reviewed journals and impact factors are indicators of such tradition. The second tradition is rebelling, which happens at various levels. The rebelling and critical knowledge, groundbreaking arguments that challenge the existing discourses (Feyerabend, 2011), and paradigms (Kuhn, 1996) exemplify this tradition at one level. The rebel social movements that Marx expected to happen at factories (Marx, 1981) more frequently happened at universities during the last half a century. This research does not specifically study the politics of knowledge but its theoretical framework is grounded in such arguments. Consequently such a study could be followed as a further research.

Three primary groups of professionals identified in this research are: ***theorists***, ***teachers*** and ***practitioners*** of urban design. The empirical studies investigate the different expectations and views of these groups.

Interfacing theory and practice

There is very limited research focused on the interaction between theory and practice of urban design. A research based on a case study in the Netherlands concluded the sources of knowledge for practitioners as:

- Information received, partly in the form of demands and guidelines from clients
- Professional and personal experiences
- Classical design literature
- Knowledge obtained from colleagues
- Ancillary research
- Intuition (Ter Heide & Wijnbelt, 2007).

Another possible channel for practitioners to learn theory is through the mainstream media. An additional point about this article is that some of these categories are not about theory; the information provided by the client is usually about specific cases.

This dissertation goes a step further and tries to analyse the interaction in regards to *theories* based on the typology of urban design theories.

Additionally, there are very limited models explaining the role of theory in urban design practice. One of them is Lang's model (see Figure 4). Another example is Moughtin's process of urban design

[1] A *research programme* is essentially a sequence of theories of scientific inquiry. Each theory is held to mark an advance over its predecessor. Progress of theories that is moving from one theory to another within a research programme is called a 'problem shift'. A research programme has its own methodology (Lakatos, 1998).

(Moughtin, 2004) which is an adapted version of scientific process for urban design theory. Theory has two roles in this model. First to evaluate the ideas, second to produce scheme construction through problems and suggested solutions Figure 4. In both Lang and Moughtin's models, the role of theory in practice is highly abstract and it is not clear how a theory is used in practice.

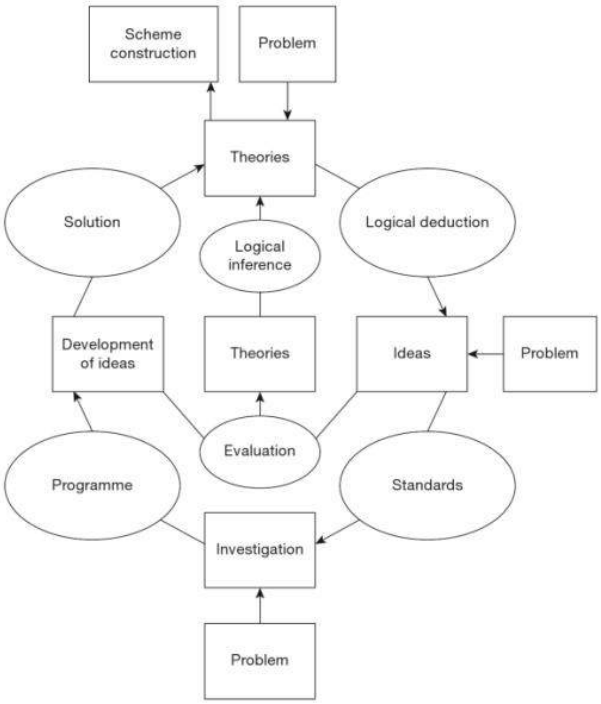


Figure 4 Urban design process (Moughtin 2004).

Iain Borden introduces three ways of using architectural theory: theories as the object of study, theories for the interpretation, and theorising historical methodology (Borden, 2000). It is necessary to add design to Borden's suggested applications of theory. Consequently, theory could be used in these different steps of urban design:

- Understanding the problem
- Analysing the problem
- Generating solution
- Evaluation the alternatives
- Communication and justification of designs

This list is inspired by the expectations of successful theory introduced earlier in this chapter. In other words, the question of 'how practitioners are using theory' could be seen in relation to what is expected from a successful theory. This list will be reflected in the questions when interviewing the professionals in this research.

The question here is how theory or knowledge is being transferred from academia to practice. A research on the application of planning theories for globalization shows that practitioners gain their knowledge by *doing* planning rather than by using theories (Sanyal, 2002). Friedmann, in response to Sanyal's research, asks "why if practitioners find planning theory to be of little or indeed, of any use, we should bother with contributing to the several ongoing discourses of theory" (Friedmann, 2003). Friedmann argues that the roles of different theories are supposedly different in planning. The question of the usage of theories in practice is crucial. It is expected from the methodology of this research to find ways to investigate it.

Generation of theory and knowledge

Inquiry for finding how theory has been informed by practice is deeply connected to understanding of why theory is being generated. Drawing on the concept of the *research programme*, similar (or rival) bodies of knowledge are competing for funding and awards (Lakatos, 1980). Referring back to Lyotard's argument, these awards (and even research funding applications) are small narrations that legitimise knowledge and therefore institutes. One of the key narrations for legitimization of urban design is criticisms of the post-war urbanisms (Krieger & Saunders, 2009; Lang, 1987; Larice & MacDonald, 2007; Mumford, 2009; Tibbalds, 2000). Another narration is David Harvey's understanding of the shift of urbanization of capital (Harvey, 1992) during the 1970s and 1980s when capital 'switches' from industrial production "into production of the urban built environment as a means to absorb surplus capital" (Christophers, 2011). Latter narration is more critical and it is capable of explaining how urban design is related to bigger movements of the accumulation of the capital (King, 1988).

The above narrations are about general forces that help the formation of knowledge. But at a different level, it is individuals' ideas that form the knowledge. For example, Clarence Perry, who developed the idea of the neighbourhood planning unit and put primary school as the core of neighbourhoods, was a teacher at a primary school (Larice & MacDonald, 2007). The background of professionals has not been investigated through the literature, with perhaps the exception of Jane Jacobs (Goldsmith & Elizabeth, 2010; Grant, 2011; Laurence, 2011; Rowan, 2011).

Formation of knowledge cannot be understood without understanding the general forces (i.e. criticizing the built environment) and individualities (i.e. creativity and background of the contributors). The same situation exists for design. Bentley explains design is formed both by generic forces of the market and individuals' creativity (Bentley, 1999).

The actual process in which a theory is developed has not been of interest amongst the majority of the scholars. Popper believed that a theory and its manifestation and performance are important but the process in which it formed is not (Godfrey-Smith, 2003). Kuhn, contrary to this, studied the way theories develop. As mentioned earlier, he distinguished two kinds of developing theory within a paradigm of revolutionizing a paradigm. Feyerabend believed that there is no method of making theory in science and all methods will ultimately fail in the future theory-making cases (Feyerabend, 2002).

Theoretical changes of urban design show that urban design has not experienced a paradigm shift yet, because the current urban designer use his predecessors' thoughts and methods in more advanced and broad details. Nevertheless, the body of knowledge as was shown in the proposed typology consists of a wide range of theories, many of which are adapted from other fields.

Within a paradigm, there are two general ways of constructing theory [1] (McDonald, 2006; Schon, 1984): practice before theory or theory before practice.

Practice (experiment) before theory (induction)

This method of theory-making is advocated by Bacon and Descartes (Curd & Cover, 1998). In this way, experimenting a phenomenon is prior to developing a theory for it. It starts by selecting a phenomenon, measuring all the characteristics of it, and analysing data in order to formulate significant patterns as theoretical statements (McDonald, 2006). Taking this definition, it appears that this method cannot be applied for urban design in its pure form because it is impossible to grasp all aspects of a selected phenomenon. Despite the fact that the first step of this method appears to be unsuitable for urban design, other steps are applicable, particularly finding correlations between different factors.

1 In some fields, there are three ways of making theory. The third is totally logical without reference to real experience, which is not the case in urban design (McDonald, 2006).

Finding correlations between two or more factors requires two conditions. First is that it needs a relatively small number of variables to measure, and second is that it needs only to be a few significant patterns to be found in data. Therefore it is hard to apply for social science because both conditions are dubious (Schon, 1984, pp. 142–3).

Theory before experiment (deduction)

In this way, research should be based on a theoretical fundamental (McDonald, 2006). This approach is common in many branches of science and social sciences. Taking this method, observations predominantly rely on a theory but they potentially can go further to challenge the theory. "We can often only perceive the limitations of our current perspective if we try to step outside it" (Godfrey-Smith, 2003, p. 116). Finding new theories with less limitation would be another task which is often more rewarding within academic circles. Referring back to the concept of *research programme,* many academics would then try to achieve such a situation.

In reality: abduction

In reality, theory-making is a vague process. It is intended to investigate the unknown and it is impossible to formulise the whole process of investigating unknown. If it was possible to formulise the process of theory-making, by running it again and again, the knowledge would always go further.

As was shown in the typology section, in urban design borrowing theories from other fields is a common way of expanding knowledge. Dovey and Pafka suggest urban design's theory is produced neither based on induction nor deduction but *abduction* of the best explanation for a certain phenomenon (Dovey & Pafka, 2015).

Since this research is intended to investigate the interaction between theory and practice, influential factors in the process of making theory are expected to be addressed in the methodology.

Innovation in urban design

Considering the ways in which urban design innovations are related to universities can provide a platform for understanding the bigger picture. Table 4 shows Forsyth's research on connections between urban design innovation and universities (Forsyth, 2007).

Innovations that have been linked to universities	In and out of academic life	By researchers with clear connection to practice
Plater-Zyberk (new urbanism) McHarg (design with nature) Lynch (theoretical classifications of urban form) Appleyard & Jacobs (street) Gehl (public spaces) Shiffman (participatory design)	Newman (defensible space)	Moudon (urban form and health) Hyden (gender and diversity issues) Hillier and Hanson (Space Syntax) Loukaitou-Soderis (social use of public space) Southworth (streets and street patterns)

Table 4: Innovations in urban design and its relation to academia (adopted from Forsyth, 2007, p. 468).

The first column shows research that is linked to universities including academically affiliated practitioners. The second column shows examples of research by people who have worked both in and out of academic life. The third column includes more traditional researchers and scholars who have

clear connections to practice, and sometimes also have their own practices. “Of course, there are other innovators in each of these categories, but these individuals give a sense of the range of innovation in urban design” (Forsyth, 2007). Despite the fact that Forsyth’s research is questionable (i.e. her categorisation of Gehl and Hillier), it confirms that few influential innovations of urban design were deeply located in academic research. It is not clear how Forsyth allocated the research to the different categories but her work is a starting point for this research. This research will also try to explore whether different types of theory (discussed earlier) have different connections to practice and theory.

Where the innovation comes from; five sources of urban design creativity in theory and practice

Both theory and practice of urban design rely on creativity. Theory and practice in fact progress according to incremental creativities of individuals. Despite creativity being concerned with producing new things, it draws upon existing subjects of thought.

When theory and practice share their source of creativity, they appear to have similarities in their contributions. Therefore, studying where this creativity came from and what it draws upon enables this research to have a better framework for analysing the empirical study. Resources of creativity therefore are major modes of thinking that inspire creativity in both theory and practice. This framework will then be examined in the interviews in order to illustrate how they influence individuals’ experience of creativity.

The sources of creativity have been touched upon throughout the literature. Choay, for example, identifies nature, history, culture and the future as key inspirations for creativity in urbanism (Choay, 1965). As was mentioned earlier, Gosling identified two general models as sources of creativity: natural model (historical model) and artificial model (future model) (Gosling & Maitland, 1984). Madanipour identifies three forms of urbanism as the key tradition in reflection to the built environment (Madanipour, 2014, p. 51) as pro-city (metropolitan urbanism), anti-urbanism, and micro-urbanism, all of which draw on specific models of thinking. Barnett identified sixty kinds of urbanisms and grouped them into six forms of urbanisms as: system urbanism, green urbanism, traditional urbanism, community urbanism, socio-political urbanism and big urbanism (Barnett, 2011). All these categories illustrate the way that theory and practice are inspired by specific models or researches for creativity.

There are many other possible ways of categorising for creativity in urban design. Borrowing inspiration from the previously mentioned references, for the purpose of this research a five-part categorisation is suggested. This should not imply that the categories are discrete. In fact innovations have often drawn inspiration from more than one category. The below section reflects the texts that have been included in the literature review onto the suggested categorisation in order to produce an example of the application of the categorisation rather than an exhaustive list.

1. Looking at what has happened; history

History is a rich resource for inspiration both in theory and practice. Studying the history and borrowing inspirations from history has always been an important approach for making new entities. In a generic sense, one can generate creativity in relation to the past (Mumford, 1989).

In particular, great built environments have always been inspiring for both theorists and practitioners (Kostof, 1999). The challenge then is how to repeat the successful places.

Looking into the past as the resource for creativity includes learning from the literature on the historical topics, as all the following categories have their own relevant literature. Studying the built environments and the literature as the resources of creativity has been a dominant approach in

mainstream urban design. Many urban design figures such as Sitte (2013) and Mumford (1989) reflect this approach. Some urban designers believe that history and historical cities are the main inspiration for making good places. For them, urban design must learn how to reproduce such qualities. From the key texts reviewed in this section, Lynch (1981), Cullen (1961), (Gosling 1984), Moudon (1992), and Ellin (1996) take history as their main resource for creativity. When history is used in this way some qualities from the past are seen as desirable and some not. Any research or design that relies on finding inspirations from history then attempts to reproduce the desirable qualities.

2. Looking at what can happen; future

Contrary to taking history as the resource of creativity is facing the future. Planning and making change is always about bringing about a better future. Yet the future will never be fully known. Nevertheless, visions of the future are inspiring resources of creativity. Practitioners imagine the future and dream their design, and academics speculate about what is happening in the future. Thinking about the future is an important mode of thinking, inspiring the professionals. Many cities have developed long term visions to create new urban orders. In doing so many of them borrow ideas from other places and some have attempted to make new environments (Brook, 2013). Thinking creatively about what is possible is at the heart of this process, most notably through technological developments.

Advanced technology in the city can be well-justified by images of the future. Tony Garnier (Choay, 1965), Frank Lloyd Wright (Levine, 2015), Le Corbusier (1987) and Rem Koolhaas (1994) are examples of radical thinking[1] for the future of the built environment.

3. Nature

Nature has always been a resource of creativity for human being. The naturalist movement in philosophy and art reflects the importance of nature at the time when technology was rapidly advancing (Kurtz, 1990).

In urban design, natural mechanisms are seminal resources of inspiration in both theory and practice, something re-emphasised through the new focus on sustainability. Nature has its own regulations and systems, in fact advanced system theories are inspired by studying the ecosystems. Cities as advanced systems and extensions of advanced mechanisms are manifested in many urban design books such as (MacHarg, 1992; Marshall, 2009; L. Mumford, 1989). Many practitioners also take nature as the main resource of their creativity (Shane, 2005). Nature is an undeniable resource for inspiration.

4. Urban reality (looking at what is happening)

Cities develop complicated mechanisms, for example the ways in which people and goods are moving in a city and social connections between citizens are extremely complicated mechanisms. These systems develop their own ways of adaptation to the contextual change and external forces. In this respect, they can be a resource for producing knowledge and power (agency).

Different forms of co-creating the environments, informal urbanism, bottom-up urbanism and collaborative urban design are examples of realizing the existing realities of cities. Christopher Alexander's *Pattern Language* (1977) could be considered as the symbol of this category. Lynch (1959), Jacobs (1961), Gehl (1971), Hillier (1984), Trancik (1986), and Alexander (1987) are examples of the reviewed texts that take the existing condition of cities as the main source for producing new knowledge and innovation.

[1] Thinking about the future should not be confused with utopian thinking, since the future here is a possible future and not necessarily an ideal future.

5. Dystopia (execrating urbanity)

Dystopia takes a negative interpretation from cities and urbanization as the resource for creativity, for dystopian cities are places of inherently negative events.

Urban thinkers can be highly critical of the existing situations. Urban problems such as segregation, inequality, environmental problems, exploitation and homelessness make cities a negative scene for critical thinkers. In this context, small changes cannot alter the bigger process that is producing such problems (Baeten, 2002).

Being anti-city and drawing upon negative understanding of urbanization can be a category amongst other researches of urban design creativity. Academia acknowledges critical thinking and certain academics can achieve credit from advocating such a view. Practitioners, on the other hand, can acknowledge the negative aspects of the existing situation as well as paying attention to who will lose as the result of their design. Even though they may not reflect it in their actual report, dystopian thinking is an inspiring model for creativity. Cuthbert (2003, 2000, 2011) is the main writer, amongst the reviewed texts, who relies on finding creativity through critical thinking. Cuthbert's dystopic view reflects a gloomy picture that many anti-capitalist thinkers offer. However, there are other examples within the broader literature which offer alternative views of such thinking as a source of creativity such as MacLeod & Ward (2002).

How the sources of creativity are connected to the suggested typology

Both the typology and the five sources of creativity are frameworks for analysing the interaction between theory and practice of urban design, but each of them has different scope and employment. The typology is in fact a framework of organizing the *theory* of urban design.

The discussion on the five sources of creativity aims to explain what is happening to the individuals. If theorists and practitioners share the sources of creativity, then it would follow by similarities in their contributions. In this respect, the five sources of creativity is a place where practitioners and theories interface. The interviews then would investigate whether these recourses of creativity helps to understand the ways in which theory and practice are interacting or not.

Both of the frameworks, the typology and the sources of creativity, will be used as analytical frameworks for the interviews. According to this analyses then further analyses are possible. One can speculate that type one theories benefit more from *history, nature* and *urban reality* as their source of creativity. Whether this is the case or not only would be revealed after the empirical study.

Conclusions: requirements of the methodology

The main aim of the literature review is to explore responses to the research question found in the literature. The literature review, in this chapter, clarified the concepts and vocabulary for this research. The concepts and vocabulary are, in turn, defined in regard to the research question. In doing so, the literature review critically looked at the concept of theory in philosophy of science, and the meanings of urban design (and urban design theory) in the relevant literature. According to this review, two frameworks for structuring urban design theories (typology) and creativity in theory and practice were suggested.

Theory is a set of statements that help to understand certain phenomena. Definitions, functions and expectations of theory were discussed in this chapter. From the discussions, characteristics of a good theory could be concluded:

1. As a method of organizing and categorizing
2. Prediction of future events
3. Explanations of past events
4. A sense of understanding (thus a language for communication)
5. The potential to control events (Reynolds, 2007)

This definition suits urban design and this research. From this definition, the first characteristic of successful theory represents a weak function of theory where a theory helps to categorise phenomena in order to understand them. Such an understanding can be most helpful for educational purposes. This makes theory indistinguishable from knowledge. But one distinguishing line is when knowledge is information without sufficiently explaining associations.

The next three characteristics of successful theory manifest it as an uncertain formula that explains how the subject of the theory functions. Understanding an event means to know why something happens in the way it is happening. If one knows why one thing happens, the prediction is only repeating the explanation in the future (Godfrey-Smith, 2003). In this regard, the second, third and fourth characteristics of a successful theory are similar.

A sense of understanding may also be used in communicative and educational ways. A theory is a platform or a language for communication. The last characteristic of a successful theory addresses more practical functionality of theory; controlling the events. By taking this definition, design is an attempt to control spaces.

Urban design theory has also been explored in this chapter. Normativity is a key feature of urban design theory. Yet the definition of a successful theory allows normative theories to work within broader scopes of theory building. In particular, sense of control in urban design emerged with normative theories. This manifestation of theory avoids the conflict between normative descriptive theories. Consequently, this definition is the theoretical framework for this dissertation in the way that these are the set of expectations of a theory.

Urban design, like the term theory, is ambiguous. Professionals have different understandings of it. While this research tries to study the existing condition of the interaction between theory and practice, it takes what professionals commonly mean by urban design as the definition for this research. Studying common meanings of a term is a widely acceptable approach when linguistics study the meaning of words (Chelliah & Reuse, 2011). Taking this approach justifies searching the literature for what is being meant by urban design. As the conclusion, this dissertation considers urban design to be a combination of more or less theoretical arguments aiming to enhance the built environments. Urban design is an academic discipline for this research. Non-professionals may have methods of enhancing their environments, but until the methods are not absorbed by the literature, it falls out of the scope of this research. In other words, urban design for this dissertation is not everyday life nor is it informal urbanism, but is what professionals gather together as the body of knowledge.

The third aim of this chapter was to pin down what is urban design theory and how it is related to the professionals' common body of knowledge. The concept of urban design theory inherits ambiguities from both *urban design* and *theory*. Nonetheless, this chapter followed the key texts from the literature and examined them against the definition of theory. In many cases, investigating the theoretical texts of urban design confirms that urban design theories are expected to explain urban problems, provide sense of understanding, help the design process and future practice/research. In other words, urban design theory makes the sense of understanding and controlling the urban space. Thus, despite the fact that urban design is considered as low theory, it still meets the characteristics of good theory.

Urban design theory, in spite of some claims, does not merely follow pure rationality. In fact, urban design theory does not follow fixed standards and procedures. This is partly because of the nature of the problems that urban design is dealing with and partly because of the effect of the context. It was argued in this chapter that urban design theories are productions of their contexts. Also, different groups manifest different understandings of theory and interpret it based on disparate intentions. Accordingly, the nature of theory is ever-changing and complex.

The complexity of urban design is also due to the nature of the problems it aims to solve (Biddulph, 2012). Urban problems are conceptualised as wicked problems; constantly changing, ever uncertain, without right or wrong answers (Rittel & Webber, 1973). Such wicked problems necessitate a more flexible and adaptive methodology.

Urban design has to rely on a complex understanding of the world because the context in which urban design emerges is ever-changing, because the supporting groups have various intentions, and because urban design deals with wicked problems. Assumptions about the outside world (ontology) and ways in which it can be studied (epistemology) are discussed in the following chapter in order to ground this research in an adequate methodology. It is expected from the methodology to find ways to study urban design theory and practice.

The conclusion of this section forms what is expected from the methodology of this dissertation. The key requirement from the methodology is to address the complex ways in which the theory and practice of urban design interact. It follows that the methodology should not reduce the subject of the study to presupposed models or processes. This requires the methodology to be able to provide adaptable process open to acknowledging different understandings amongst professionals. Yet it must also be able to contribute to urban design knowledge. The next chapter therefore is derived from what has been discussed so far in this dissertation.

3. Methodology: approaching the complex interaction

Chapter three is the methodology. This chapter begins with explaining the existing philosophical approaches. Clarifying the philosophical stance of this methodology is also of particular importance due to the scope of this research. The aim of this research is studying the conscious interaction between theory and practice of urban design in its complex sense. Using the typology suggested in the literature review, this research falls into the third type. In other words, this research investigates theory or knowledge of urban design. Theory in this sense is what gives meaning to knowledge (Foroughmand Araabi, 2015). This aim requires the research to clarify its connection to bigger, epistemological, ontological and normative debates. In other words, it is necessary to demonstrate how the knowledge links to the world (ontology) and the process by which this knowledge is being achieved (epistemology).

This chapter studies the existing philosophical arguments in the literature of urban design in this regard. Certain scholars consider such a study to be *methodology*. Based on such a theoretical methodology, methods would thus be defined (Paltridge & Starfield, 2007). After evaluating the existing methodologies, this dissertation suggests adapting Gilles Deleuze and Felix Guattari's philosophy as the research methodology. Advantages of such a methodology over the existing methodologies are discussed in this chapter and will be examined in the following chapters. Following this, potential applications of the suggested methodology are discussed. This list of potentials suggests that Deleuzian philosophy can be taken as the theoretical methodology for further urban design research.

This chapter defines the research design and methods in relation to the goal and requirements of the research. In particular, this chapter is expected to find ways to study:

- The core body of knowledge and key urban design theories
- Key urban design theorists
- A group of key practitioners
- Ways in which theory and practice (theorists and practitioners) interact

The methodology explains why specific research methods are employed and what the expected outcomes are.

Philosophical approach

Any research is based on a philosophical approach. A clear explanation of the philosophical approach of a research would justify the structure of the research. Here the existing methodologies of urban design are measured against the requirements of this research.

Current methodologies

Philosophical foundations of urban design have been briefly discussed in the literature. Within the core body of urban design (Foroughmand Araabi 2015) and forty important urban design texts (Cuthbert, 2007b), there are few texts looking at philosophical foundations of urban design theory. In chronological order they are: Broadbent 1990, Moudon 1992, Ellin 1996 and Cuthbert 2007. Almost all of these texts borrow their concepts from classic philosophy. The suitability of this will be questioned later in this section.

Broadbent, echoing philosophical classification, introduces three ways of thinking in urban design: ***rationalism***[1]***,*** which believes in rational reasoning without trusting on human senses; ***empiricism***, on the contrary, only values human senses; and ***pragmatism***, which is neither concerned with the experience nor pure rational reasoning, but instead pays attention to whatever meets the intended goals (Broadbent, 1995).

Thinking about urban design as purely rational or empiricist knowledge is not adequate because the materials (i.e. information and values) of urban design knowledge cannot be seen as purely rational or empirical. Although pragmatism is closer to the way in which urban design functions, it is limited in that it does not offer a bigger value system from which a goal may be chosen.

In Broadbent's book, the application of these philosophical modes of thinking raises some questions. For example, Broadbent counts 'Marxist ideology' as neo-rationalists. This conception discounts many ideological aspects of the Marxist approach. Broadbent also classifies Jacobs and Alexander as 'urban realists', and Lynch and Cullen as 'neo-empiricists'. Distinguishing between urban realists and neo-empiricists is problematic because Jacobs, Alexander, Lynch and Cullen employ a less rigid philosophy than what this classification suggests.

These problems in organizing the knowledge seem to appear due to the unsuitability of the philosophical framework chosen by Broadbent. A classical distinguishing between rationalism and empiricism does not provide an adequate analytical tool to explain the nature of urban design epistemology. The methods of developing urban design knowledge (see Table 3) cannot be reduced to this categorisation.

Anne Vernez Moudon, in her article *'A Catholic approach to what an urban designer should know'* (1992), draws an epistemological map of urban design knowledge. In comparison to Broadbent, Moudon's model is more applicable here because it studies what urban design knowledge *is*, as well as how it is acquired. Therefore, it could be understood as an epistemological map of knowledge. She categorises theories of urban design based on different criteria. Two of Moudon's criteria are more related to the argument here: *theory strategies* and *modes of inquiry*. Both of these categories are explaining methods and strategies by which urban design research can be developed and urban design knowledge can be acquired.

Moudon introduces three research *strategies*: ***literary approach*** (relies on literature searches, references and reviews, and archival work of all kinds); ***phenomenological approach*** (a holistic view of the world, and whose practice depends entirely on the researcher's total experience, describing events with their feeling, senses and knowledge); and ***positivism*** (in contrast with the second approach, here the knowledge is based on natural phenomena to be verified by empirical science) (Moudon, 1992). In comparison to Broadbent, Moudon's model goes a step further in considering research strategies.

Moudon then introduces three *modes of inquiry,* which are: ***historical-descriptive*** (a research that is based on historical events); ***empirical-inductive*** (generalizing the knowledge obtained from observation of a phenomenon); and ***theoretical-deductive*** (quantitative research) (Moudon, 1992). Moudon believes that because urban design problems are complex, the *theoretical-deductive* mode is

[1] Faludi considers rationalism as a methodology (Faludi, 1986).

rarely found in the literature (Moudon, 1992). Moudon's classification is a helpful model in mapping the knowledge but it does not provide a framework for researching the practice of urban design. Modoun's model also detaches theories from their contexts.

By contrast, Nan Ellin's book *Postmodern Urbanism* sheds light on historical and socio-political aspects that inform and shape urban design. Ellin considers urban design theories on the European continent and Anglo-American axis. She reflects on a wide range of post-war political, cultural and economic events. It could be interpreted from her work that she believes urban design is informed by different and even controversial post-war trends (Ellin, 1999, p. 23). Urban design thinking, Ellin argues, mainly emerged during the 1960s and 1970s, and is a romantic reaction to modernism. This romanticism is driven by nostalgia (Ellin, 1999). Urban design theory trends are multivalent and pluralist (Ellin, 1999, p. 23). Taking this approach, urban design theories are connected to the socio-political movements. The methodological contribution of Ellin's argument is highlighting the fact that theory and practice are formed by their contexts.

More recently, Cuthbert has introduced three dominant intellectual modes of thinking: ***semiotics***, ***phenomenology*** and ***Marxian political economy*** (Cuthbert, 2007a, pp. 47–65). Although Cuthbert claims that these trends are dominant instinctual activities of urban design, many urban design texts, for example *Pattern Language* (Alexander, 1977), would not easily fall into any of the categories. The current methodologies can be criticised for pigeonholing the existing literature into pre-existing models.

The diversity of approaches and categories of the philosophical foundation of urban design asserts that there is not one accepted logic for understanding the connection of urban design to the world (ontology) and ways of achieving knowledge (epistemology). This could be due to the nature of urban design (urban design being multiple in its discourse) or as a result of the lack of research (urban design methodology as an emerging topic). Either way, none of the current philosophical models fulfil the needs of this research[1]. The following section argues where and how this research benefits from the discussed arguments and where there are limitations.

Where this research stands in relation to current methodologies

Each of the discussions on philosophical foundation of urban design methodology has advantages and limitations. Here their relation to this research is being discussed.

Broadbent's differentiation between empiricism and rationalism does not apply to this research because the main theories of urban design use both rational and empirical concepts in their debates. Rationalism and empiricism can instead be seen as sub-mechanisms of developing knowledge. Pragmatism is closer to the scope of this research. But it does not connect the theory to bigger issues of ontology and epistemology, therefore it is not an adequate approach for this research, which studies the condition of knowledge.

Using Moudon's classification, the research strategy of this dissertation is a mixture of them. *Literary approach* is when the research is using previous works, especially where theories and practices are the subject of study. But in interviews and making typology it gets closer to *positivism* because this research tries to study the existing situation of the knowledge and make sense out of it. In relation to modes of inquiry, this research is closer to *empirical-inductive* because hypotheses from the literature review are tested in the empirical studies. Nevertheless, Moudon's classification cannot fully theorise

[1] Dovey and Pafka argue that classic philosophy does not work for urban design theory (Dovey & Pafka, 2015). But this research does not reject the values of the mentioned philosophical arguments for various works.

and form this research's methodology because it does not acknowledge the importance of the context in generation of theory and practice.

Ellin's explanation of urban design theory legitimises juxtaposing different theories and approaches together, as well as linking intellectual movements with urban design. Ellin's argument helps this research to take a combination of approaches as its approach. Yet this is not enough for the methodology of this research.

Finally, the philosophical foundation of this research seems to be outside the scope of Cuthbert's. The research approach of this dissertation is not phenomenology or semiotic because it is not about interpretation of phenomena, nor is it about the philosophy of signs and semiotics. The fact that this research focuses on the mainstream core of urban design makes this distance from phenomenology. So, Cuthbert's categorisation does not meet this dissertation's needs.

In terms of Marxist political economy, it does not necessarily have advantages over other philosophical foundations as Cuthbert asserts. As will be explored in what follows, political economy, however strong in analysing the existing situation, is handicapped in suggestion and directing the research.

It seems that the literature of urban design does not have a suitable theoretical framework for this research.

Alternative methodology; inspirations from post-structuralism

The currently adopted philosophical frameworks for urban design have shortcomings in meeting the need of this research. As discussed, it is not sufficient to adapt a simplified classic philosophical framework for urban design. In order to go beyond these limitations, scanning the literature suggests that post-structuralism in general, and Deleuze in particular, have lots to offer. In fact, historically, post-structuralism had appeared in response to a similar set of limitations derived from structural thinking.

Post-structuralism as an intellectual movement emerged in the second half of the last century. Many thinkers can fall into this category. Amongst them are Deleuze and Guattari, who share their geo-historical context with many other influential philosophers of the time, such as Jean-Paul Sartre (1905-1985), Louis Althusser (1918-1990), Pierre Bourdieu (1930-2002), Jean-François Lyotard (1924-1998), Michel Foucault (1926-1984), Henri Lefebvre (1901-1991), Jacques Lacan (1901-1981), Jean Baudrillard (1909-2007) and Jacques Derrida (1930-2004). In addition to being in the same place (Paris) at the same time, these philosophers show some common interests and tackle similar concepts in their philosophy. They seek to provide a more complex understanding of power as something more than a matter of coercion or repression.

They also believe that society is better not to be understood as the product, or the expression, of the powerful majority exercising influence over the minority. Instead, power resides in ordinary language, and the way we organise our lives is influenced by power. Here, capitalism is seen as making the parlous condition of the world. This goes far beyond the traditional conception of power and capitalism.

Despite their common interest, many of the mentioned thinkers disagree as to what the change to this condition would be and how it should be achieved (Buchanan, 2008, p. 21). They often consider connections between seemingly separated aspects of life. For example, space as a subject of philosophical study is connected to politics, power and sociology, psychology and capitalism. This perspective can be better understood when taking into account the historical context, namely 1968's movement in which many of the mentioned thinkers were actively involved. 1968's movement was too complicated to be explained through traditional philosophies.

At the same time during the 1960s, urban design's core thinking was that of criticizing top-down modern urbanism for its oversimplified understanding of human beings and cities (Lang, 1987). Le

Corbusier's work has come to symbolise this top-down modernist approach. Jacobs and Alexander, amongst many others, tried to replace this simplified understanding with a more complex understanding of phenomenon as things which can never fully be understood. This echoes what is discussed in many post-structuralist philosophies and supports the argument for using this philosophy as a methodology for studying the subject of this research.

Gilles Deleuze's philosophy, especially his collaborations with Félix Guattari, has potential to be applicable to urban design and particularly in this research. Although Deleuzian philosophy has only briefly been reflected in urban design literature, Michel Foucault believed in use of the philosophy. He stated that the 20th century may one day be called '*The Deleuzian Century*'. Some now think that the 21st century is more likely to be seen as the Deluezian time (Buchanan, 1999). The influence of his work may have been slow in coming yet it appears to last for a long time.

It is hard to follow Deleuze's influence for at least two reasons. First, because he has influence on an extraordinary wide range of disciplines. Second, because some of his influence was indirect (Holland, 2013, pp. 139–148). However, his work is currently influential in areas ranging from science, geography, social science, art and politics (Young, 2013). Recently, there have also been some planners that have paid attention to Deleuze's work such as Wood (2009), Hillier (2011), Purcell (2013), and Ansaloni and Tedeschi (2015).

In regard to Deleuzian-inspired research in planning, Wood tries to demonstrate that Deleuzian philosophy provides a new resource and creates new direction for understanding the role of urban planning in society (Wood, 2009). Hillier used Deleuze along with Foucault to explore strategic planning as a form of strategic navigation (Hillier, 2011). Purcell, in his inspiring article, reviews the literature and shows potential for using Deleuze and Guattari's philosophy for planning by paying attention to their political vision, "which is revolutionary agenda that aims at a condition of radical freedom for humans beyond the state and capitalism" (Purcell, 2013, p. 20). Rydin argues that this philosophy opens up ways of considering materiality of cities more in planning (Yvonne Rydin, 2014). Ansaloni and Tedeschi take Deleuze's idea in order to define spatial justice and planning action (Ansaloni & Tedeschi, 2015). There have also been a considerable amount of Deleuzian-inspired works in architecture, mainly because of his 'adaptation of the architectural image of thought' in his book *The Fold* and his attention to space (Holland, 1999, p. 144). Nevertheless, Deleuze's influence on architecture does not appear to have spread to urban design.

When Deleuze appears in urban design literature, it is often his work with Guattari which is being referenced. Kim Dovey continuously refers to Deleuze and Guattari's works in studying the sense of place (Dovey, 2010), informal urbanism (Dovey, 2012), and pedagogical arguments (Dovey & Fisher, 2014). Ian Bentley uses Deleuze and Guattari's concept of the *Desiring Machine* to explain subjectivity as being actively constructed (Bentley, 1999, p. 53). Nan Ellin suggests that Deleuze and Guattari's work can be seen as 'social theory analogue to' *Integral Urbanism* because it is not concerned with opposing binaries (Ellin, 2006, p. 84). This is, in fact, an important aspect of Deleuze and Guattari's philosophy which will be explored later. Thus far, Deleuzo-Guattarian (or as Purcell (2013) copying Bonta & Protevi (2004) prefer, Deleuzoguattarian) philosophy has been applied with very limited scope for considering specific aspects of urban design. Considering the wide range of applications of Deleuzoguattarian philosophy in different disciplines, the limited attention given to this philosophy is surprising. Deleuzoguattarian as methodology has been adapted for social sciences (Coleman & Ringrose, 2013) but for urban design it is new yet it can enable innovative thinking and fresh debates. Such concepts have the power, when inserted into concrete fields, to produce a change in that field.

Deleuze and Guattari; an urban design reading

Deleuze and Guattari's work is comprehensive and rich in content. By no means is it possible to summarise it all in such a short piece[1]. Nevertheless, the aim of this section is to provide the necessary vocabulary in order to introduce some of Deleuze and Guattari's concepts and describe a way in which their philosophy is employed as an urban design methodology in this research, as well as opening up possibilities for further applications. Table 5 lays out the concepts and potential applications for urban design.

Deleuze and Guattari developed their philosophy to be like a living organism (or as they name it, a *machine*[2]). This *machine* is then capable of being plugged into other machines (Deleuze & Guattari, 2002). This in practice enables multiple applications of their philosophy. Here their philosophical thinking is considered to be plugged into urban design debates.

There are many possible readings of Deleuze and Guattari's philosophy. In fact, Deleuze and Guattari intentionally aim to make multiple meanings. It is hard to put Deleuze and Guattari's work under a specific title due to their transdisciplinary approach and multiplicity. In general, it could be said that they are post-structuralist in two senses. Post-**structuralist**, in the sense of extending a transdisciplinary reach of theory, and **post**-structuralist in the sense of "rescuing theory and theory-informed research from the very 'linguistic turn' for which structuralism has been primarily responsible, and putting them back in touch with pressing problems in the outside world" (Holland, 2013, p. 148). This must be understood in relation to their time, when structuralism was the dominant voice. Deleuze's theory of *difference* (Deleuze & Patton, 2004) is highly critical of structuralism. Structuralists argued that a system of difference is necessary in order for a single being to be known. A structure that differentiates must first exist in order to have a history of something (Colebrook, 2002, p. 9). Contrary to this philosophical view, Deleuze suggests the concepts of *difference in itself* and *repetition for itself*. This means that repetition and difference exist independent to any fixed system or structure. Deleuze enables an understanding of entities in relation to constant change, entities make their own identity.

Collaborating with Guattari, Deleuze developed his ideas so that their philosophy would be capable of acknowledging the connections between different entities and continuous changes. In order to better understand the fluidity, multiplicity, vagueness, and what some call the messiness of life, it is necessary to reinvent the methods being used. Any methodology which seeks to convert this mess into something coherent and precise both misses out on important aspects of the complexity of life and tends to misunderstand what it sought to understand (Coleman & Ringrose, 2013, p. 5). This can be seen as the reason for this research to move on from the classic philosophical categorisation as methodology to more advanced methodologies.

Deleuze and Guattari wrote four interconnected books together. A brief reading of their philosophical concepts from this research's point of interest follows:

Anti-Oedipus, Capitalism and Schizophrenia (1973) is their first book. In *Anti-Oedipus* they start by criticizing the widely accepted psychoanalytic approach where everything is seen from the lens of the Holy Family, the Freudian triangle of father, mother and the son. Deleuze and Guattari replace this Freudian model with a more complex and less rigidly structured concept. They see the unconscious and

[1] So far, reviewing texts and theories (such as those appearing in the previous chapter) were focused on one subject of the texts whereas this review aims to *introduce* the philosophy. In this regard, reviewing Deleuzian philosophy has a different scope compared to what came in the literature review.

[2] *Machine* in Deleuze and Guattari's philosophy means a mechanism in that its parts are working together to produce something. Machines are defined by their goals. Machines are always connected to other machines. So they are more like dynamic mechanisms rather than merely mechanical machines. In this way living organs and systems are machines.

the social unconscious as a product of the combination (assemblage[1]) of history, society, physiology and so on. In their view, the unconscious is not separate from conscious nor does it follow any fixed model, rather consciousness makes its own mechanism.

At a social level, this critique explains how capitalism forms the unconsciousness and how people's interests (what they like) are not really the direct result of a *lack* but rather are formed by the capitalism. As a result, human mind and social regulations do not follow any fixed model but they make themselves and make their regulations through assembling various forces.

Deleuze and Guattari's project, as Foucault states in his preface to the English edition of *Anti-Oedipus*, can be seen as "an 'art'… informed by the seemingly abstract notions of multiplicities, flows, arrangements, and connections. The analysis of the relationship of desire to reality and to the capitalist '*machines'* yields answers to concrete questions" (Deleuze & Guattari, 2012).

In other words, in *Anti-Oedipus* Deleuze and Guattari claim that Freudian psychoanalysis is based on concepts that are presumed the reality. Freudian philosophy is like a church system of beliefs. So, as Nietzsche wrote the *Antichrist,* Deleuze and Guattari wrote *Anti-Oedipus*. This philosophical view is more capable of explaining 1968's uprising and many other social movements that cannot necessarily be understood as Oedipal patterns of desire to kill the father (for example, the government in 1968) and capture its place (Buchanan, 2008).

From an urban design point of view, *Anti-Oedipus* can also be applied to replace the current understanding of *time* and *space* as fundamental elements. For Deleuze and Guattari, the perceiver is not detached from the very concept of time and space. Kant added the subjective 'I' to experience by considering the mind's structure (structures and features such as time and space). Deleuze and Guattari, on the contrary, subtract the subject from experience by considering the ego to be a social production (Holland, 2013, p. 10). This means time, space and mind are all formed in relation to one another (Deleuze, 1988). Phenomenologists from this view would be misled by overemphasis on ego as something detached and higher than the experience.

Anti-Oedipus can also provide a platform for moving on from Marxist approach of capitalism and history as deterministic realities to more chaotic understanding of events and therefore finding space for human creativity and action.

In *Anti-Oedipus,* the main concepts of Deleuze and Guattari's philosophy formed, but their apogee happened in their second volume of *Capitalism and Schizophrenia* called *A Thousand Plateaus*[2] (1980). The way in which the book is written enables it to be a *functioning form* in itself, encouraging the reader to have new encounters with the world rather than being a representation of the world. *A Thousand Plateaus* employs a spatial logic of multiple sections (Plateaus) as the method of organization, explained as *rhizome* (Young, 2013, p. 314). This idea is the heart of their works because for them the connections are most important. The nature of connection as Deleuze and Guattari explain is *rhizomic*. They define *rhizome* (Deleuze & Guattari, 2002, pp. 3–28) as opposed to hierarchical structural views.

The concept of *rhizome* has six characteristics:

> 1) *Connection*: Any point of a rhizome can be connected to anything other, which means that the network doesn't have any permanent centre nor any hierarchy. Rhizomatic connections can be seen in some plants such as ginger. In Deleuzoguattarian philosophy,

[1] Assemblage theory and assemblage urban theory have indeed derived from Deleuzian philosophy. Because ontology and epistemology are important questions in this research, assemblage urban theory is not employed here.

[2] After *Anti-Oedipus* and before *A Thousand Plateaus* they published *Kafka*, which has lots to offer in relation to literature. But since the key points of that book are reflected in their later works and also because *Kafka* is not part of their project *Capitalism and Schizophrenia,* this book is not considered here.

rhizome is an alternative to the arborescent structures, which is widely used in many fields from linguistics to science.

2) *Heterogeneity of coding*: Semiotic chains connect within and to other assemblages (Young, 2013, p. 262).

3) *Multiplicity in determination, magnitude or dimension as opposed to unity in subject or object.*

4) *Asignifying ruptures of segmentation (stratification and territory):* "A rhizome may be broken, shattered at a given spot but it will start up again on one of its old lines, or new lines. Every rhizome contains lines of segmentarity according to which it is stratified, territorialised etc. As well as lines of deterritorialisation down which it constantly flees" (Deleuze & Guattari, 2002, p. 10).

5 and 6) *Principles of Cartography and Decalcomania:* production as opposed to tracing. The last two characteristics, as Deleuze and Guattari explain, picture a rhizome more as a map rather than tracing: "what distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real" (Deleuze & Guattari, 2002, p. 13); "it is our view that genetic axis and profound structure are above all infinitely reproducible principles of tracing. All tree [arborescent] logic is a logic of tracing and reproduction… The (resulting) map does not reproduce an unconscious closed in upon itself; it constructs the unconscious. It fosters connections between fields" (Deleuze & Guattari, 2002, p. 13).

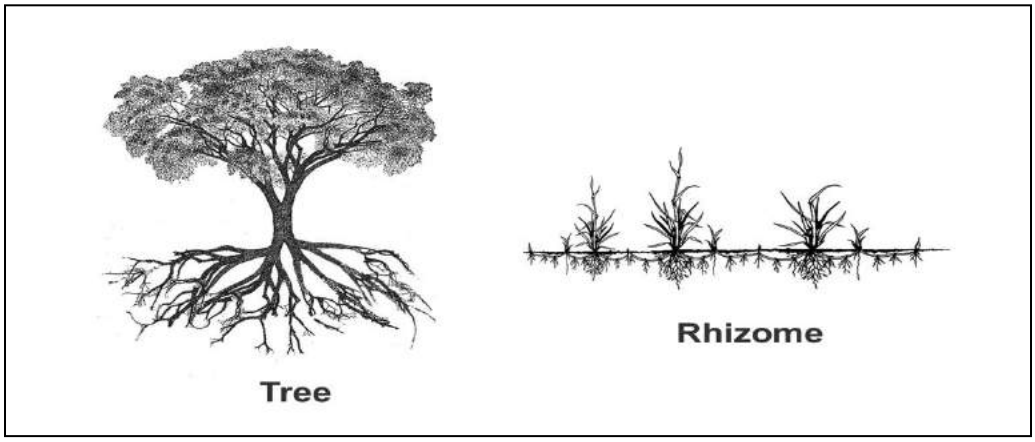


Figure 5 A tree and a rhizome. Deleuze and Guattari use the idea of rhizome to describe their philosophical model. A rhizome, as oppose to a tree, has no centre and makes new connections whereas a tree's roots bifurcate again and again. They believe rhizomic connections better describe what is happening in the outside world

The idea of rhizome is applicable to various ranges of problems from geography to psychology. In this view, any segregation between fields is something temporary. Any tracing (as with a decal that is transferred onto another medium) can 'be put back on the map' because apparent reproduction gives way to asymmetry or difference (Young, 2013, p. 262).

Rhizome is a philosophical model for explaining the world and in this it is deeply connected yet more comprehensive than the concept of *assemblage*. One of the key results of having a *rhizomic*[1] view is being able to see connections between different aspects of the cosmos and acknowledge the fact

[1] In this dissertation, *rhizome* is being employed as the key model to explain ever-changing connections between key factors that are influencing the relationship between theory and practice of urban design.

that these connections can appear and disappear through time without following certain regulations. For example, the connection between human and non-human. In other words, chemical and biological systems (including animals and humans) are interconnected. Since continuous change is happening in every territory (system), there is no *law* that can be applied to all systems at all times. However, there are mechanisms in common between different territories. The organization of self-organizing systems emerges through the experience (life) of that system. In this regard, Deleuze and Guattari replace the *law* with the *life*[1] of the system (Holland, 2013, p. 21). Deleuze and Guattari therefore suggest an epistemology that thinks *with* the cosmos rather than thinking *about* it. This forms the concept of *becoming* which reflects the ever-changing nature of entities. However, change is happening in different ways at various speeds.

When a mechanism is *becoming* more rigid, more *striated* and defined, a progression can happen. Deleuze and Guattari use the word *territorialisation* for this process. Another *becoming* can then follow in the opposite direction. The second becoming frees and flees. It undoes the existing structure within mechanisms or *deterritorialises* them. The *deterritorialised* entity will then start a new *territorialisation/becoming*. The conflict between *territorialisation* and *deterritorialisation* is in no way seen as dialectic and can happen simultaneously. These two *becomings* are connected together with the concept of the *body without organ*. Deleuze and Guattari define the *body without organ* as an unformed body, which constantly eludes stratification, matter without a form of content or expression (Young, 2013, p. 56) like the capital. In urban design, the *body without organ* could be seen as that which gives potential for different urban form such as power and money. Specific form is then brought about through urban development. Also the concept of theory and practice can be seen as territorialisation of certain mechanisms of dealing with urban change.

Ten years after *A Thousand Plateaus,* Deleuze and Guattari wrote *What is Philosophy* (1994). *What is Philosophy* could be seen as an ontological statement where they discuss how concepts cut through the chaos of the world in order to make meaning out of (territorialise) the world (Massumi, 1996). In *What is Philosophy,* Deleuze and Guattari differentiate between art, science and philosophy. The concepts in this book are seen as ways of dealing with the chaos of the world. Philosophy and science are seen as approaches to working with 'chaos' and attempting to bring order to it, both philosophy and science are creative modes of thought, and both are complementary to each other. The third mode of creative thought is art (Bonta & Protevi, 2004, p. 29). Deleuze and Guattari define chaos as the *virtual* (the concept of multiple possibilities) rather than as absolute disorder appearance (Deleuze, Guattari, Tomlinson, & Burchell, 1994). This can potentially be helpful for urban design where philosophy, art and science are supposedly all functioning together. In this dissertation, in analysing interviews this manifestation of *concept* as means that cut through the chaotic world is employed.

The Deleuzoguattarian philosophy presented here sees everything in continuous change – everything as production. From a Deleuzoguattarian perspective, any rigid structure claiming to enable us to understand the world would be seen as imposing an intended ideology onto one's experience. Rather, all entities are seen as *becoming* and identities are only temporary. Also, every *assemblage* is seen as regulating its own mechanism. As a result, there cannot be any *law* which explains all systems, as is thought in the philosophy of science (positivism) and the church system. Instead, the *life* of systems should be the subject of studies when trying to understand the world. This approach is twofold. First is the studying of the system within its own regulation. Second is the studying of the phases in

[1] Deleuze and Guattari develop a vocabulary that emphasises how things connect rather than how they 'are', and tendencies that could evolve in creative mutations rather than a 'reality' that is an inversion of the past. Deleuze and Guattari prefer to consider things not as substances, but as assemblages or multiplicities (Parr, 2010, p. 174).

which these regulations change. Current methodology of urban design, however aware of the importance of context and time, rely on generalisation of limited observations and/or take the structure of towns as a rigid phenomenon that follows specific rules. In these two ways, Deleuzian understanding of changing mechanisms can broaden the scope of the discipline.

What is of particular importance for this dissertation is to consider the knowledge and the professionals as components of bigger mechanisms. Urban design knowledge, specifically, is not separated from society or from the mechanisms happening within cities. In this sense when a mechanism is *territorialising*, pragmatism might be useful because there are mechanisms defined within the system. On the other hand, when a system is *deterritorialising* from its regulations (creativity can be an example here), pragmatism is no longer useful because there are no regulations based upon which a goal can be set.

Concept	Definition	Possible application for urban design
Rhizome	The connections that occur between the most disparate and the most similar of objects, places and people; the strange chains of events that link people (Parr, 2010, p. 232).	Rhizomic thinking in practice changes (differs) the real and rejects any ideal (transcendentalism) (Massumi, 1996). Such a thinking approaches mechanisms (including cities, knowledge, nature etc) as interconnected entities with further potential connections. Moving towards a perspective of multiplicity where the knowledge is the consciousness of system.
Assemblage	[Agencement]: The processes of arranging, organizing and fitting together. Assemblages are complex constellations of objects, bodies, expressions, qualities and territories that come together for varying periods of time to ideally create new ways of functioning (Parr, 2010, p. 18). An intensive network of rhizomes displaying 'consistency' or emergent effects by tapping into the ability of the self-ordering forces of heterogeneous material to mesh together (Bonta & Protevi, 2004, pp. 54–55).	Assemblage is an adaptation of rhizomic thinking. Relating the materiality, agency, knowledge and the context together in an open system.
Smooth space	The space of intensive process and assemblages, as opposed to the striated space of stratified or stable systems (Deleuze & Guattari, 2002).	Striated space is establishing the order, institution and power of the knowledge and the practice of urban design, whereas smooth space is moving away from fixed order. This conceptualisation opens up understanding of transferring striated space to smooth and vice versa. This means space is continually changing (defined space becomes directional, for example). This means that no space can ever be finalised but is seen as in a continual process of reformation.
Striated space	As opposed to smooth space, striated space is where movements concern the relationship between points or nodes that are defined by a higher plane or dimension (Young, 2013, p. 300). Smooth and striated space are not absolute and they exist together	
Line of flight[1]	The threshold between assemblages, the path of deterritorialisation (Bonta & Protevi, 2004, p. 106). Every assemblage is territorial in that it sustains connections that define it, but every assemblage is also composed of lines of flight (deterritorialisation) that run through it and carry it away from its current function (Parr, 2010, p. 147).	Lines of flight are the beginnings of new assemblages. New ideas and new regulations are line of flight. All systems face lines of flight but it is not clear when it happens and where a line of flight might lead to. In order to acknowledge lines of flight, an open framework is required which is capable of understanding uncertain changes.
Becoming-minority	A general ethical/political concern, as Foucault comments on Anti-Oedipus (Deleuze	Capable of offering ethics for research and practice. Instead of being a tool for the majority (the main

(anti-fascism)	& Guattari, 2012). Power desires fascism (either macro or micro fascism) becoming-minority is an ongoing struggle against totalitarianism of fascism.	way of reproducing power), urban design can aim to provide more space for minorities or being others in this scope.
Nomad (science)/ State science	Nomad is the name of an 'agent who not only inhabits, but territorialises, (im)mobilises, or constructs smooth space by means of consistent independence from specified points and localised, stratified domains' (Young, 2013, p. 221). Derived from this concept, nomad science is defined as personal and problem-based, as opposed to state science which is general, abstract and well-established.	'Nomadic subjectivity is the social branch of complexity theory' (Braidotti 2013, 87). Creativity in both practice and theory highly related to specificity of the context. It is personal/informal and often critical. Nomad science can help to grasp what usually falls out of the scope of orthodox methodologies.
Actual	An ontological term for Deleuze, actual is replaced in A Thousand Plateaus by its correlate, 'stratified'. The actual is the aspect of complex systems displayed when, in a steady state, they are locked into a basin of attraction: Actual, stratified (Bonta & Protevi, 2004, p. 49).	Calls for interdisciplinary studies that are not dominated by structural models. Virtual is a set of possibilities or existences without intensity. Virtualises actualise through mechanisms but continue their co-existence. Applying this concept, power, capital and knowledge are virtual and urban form is actual. Neither is abstracted from one another but they vary in level of intensity.
Virtual	The component of Deleuze's ontology determining the modal relation of possibility or potentiality vis-à-vis actuality for complex systems; the virtual provides a way of talking about the phase space of systems, the patterns and thresholds of their behaviour (Bonta & Protevi, 2004, p. 164).	
Stratification	This is used instead of actualization in Deleuze and Guattari's later texts. It 'works by content-expression or territorialisation-coding-overcoding, and operates in any register from geological to organic (speciation) to social as the way to appropriate matter-energy flows from the earth and build a layer that regulates the flow' (Bonta & Protevi, 2004, pp. 150–151).	Stratification can explain the way norms, discourses and the shared body of knowledge are formed. Methods, trends and levels and institutionalization of knowledge are stratifications. Stratification can be seen as having some elements of fascism because it follows one organizing force. Nevertheless, it is necessary for any progress to occur and is part of the continual process of change.

Table 5: Deleuzoguattarian concepts and their potential applications to urban design research.

Nine reasons to apply a Deleuzoguattarian methodology

This section explores the areas where Deleuzoguattarian-inspired methodology has advantages over the current urban design methodologies. Thus, this section commences with applying Deleuzoguattarian ontology to urban design issues. Applying such a philosophy is a challenging task, since the employment of the philosophy is famous for being hard to grasp (Holland, 1999, p. 1).

Deleuze and Guattari's philosophy has sometimes been thought to be 'high theory'[1] without real potential for empirical research and this reflects the main criticisms of the philosophy that will be discussed later. However, this view has been challenged recently (Coleman & Ringrose, 2013). The original purpose of the philosophy was one of application across many disciplines. Deleuze refers to the philosophy as 'tool box concepts' (Deleuze & Parnet, 2006). Concepts, for Deleuze, are not supposed to

[1] Not to be confused with Verma's conception of high theory.

reinforce a belief system but instead, they should form a 'tool box' for action. A concept should enable a more open view and answer questions like *What new thoughts and emotions does it make possible?* (Massumi, 1992, p. 8). In this section of the dissertation, the concepts introduced in the last section are considered in relation to specific urban design issues.

Generally, Deleuzoguattarian philosophy seems to be appropriate for research that studies the complex and ever-changing systems; cities are glorious examples of such systems. The following presents nine issues within urban design where Deleuzoguattarian philosophy has advantages. These advantages can be seen as reasons why a Deleuzoguattarian approach is adequate for certain research. These reasons are strongly (and perhaps rhizomatically) interconnected, but nevertheless presented here separately for the sake of argument.

1. Complexity

Cities are complex[1] phenomena. Therefore, urban design by is dealing with complex systems. This is nothing new for urban design. Jane Jacobs, in the last chapter of her accomplished book *The Death and Life of Great American Cities*, investigates 'the kind of problem a city is'. There she pictures cities as extremely complex systems (Jacobs, 1992). Christopher Alexander also explains that urban form and function are the results of the network of complex patterns that work together (Alexander, 1977). Alexander also criticises the tree-like hierarchical understanding of cities and the design which comes from that perspective (Alexander, 1965). This is similar to, and perhaps had been inspiring for, the concept of rhizome in opposition to arborescent thought. Nevertheless, Deleuzoguattarian philosophy goes beyond collective activities (Jacobs's organised complexity) and forms (Alexander's semi-lattice structure) and addresses psychology and capitalism. In this Deleuzian philosophy is more comprehensive[2]. Despite considering complexity within urban design literature, still the theoretical frameworks being referred to by urban designers are not able to theorise this complexity. It seems that urban design has not yet developed a philosophical argument for its theoretical frameworks of complexity.

One of the basic problems here is that considering complexity, comparing to using simple frameworks, makes it hard to decide upon actions. On the other hand, the simplified frameworks (and theory) can create more problems because they cannot fully represent the existing dynamics. Oversimplified theory can also cause imposing presupposed solutions to the problem[3]. This is a similar criticism to what discussed earlier in regard to structuralism. Therefore, an ideal framework should be able to oscillate between complexity and simplicity when it is necessary.

Particularly, the framework has to correspond to the postmodern space which is one of the advantages of the Deleuzoguattarian philosophy. As opposed to Kantian philosophy which corresponded to "Euclidean space, Aristotelian time and Newtonian physics, Deleuze provides a philosophical framework that corresponds to the contemporary scientific world of fragmented space, twisted time and nonlinear physics" (Marks, 2006, p. 4). This dynamic complexity is what makes the reality of the contemporary cities. "The argument is that Deleuze and Guattari offer us a set of concepts

[1] Complex systems theory believes that complexity happens when various agents (that are able to receive feedback from the system) are competing for limited resources (Johnson, 2009). Such theories are well able to modelise complexity but they often do not acknowledge the politics of the contexts. In fact they are reducing the reality to their simplified frameworks. Therefore these theories are not suitable for the purpose of this section.

[3] It can be argued that urban design literature offers a type of general solution to far extent regardless of deep understanding of the problem. Values like mixed use, walkability, permeability seem to be aspects of such solutions.

that help us think more effectively about how the world actually works. If we can apprehend the world better, it follows that our planning interventions can be more effective" (Purcell, 2013).

2. Wicked problems

Urban problems have been considered to be wicked (Rittel & Webber, 1973), and urban design scholars also seem to borrow this concept (Biddulph, 2012; Carmona, 2014b; Lang, 2005). Some aspects of wickedness of urban problems are echoed in the idea of rhizome, such as uncertainty, possible connections to other areas, uniqueness etc. However, associating rhizome with urban problems is not a new title for a known problem. Rather it is a new conceptualisation, in the way that if urban problems are rhizomatic then urban designers need to be legitimised to go beyond rigidly defined frameworks, a new way of thinking is necessary. This has been the case for many designers where they found that they need to be able to follow the problem to other domains.

When the nature of the problem is wicked then the theory and practice need to be appropriate. Deleuze and Guattari's philosophical view has the potential to draw on the wickedness of urban problems as well as ways of dealing with it. It is argued that this philosophy 'is particularly helpful for thinking about methodology, because one of its key demands is to break down the false divide between theory and practice. As Deleuze maintained, "theory is an inquiry, which is to say, a practice: a practice of the seemingly fictive world that empiricism describes; a study of the conditions of legitimacy of practices that is in fact our own" (Coleman & Ringrose, 2013, p. 2). This view can be a point of reference in relation to dealing with wicked problems.

3. Considering the human non-human

Connections between materials (body) of cities with forces that influence and form it (body without organs) is not considered extensively in urban design frameworks. Materiality has various aspects. A good theoretical framework should be able to inform a range of debates about materiality. Distinguishing between objective and subjective concepts is applied for urban design theory (Moudon, 1992). But the connection between subjectivity and objectivity is usually seen through classic psychological perspectives.

Psychological and behavioural studies are not enough to explain why the specificity of the object and subject accrue. Understanding specific aspects of a context is also problematic if applying general rules of behavioural and psychological studies. Design needs a framework that explains how the built environment is being formed and changed. The recent attention to Actor-Network Theory (which is itself derived from Deleuzian philosophy) in planning (Farias & Bender, 2010; Y. Rydin, 2012) can be seen in this respect. "[W]e make no distinction between man and nature: the human essence of nature and the natural essence of man become one within nature in the form of production or industry, just as they do within the life of man as a species" (Deleuze & Guattari, 2012, p. 4).The similar argument is valid about the critical urban theories and their inability to explain characters of urban form as they are working better in bigger scales (McFarlane, 2011a, 2011b). Yet Actor-Network Theory can theorise specific forms of spaces (Sendra, 2015).

This conceptualisation robustly allows studying the agency of people in relation to the built environment. "Because of their insistence on a politically informed use of complexity theory when considering social systems, Deleuze and Guattari's work enables us to re-conceptualise major problems in philosophy and geography, and, in particular, the seemingly unsolvable structure/agency dilemma" (Bonta & Protevi, 2004, p. 3). In this regard, connections represent the agency of materials and people, actors which should be seen together as an assemblage. This is manifested as post-humanism (Braidotti, 2013).

4. Established versus informal knowledge

Another advantage of Deleuzoguattarian philosophy is theorising both established knowledge and informal knowledge – state science referring to established knowledge is written about alongside nomad science (Deleuze & Guattari, 2002, pp. 398–413). Any form of knowledge that is not inhabited in the formal system of knowledge can be examples of nomad science like individuals' knowledge and homeless people's way of life or other alternatives ways of life.

Being inclusive to both state science and nomad science is important for urban design. The interaction between state science and nomad science is affected by different issues such as psychological, cultural etc. In urban design methodology to a far extent, a phenomenological framework tends to focus on personal view while positivist approach tends to abstract the space and people in order to find general rules.

In a Deleuzoguattarian framework, analysis is sanctioned by the state science whereas the intuition is correlated to nomad science. They go a step further to explain that "analysis – the default mode of state science – immobilises the world and extracts 'simples' from which reality can be reconstructed, intuition puts us in contact with the underlying continuity and fluidity of the natural world. Crucially, analysis neglects the dimension of temporality, attempting to extract repeatable structures from a world that is in constant flux" (Marks, 2006, p. 8). A methodology based on such a view can be very well dealing with informal urbanism (Dovey, 2012) and particularly in applied in Massive Small movement or other bottom-up urbanism where the nature of knowledge and change is achieving in the system ('Massive Small', n.d.).

5. Comprehensiveness

Deleuzoguattarian philosophy is a comprehensive view of the world that explains the connections between different aspects of the life/being (Deleuze and Guattari, 2002, p. 229). They are generally against segregation (departmentalization). Different forces shaping cities are connected; "all forces in city changes are interrelated with all other forces" (Jacobs, 1992, p. 242). These correlated connections are not limited to physics of cities but include citizens, professionals, knowledge and materiality. Complex connections, and more importantly the potential of such connections, may appear random but still they are the results of various forces, organised complexity (Jacobs, 1992). Artistic, scientific and philosophical concepts are applied to make meaning of this randomness. This philosophy paves the way to see knowledge as part of the system and the anomalies of knowledge as potential for bringing about a new territory of the knowledge (Coleman & Ringrose, 2013).

6. Critical and practical view

Deleuzoguattarian philosophy criticises existing situations in regard to power systems and calls for action. In this sense it is suitable for urban design. Critics of urban design from a political economy point of view, for instance Cuthbert (Cuthbert, 2007a, 2007b), are allocating a general problem of capitalism or urbanization of the capital to urban design. From their point of view, urban design is merely trapped as a part of the bigger system therefore it cannot work for any other purposes.

An immediate response to this criticism is, if the problem is about the whole system, the solution to that needs to be at the same level or there will be no solution that really solves the problem. This means that the application of political economy to urban design does not necessarily lead the practice despite its informative overview. Deleuzoguattarian philosophy not only addresses capitalism but also goes further to see the causes of it by providing a more comprehensive perspective. Based on this perspective, Deleuze and Guattari consider any form of structure (and power) to be capable of creating 'fascism'; to avoid fascism they propose the concept of 'Becoming', as a continuous changing process. Jean Hillier uses this concept in addition to the plane to define planning (Hillier, 2011). While political

economy is a successful framework for understanding urban design for example (Madanipour, 1996; King, 1996, 1988; Kostof, 1999; Bentley, 1999; Lynch, 1981), its usefulness in practice remains problematic. This shows the need for redefining the interaction between understanding cities and designing cities. The Deleuzoguattarian philosophical approach can contribute here by defining meaning and action as an assemblage (Deleuze and Guattari, 2002, Introduction). One example of directing the change in societies based on Deleuze and Guattari's work in *Nomad Citizenship* (Holland, 2011) where the author discusses that common actions (in a free market context) can deterritorialise the system and result in more freedom. This view is both critical and able to provide a platform for action.

7. Interdisciplinary

Urban design is argued as being inspired by both art and science (Gosling & Gosling, 2003). Despite the fact that it uses scientific theories and artistic creativity, the theoretical connection between art and science is problematic in the literature (Cuthbert, 2007a, p. 172). Urban design methodology is thus required to be able to relate various theories, paradigms and methods available under the title of urban design. Deleuzoguattarian philosophy makes it possible to develop such a framework. The separation between disciplines is challenged by having Deleuzoguattarian philosophy. A transdisciplinary view is an application of such view.

8. Nonlinear cause-effect relationship

When a system constantly changes its regulations, assuming a simple linear cause-effect relationship is misleading. The proposed philosophical view can provide a methodology that is able to theorise more complicated relationships (De Landa, 2006). As a result, change in the knowledge and practice can have more complex relationship. What is necessary is to appreciate the complexity and uncertain nature of these shifts but there should still be elements of cause and effect, otherwise any attempt to theorise would be redundant. Any successful theoretical approach needs to consider the cause and effect in urban design to be nonlinear. As Jacobs says, "cause and effect become confused precisely because they do link and relink with one another in such complicated ways" (Jacobs, 1992, p. 271).

9. Normative/ethics of design

Urban design has strong normative aspects (Inam, 2011; Lang, 1987; Lynch, 1981; Shane, 2005). The question here is how these norms are established and studied. Some scholars argue that if an environment provides more options to more groups, it is fulfilling the normative values of groups. Others argue that because the majority of the users would like the environment based on previous experiences, then repeating good environments guarantees achieving normative values. The question here is who are these imaginary users? The relationship between social values and urban design is rather complex. Is urban design merely a means that embodies historically produced aesthetic, which is manufactured by the advanced capitalist powers? Another way of discussing social values in relation to urban design is finding generic values, as Lynch has done (Lynch, 1984). The key problem with this method is assuming that concepts like justice can have general meanings separate from their context (Flyvbjerg & Sampson, 2011).

The current methodologies cannot provide other ways of defining what is good and bad for cities. However, Deleuzoguattarian philosophy offers becoming-minority as an ethical approach for action. This has recently been discussed to be employed in planning (Ansaloni & Tedeschi, 2015).

How can Deleuzoguattarian philosophy help urban design research?

The final discussion of the section on philosophical arguments is to explore how Deleuzoguattarian philosophy can benefit operating urban design research. This can only be truly validated through number of research and projects. Nevertheless, some general directions can be discussed here in order to show the potentials for such research. One of the main results of applying Deleuzoguattarian philosophy in this research is to prevent any presupposed structure dominating the outcome. Non-representational studies are examples of this attitude (Thrift, 2008).

One example of possible application of this view to urban design can be in studying the nature of the sense of place (Dovey, 2010). Making the sense of place has long been an important task for designers and academics, it has sometimes been understood as the main task of urban design (Carmona et al., 2003; Sepe & Pitt, 2014; Tibbalds, 2000). In the literature there are models (Punter, 1991) and explanations of ways to achieve it (Montgomery, 1998). Nevertheless, sense of place may not be achieved despite fully following a checklist (Southworth & Ruggeri, 2010). In fact, the sense of place can be declined because following the checklists prevented the designers from observing the specific requirements of their case. Why this happened? Is it because the models and checklist are not complete or is it because the very nature of the problem is non-formulable? By replacing the existing ontology with Deleuzoguattarian philosophy, the system defines, regulates and changes the very nature of the sense of place. Because of this view, system may deterritorialise regulations due to some *rhizomic* connections every now and then (Dovey, 2010). Having this view, the urban designer should study the *life* of system to find out the regulations, which change, rather than presupposing existence of law in the way that system works. As a result, urban design knowledge is required to support more flexible action.

Table 6 revisits the prevalent methodologies discussed earlier in this chapter in comparison with Deleuzoguattarian methodology. Despite its simplicity, the table shows that different methodologies may suit varying researches. However, the Deleuzoguattarian methodology is particularly applicable for those researches studying complicated and fundamental aspects of urban design. Many urban design researches may reflect a specific methodology. The researcher can adapt their theoretical stance based on the problem they are dealing with. Using mixed methods seems to be the case in the majority of urban design publications. Since the subject of this dissertation is regarding professionals and urban design knowledge interactions in their complexity, Deleuzoguattarian methodology can meet the needs of this research.

Questions / Methodology	Ontological questions			Epistemological questions			Normative questions		
	What assumptions are made about the nature of the outside world (city)?	**How does the outside world change?**	**What is the human action in relation to the nature of the outside world?**	**How is urban design knowledge legitimised?**	**What does urban design knowledge rely on?**	**What leads knowledge?**	**What are the values set for urban design?**	**What is the human action in relation to the world?**	**What approach is offered to urban design?**
Rationalism	Follows rationality	Is fixed	Understands it	Through logic	Rational proposition	Neutral (value-free)	Specified ideal	Control it (conquer)	Application of deduced laws
Empiricism	Has a law to be discovered	Is fixed	Observes it	Through practicality	Hypothetical statements	Material	Generalised real	Use it (get the benefit from it)	Application of induced laws
Phenomenology	Represents deeper realities	Some aspects never change, change follows transcendental forces	Settling (being) in the world	Through philosophical interpretation	Fragmented understandings and interpretations of the being	Language / history / essence	Transcendentalise the real	Give meaning to it	Making places by connecting spatial experience
Marxist political economy	Represents production and reproduction of capitalism	Moves by power forces (history)	Is controlled by or reacts to the control	Through power	Class struggle narrations - aspiration	Power	Produced by the market	Fight for rights / revolution	Awareness of urban design as part of a bigger system (capitalism)
Deleuzian	Each assemblage has its own life (regulations)	Re-regulates its rules – is territorialised, deterritorialised and reterritorialised	Action is co-created with the outside world	Through each assemblage's set of values or through challenging	Dynamic concepts (as opposed to fixed propositions)	Assemblages develop their own consciousness within their autonomy	Emerge from the system / self-problematizing	Challenge it / problematise it	Territorialisation of life/Deterritorialisation of any imposing power

Table 6: Comparisons between various urban design methodologies from ontological, epistemological and normative perspectives.

Deleuzoguattarian methodology's propositions

Reflecting on the concept of *territorialisation* in this section, the propositions below that form a Deleuzoguattarian methodology are explored in four parts of ontological, epistemological, normative aspect and research application. Each proposition illustrates similarities amongst the three aspects. In this way, the propositions link the way the outside world is perceived to the knowledge achieved from it and the way that norms of design could be defined.

First set of propositions: constant change

Deleuzoguattarian philosophy believes that every entity is always in the process of change (Deleuze & Guattari, 2002; Deleuze & Patton, 2004; Holland, 2013). This statement derived the following propositions.

Ontological proposition 1: Every entity is changing (becoming). The change can happen at various paces and due to different reasons. Opposing to what Plato manifested, the ever-changing natures of the world rejects the ideal form and *essence* for entities.

Epistemological proposition 1: Defining the world as ever-changing phenomena means that the knowledge about the world is produced *through* the system. In social science, application of this thinking challenges the idea of fixed structure in the society. Knowledge needs to be reformulated again

and again. In turn this manifestation of knowledge would provide solutions for the dilemma between micro and micro actors (De Landa, 2006).

Normative proposition 1: Consequently, the concepts of value would shift from a generic direction to more situated ones. This means values, for example justice, unlike what Lynch discusses (Lynch, 1981) are not generic but considering the socio-political context their importance and manifestation can vary.

Research applications: Theory constantly changes. Thus the existing understanding of theory and practice of urban design (the existing condition of the interaction between the two) cannot follow any presupposed definition or model nor can the findings (of any research) be taken as to reveal fixed ways of interaction between theory and practice. The reality always changes so the research findings must acknowledge this. But different parts of the world change at different speeds. Then the flexibility of findings is indicated by the speed of the change in the entity being investigated.

Second set of propositions: human and non-human

As it was discussed, Deleuze and Guattari's philosophy rejects human beings as *the measure of everything* (Braidotti, 2013; Deleuze & Guattari, 2012); The following set of propositions derive from this point.

Ontological proposition 2: Human being is fundamentally a part of the world. However, this proposition in principle is a repeated claim, a deep understanding of connection between human being and the world is a dramatic shift from classic philosophy and mainstream discourses in urbanism. First consequence of this proposition is that human being is not centre of everything nor (s)he is the measure of everything (Braidotti, 2013). The human being is emerged through the process of territorialisation of chemical materials and in more fundamental view it is part of the earth.

Epistemological proposition 2: Each system has its own consciousness. If human being is not separate from the world then the knowledge achieved/developed by human being is not only form of knowledge. This means that systems would have their own crystallization of knowledge. This highlights the role of professional as collaboration with the system instead of knower (Rydin, 2007).

Normative proposition 2: Any assemblage can develop their own normative sets. Following the second ontological and epistemological propositions, the human's power and will is limited to what the context provides him. The design can then either empower the system's mechanism or challenge it.

Research application: Mechanisms that connect human being to the world can make various forms of knowledge. This research focuses on one form of knowledge; the conscious interaction between theory and practice (as discussed in the introduction).

Third set of propositions: regulations

It was explained that each system (or set of connections) constitutes its own regulations (Holland, 2013). The following propositions come from this.

Ontological proposition 3: Each assemblage (system) makes its own regulation. In doing so, systems can make new connections and remove existing connections. This is *rhizomic* thinking and the application of it is assemblage theory which resulted in a new conceptualisation of cities (McFarlane, 2011c).

Epistemological proposition 3: Knowledge is developing in various directions and it is fundamentally consisted of discrete parts. Knowledge-based action and non-knowledge based action are similar in their nature. But they are endorsing different regulations. Systems develop knowledge in order to regulate actions.

Normative proposition 3: Good design cannot be fully achieved through urban design knowledge. It may benefit from other branches of knowledge and other mechanisms of formation of urban spaces. In other words, good design can territorialise additional means.

Research application: The shared body of knowledge does not represent a complete understanding of the knowledge, rather what forms the knowledge is an amalgamation of different understandings. Interviewees also constantly change their views. Accordingly, this research is a cut through the topic and it is a reading of the complex interaction.

These propositions make a platform for this research and in the future could be adapted to guide other urban design research. The key contributions of the proposed methodology are as follows:

- It allows the understanding of cause and effect in relation to the production and application of knowledge in all its complexity. In this sense the complex network of the relationship between theory, practice, knowledge and society would not be reduced into casual (or any linear) models/representation. Seeing phenomena as part of bigger networks is the implementation of such thinking. This research aims to operationalise this view in acknowledging the connections between people and concepts.
- The methodology legitimises analysing interviews using a *wondering in data* method (Coleman & Ringrose, 2013), in which the interviewees' view is prioritised over the interviewer's presumptions. This allows the research to go beyond the fixed (predefined) structures. However, this does not mean refusing to use any structure. Rather it suggests taking into account dynamic (non-structured) processes as well as structured ones. This research in particular, has developed a few structures (such as the typology and five sources of creativity) but the interviewees are allowed to reflect on their particular view regardless of those structures.
- It helps to prevent reductive interpretations of the findings; not reducing the findings to simple models. This view however produces a complexity that cannot not be easily represented in the form of a linear piece writing or a static visualisation. Nevertheless, each interviewee's view towards the problem is acknowledged to be valuable since it provides an insight into understanding the complexity of the topic of the research.
- It allows a re-conceptualisation of the problem.

The following sections of the methodology, based on this philosophical view, justify the methods applied during the research.

Research design

The research design illustrates the link between objectives of this research, literature review and philosophical methodology. Generally, method legitimises the outcomes. Having clear methods for a research also makes further progress possible. The method itself stands on methodology (Paltridge & Starfield, 2007). In this research, both methodology and method are formed in accordance with the research questions and the objectives. Figure 6 shows the research design from the questions to the final result. This flowchart shows which recourses are being used to provide a picture of the shared body of urban design knowledge. The shared body of knowledge is the starting point for individuals, whether in practice of academia, to develop their own understanding of urban design.

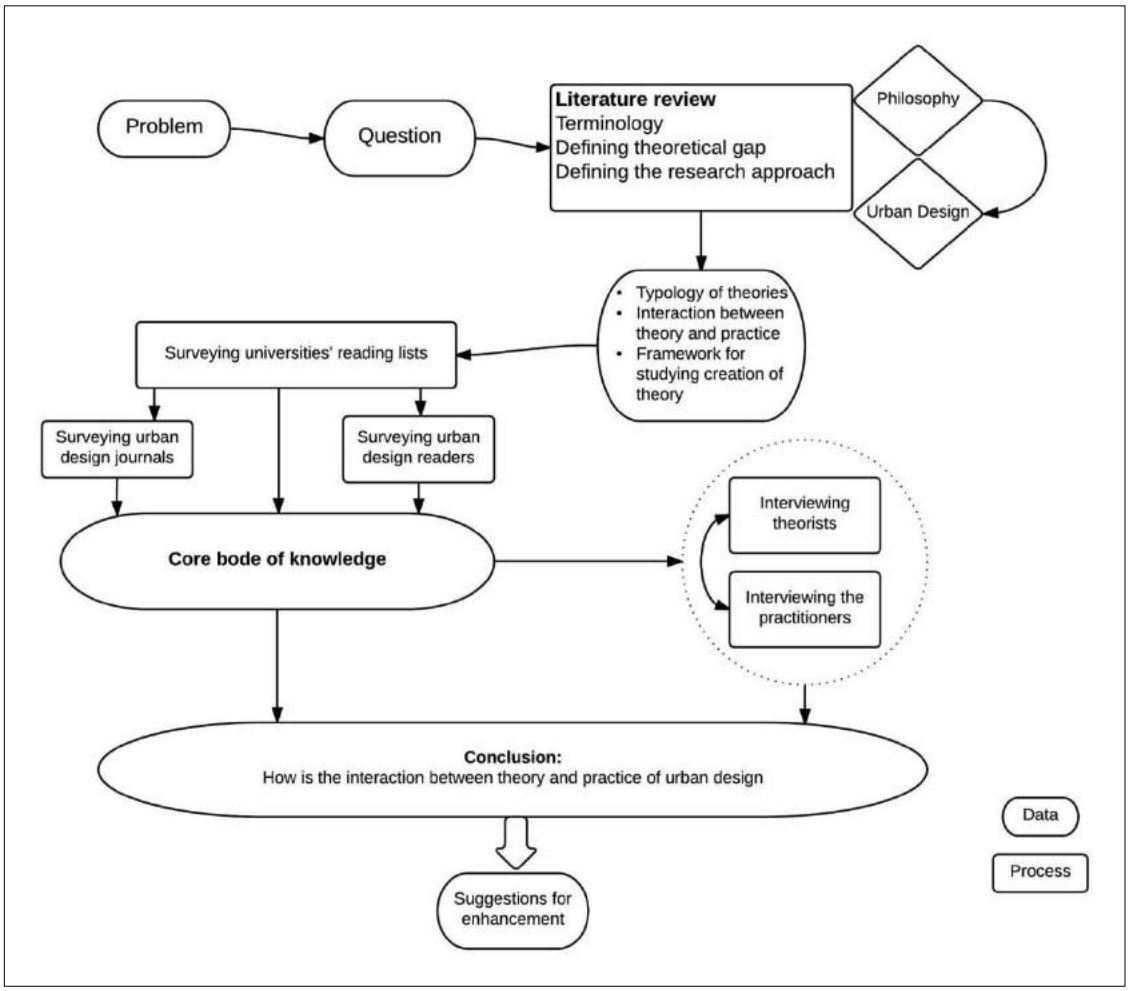


Figure 6: The conceptual plan for this dissertation.

In order to make a picture of urban design theory, first of all key concepts were investigated in the literature. These concepts begin with understanding the characteristics of theory in general and urban design theory in particular. In order to explore the general characteristics of theory, philosophy and philosophy of science were inspiring for this research.

Based on this research's understanding of theory, the literature of urban design was then investigated. From the literature review, the need for a structure organizing the knowledge was identified. Responding to this need, a typology of urban design theories was introduced in the previous chapter. Other aspects of theory such as its fundamental connection to contexts, institutionalization of theory and individuals' relationship to theory were illuminated in the literature review.

The previous section of this chapter examined the existing urban design methodologies against the needs of this research and adopted a new methodology that is capable of meeting the needs of this research. In this sense, this research had a methodological encounter with the literature in order to investigate the research's questions see Figure 6.

Finding important texts on urban design (Shared body of knowledge)

As was discussed, the common understanding of the professionals is the subject of this part of the dissertation. The common understanding forms a language for the field. It also legitimises the profession (Lyotard, 1984). Nevertheless, focusing on the shared body of knowledge does not suggest reducing all sorts of knowledge to what is in common. Rather, it provides a platform for more variations of knowledge in forms of critical studies challenging the orthodoxies of the fields; It shows the ways in which experts gain their professional voice and power (Reed, 1996). The common understanding also allows individual professionals to define their stance in respect to the mainstream of the field.

Finding the common body of knowledge is nevertheless a challenging task. "One difficulty in merging the academic and practitioner views of core knowledge in planning is the divergence of opinion in the planning" (Edwards & Bates, 2011). The very same difficulty exists here. One can assume that there is no common understanding of knowledge amongst the professionals but this dissertation takes the opposite way.

In urban design, institutions that are establishing the mainstream urban design are universities. The first method of investigating the shared body of knowledge is to find repeated texts at different universities' reading lists. The second way of studying the shared body of knowledge is examining urban design readers. Readers of urban design try to select key texts. Finally, the third way of investigating the shared body of knowledge is to investigate professional journals on urban design. Urban design journals often show which articles are being read the most amongst their publications.

Unfortunately there are very limited studies on the important theoretical texts and almost all of them do not illustrate their method in making their list (Cuthbert, 2007a; Ellin, 1999; Moudon, 1992). The limitations of the mentioned studies highlight the importance of this part. Nevertheless, this dissertation shares some aspects with the mentioned studies. The first common aspect is the focus on English part of the literature. The shared body of knowledge in this sense is limited to the language. It seems that language is an appropriate boundary definer for knowledge compared to political bounties. Knowledge easily moves from one country to another, but this is not the case from a language to another as it was discussed in relation to Jan Gehl's book in the previous chapter. This is the case even though the political economy and urban design mechanisms are different in different countries.

Another point that this research shares with the mentioned studies is that it pictures urban design knowledge in its totality and not a specific topic. Using the terminology of the suggested typology, this research is type three (see Three types of urban design theory p. 49).

As a result, this research assumes that general understanding of urban design is the best subject for studying the key theory of urban design. There are undeniable weaknesses in the shared body of knowledge, but it is the most reliable source of such a study because it has been endorsed by academics. It also forms the student's understanding of urban design as the next generation of professionals.

University reading lists

Accordingly, the most important texts of urban design theory will be understood to be those that are repeated in reading lists for urban design theory courses at universities. Considering shared texts amongst universities' reading lists as most important texts has been applied in different studies before (Klosterman, 2011). Stephen Marshall justifies his list of important urban design theory texts because of the great number referring to them (Marshall, 2012). The same reasoning with a different method is applied in this dissertation.

Searching for university reading lists could be done through email and the result will provide a database for further analysis such as possible emphasis by certain universities on local writers, or in other words, to what extent does the importance given to certain theories differ from one university to another and from one country to another? This list also will show which theories are taught and which theories from which times are taught as well.

Universities are the place where research and education meet, where different voices and understandings of one concept are solidifying. In planning courses there is often a specific course on urban planning theory (Edwards & Bates, 2011). It is assumed that in urban design a similar condition exists, but it will be studying through the field work in this research.

Universities that offer urban design courses often have a theoretical course with a reading list. This module may have different names, placemaking, theory and history, principles… In some cases these lists are available online.

In some cases, however, it is not clear which module is more theoretical and the course leader will embody theory into all modules. In order to achieve more trusted results, it will be asked from the programme leaders which module is the most theoretical in their urban design programme. Despite the fact that more and more universities and teachers are going online, there may possibly be some cases in which the reading list cannot be achieved through email. In these cases, other means of communication will be applied.

This method has been used before for similar studies. Klosterman in his article tries to find the most important texts in urban planning theory (Klosterman, 2011). He focuses on required reading lists for urban planning courses in different universities. One of the disadvantages of this method is relying on programme *titles*. Programme titles do not necessarily show what they are offering; some universities may offer the same content under a different title and some may offer different content under the same title. Programmes under the title of environmental urbanism, for example, can be close to urban design. As was discussed in the first chapter, the focus of this research is on what is being understood and conceptualised as urban design, so the programmes with similar content are omitted from the enquiry.

Another challenge is which universities to include and which to exclude. The research by Edwards and Bates for studying the main curriculum of urban planning in addition to the literature only focuses on top universities (Edwards & Bates, 2011). But focusing on so-called top universities would be problematic. It relies on academic ranking mechanisms that are supposedly not relevant to the argument here. Thus it makes sense to include all universities (as long as they offer an urban design programme in the English language) regardless of their ranking.

This method goes further from Klosterman's methodology in the way in which Klosterman finds the list of universities, which is unclear and appears to be non-systematic. Although it is not clear to what extent the selection of the universities can affect the final result, it is more robust to find the list systematically. For this dissertation, the list of universities comes from a relatively new article on educational aspects of urban design where the author gives a list of urban design courses in English (appendix 1) (Palazzo, 2011). This list will be updated and checked in the empirical study. Palazzo's way of finding urban design courses was through sites like the RUDI. For this research, the same method will be applied. Universities that have an English language programme on urban design are mostly in the US, UK and Australia. Nevertheless there are a few universities (mostly in Europe) that offer a course with such a condition.

After achieving various universities' reading lists, the analysis will provide a picture of the shared body of knowledge. This picture then will be examined against the typology suggested in the literature review.

It is assumed here that the texts appearing in the shared body of knowledge can vary from one country to another. Then the geography of the shared body of knowledge would be investigated. It also should be emphasised here that this list will change from one time to another.

This method has once been tested through this research in order to check samples of reading lists and universities' responses to the enquiry.

Studying the readers on urban design

Another method aiming to picture the shared body of urban design is investigating urban design readers. Urban design readers are of particular importance. They present key arguments in the fields and are often welcomed by young professionals.

There are many readers on urban design starting from 2003. Cuthbert listed the readers of urban design as (Banerjee & Loukaitou-Sideris, 2011; Carmona & Tiesdell, 2007; Cuthbert, 2003; Krieger & Saunders, 2009; Larice & MacDonald, 2007; Moor & Rowland, 2006)[1]. Cuthbert's list of urban design readers consists of some readers focused on specific topics, such as the future of urban design (Moor & Rowland, 2006) for example (Cuthbert, 2010). There are readers that are a collection of new pieces (Banerjee & Loukaitou-Sideris, 2011; Krieger & Saunders, 2009; Moor & Rowland, 2006), as well as readers that collect well-known pieces.

There are two different sorts of readers: those that are intended to gather the most important texts on urban design in its totality, and those that are set for a specific subject. From another point of view, there are two sorts of readers: those that are consist of new pieces and those that are collecting already published pieces.

Readers with new pieces are creating knowledge. In this regard these texts, despite the fact that they are reflecting key issues, do not present the existing shared body of the knowledge. Therefore, this chapter only considers the readers that are republishing the existing pieces. The date of the each piece in readers will be considered in order to provide a chronological map of the knowledge. The number of articles that each reader has will be shown to avoid paying too much attention to one editor more than others.

[1] *Time-Saver Standards for Urban Design* (Watson, 2003) and *Urban Design (Critical Concepts in Urban Studies)* (Banerjee, 2013) could be added to this list.

Title	Editor	Year	Main subject	New or republication?	How many articles?
Designing Cities	Cuthbert	2003	Political economy and urban design	Republication	28
Urban Design Time-Saver	Watson	2003	Most important texts on urban design	Republication	74
The Futures of Urban Design	Moor & Rowland	2006	Trend and future of urban design	New	
The Urban Design Reader	Larice & MacDonald	2007	Most important texts on urban design	Republication	41
Urban Design Reader	Carmona and Tiesdell	2007	Dimensions of urban design	Republication	37
Urban Design	Krieger & Saunders	2009	Knowledge of urban design	New	
Companion to Urban Design	Banerjee & Loukaitou-Sideris	2011	Current debates on urban design	New	
Urban Design	Banerjee	2013	Collection of key texts on urban design	Republication	99

Table 7: Readers on urban design.

A brief introduction to each reader will be provided here in order to shed light on specific aspects of each reader.

Designing Cities (2003): Is "one of the first urban design readers, the selection of papers contained in *Designing Cities* was chosen to emphasise a particular paradigm – namely that urban design is best viewed as a branch of spatial political economy – and purposefully omitted many of the 'classic' urban design contributions that many scholars might expect to see. *Designing Cities* instead chose papers that are largely from outside the traditional urban design canon – Cuthbert's intention being to select articles that would help create a 'theory of' urban design" (Carmona & Tiesdell, 2007, p. 3). In *Designing Cities*, "the articles were chosen in support of a theoretical model whose basic orientation was towards spatial political economy. In so doing, the object was to present a critique a mainstream urban design and to express the need for changes" (Cuthbert, 2011). In this respect, Cuthbert's reader is trying to go beyond mainstream urban design. Nevertheless, his intention is to reflect the most important arguments of urban design.

Times-saver Standards for Urban Design (2003): Is a selection of influential texts in urban design. The purpose of this book is to be both practical and reflect the key theoretical arguments. Being practical distinguishes this collection from others.

The Urban Design Reader (Larice & McDonald 2007): "This anthology of literature brings together some of the most influential and seminal material in the field of urban design. Included in this reader are both classic and newer selections that help to describe both historical and contemporary activity in urban design thought and practice" (Larice & MacDonald, 2007, p. 1).

Urban Design Reader (Carmona & Tiesdell, 2007): "Presents a selection of key texts." "the intention has been to produce a useful reader that includes s good range of classic or staple texts that is, those that are referred to again and again." "This reader might also be viewed as a companion volume to Alexander Cuthbert's *Designing Cities*" (Carmona & Tiesdell, 2007). It is evident that the editors of the readers were aware of other readers. As a result in this research, what readers provide as the key texts is understood as one body of knowledge.

The Urban Design Reader Second edition (Larice & McDonald 2013): This edition includes more American classical texts and new arguments such as resilience cities and urban design in other contexts. It also excludes some text because they are "readily available elsewhere" (Larice & McDonald, 2013).

Urban Design (2013): It "answers the urgent need for an authoritative reference work to help researchers and students navigate and make sense of this huge, rapidly growing, and complex corpus of literature" (Banerjee, 2013). This reader is evidently bigger than others and not available to the public due to its high price. Therefore this reader is excluded from this part of the study.

Studying the readers would extract the topic of each piece, date, author and the problem that the precise tries to address. The result is presented in Appendix 2 where tables present this part of the study. Distinguishing between problem, goal and subject is not putting a distinguishing line between them but seeing a text from various angles. Each text could have goals at different levels. A piece on *Learning from Disney World* has a goal to find out what one can learn from Disney World but its deeper goal is to make public places more diverse. The most distinguishable goal of each text is mentioned in the second appendix. Extracting such data from the texts involves a level of interpretation. Another interpretation of the texts has happened when the editors selected the texts. In fact, reading any text is involved with interpretation.

It should be mentioned here that unlike the reading lists of the universities, in studying readers the frequency or repeating of one name is not so relevant, because it is presumed that the totality of the readers is presenting an understanding of the key debates in the fields. This is due to the fact that the editors of each reader were aware of the existing readers available for the professionals.

A final point to be considered is the number of articles in each reader in order to avoid being affected too much by one reader, so the weight of readers should be approximately the same to make the components of the list comparable and the opinions of the editors equally valued.

Studying journals on urban design

The third way of finding the shared body of knowledge is surveying academic journals on urban design. Since writing a paper takes less time than publishing a book, it could be assumed that journals are on the whole more up to date. Studying the journals of urban design would reflect more updated understanding of shared knowledge.

The level at which a paper is absorbed into the shared body of knowledge could be measured by the number of readers. In this research, numbers of downloading is taken into account and not by the citation, because citation reflects the articles through the perspective of the literature and not the level at which the article is absorbed by the broader audiences. The number of times that an article is downloaded is being taken as the indicator of this survey. Despite the fact that many downloaded articles will never be read, this can be an indicator showing how many people are interested in one topic. A limitation of this method is that journals often have a limited audience. In many cases their subscription limits the access to them. Nevertheless, this survey adds a new perspective to the findings of the other two methods of studying the shared body of knowledge.

Some journals specifically focus on urban design but many journals have other subjects as well. The first step here is to find out which journals are focused on urban design.

To find out which journals are important, the lists of journals start with universities' reading lists. It could be figured out which journals are more repeated in reading lists of universities. These journals are assumed to be journals on urban design. Although some articles from other journals might be important, this method cannot measure their importance.

The list of most-read articles from journals cannot be claimed as the main core of urban design, rather it is supposed to show new directions of urban design theory and check if the interaction between theory and practice has recently changed.

Some journals have most-read papers available. When such information is not available online, enquiry would be done to find out which articles have been downloaded most. This method is developed to figure out more up to date directions of urban design theory. The list of most-downloaded papers amongst urban design journals is the third list of theoretical texts of urban design.

Analysing lists

Three methods aiming at providing readings of the key texts of urban design would produce three lists. They should be seen in relation to each other. In particular, the list from readers is supposed to check if the findings of surveying universities' reading lists shares a sense of the shared body of knowledge with what is being offered in the readers. The journals' survey is a complementary method exploring topics that are being accepted. The list extracted from the journals will show the new directions of urban design theory. According to theoretical framework, the main core of urban design theories will then be considered.

In analysing the lists, firstly the topic of each theory should be extracted. The result can testify the application of the typology proposed in the literature review. If there are texts, authors and topics in common between the lists, it means that there is a sort of agreement about the main theories of urban design between academics.

From each list, some information would be extracted. Table 8 shows which inquiries will be applied to which list. According to what was mentioned in the literature review, the nature of the shared body of knowledge will be explored.

	List of important theoretical texts from readers	List of important texts from universities	List of important (more up to date) texts from journals
Subject of theory	✓	✓	✓
Problem it addresses	✓	✓	✓
How many times it appears		✓	
Geography of writers		✓	
Date		✓	
Practice they referred to	✓	✓	✓
From which field they borrow theories	✓	✓	✓
New directions in urban design			✓

Table 8: Which query will be applied for which list

Table 8 shows that the first analysis of the subject of theories is applied to the three lists. Here it tries to understand what the texts are about. Some texts clearly indicate their subjects, for example the subject of Alexander's theory in *A new theory of urban design* is the process of creating the urban form (Alexander, 1987). There are many cases where pinning down the subjects needs a level of interpretation. This could be arguable especially because some theories have different aspirations at different levels. Lang's theory of what is urban design at one level examines the knowledge but the knowledge itself is about urban form. Therefore, it is not wrong to see this piece aiming to improve cities. Here, allocation of one subject to the text requires interpretation. In this dissertation, the aim is to find the main purpose of each text, which is based on scheme of urban design theory and theory. It will try to see to which extent these subjects match the proposed typologies of theories of urban design.

The next inquiry from lists is to find which problem(s) the texts are trying to solve. Supposedly, writers aim to solve an important problem from their perspective. It is fundamentally related to the purpose of the text because the goal of a text is logically to solve the problem. By finding problems that each text tries to address, the goal of the texts will be clarified. The list of problems that each text aims to solve will also provide materials for further analysis. How the texts define their problems is, after all, important due to the definition of theory for this dissertation, see the literature review.

As shown in Table 8, finding how many times a texts appears in different lists only applies to university reading lists. Sorting texts by the number of universities that recommend them to urban design students directly reflects the level of acceptance for texts. Analysing the differences between the texts in the shared body of knowledge in different countries will reflect the influence of the context on the knowledge. Earlier it was discussed that language is considered to be the border of knowledge. In this respect, countries that have fairly similar access to the knowledge can develop specific understandings of knowledge. But it is hypothesised, at this stage, that a university's emphasis on texts address the contextual issues. But to which extent is that true needs to be investigated after the empirical study. However, allocating a location for some texts is hard because writers have changed their university, and organizations and texts can be written by few writers from various countries.

The next analysis is on the date of the texts. Since the list from journals is more up to date, analysing the date of the texts could mainly be applied to the lists from universities and the readers. The date of the texts may show that in some periods of time, urban design theories improved rapidly. It is assumed that critics of the modern movement of architecture during the 1960s and 1970s inspired the key arguments of urban design (Ellin, 1999; Gosling & Gosling, 2003; Trancik, 1986). When explaining the findings, it could testify the dates with urban changes in political economy. This analysis may put light on the evolution of knowledge and show if it is linear improvement or with some periods of rapid changes in its history.

Analysing the shared body of knowledge tries to see which practices influenced key urban design texts. It is generally argued that the critics of the post-war rapid urbanization are the main source of urban design knowledge. This part of analysis would test this assumption in the shared body of knowledge. It is also assumed that modern American environments and pre-modern European cities are informative in the formation of the knowledge. At this stage, the most-referred environments in texts will be figured out without considering the time and location.

This analysis has its own difficulties, some texts are very abstract and some just categorise and name various case studies, but they are not necessarily learning from them.

Parallel to the previous stage, the question that "from which field important texts of urban design borrow theories" will be investigated. In many cases where texts borrow a theory without mentioning it, it is really hard if not impossible to discover this, and it is not enough to look at the references of a theory in order to distinguish borrowed theory. In order to find out the inspirations behind the theories, one must see if the structure of a theory has been based on a borrowed theory from another discipline. Fully analysing theories at this level is not the purpose of this research, but this enquiry helps to investigate the links between urban design and other disciplines. Theories of urban design have been affected by theories from other fields and, as in many fields, different branches of human knowledge have an impact on others. Theories are sometime built upon each other (Allmendinger, 2009, p. 22). Finding these correlations can provide a better understanding of the condition of knowledge.

The last analysis is to find out if new texts in the shared body of knowledge have different directions compared to classical ones. There are lots of narratives on urban design evolution but this research will provide a robust base for its narrative.

Any of the analyses mentioned above could be the subject of an in-depth research. This dissertation nevertheless only addresses them in order to ground its main part in the interviews.

Interviews

In relation to the shared body of knowledge, professional groups and individuals define their own stances; in the way that they belong to the field but they have their own view towards the field. The main purpose of studding the shared body of knowledge is to explore how individuals are connected yet depart from the shared body of knowledge and the mainstream urban design. The professionals' interaction with practitioners or theorists is seen through the lens of the mainstream literature of urban design. This is due to the fact that professionals are gaining their professional titles through the literature, as it discussed in the literature review.

Up to this point, all of the analyses focused on the literature. Three issues necessitate going beyond the literature and doing the interview with professionals.

First issue is the interpretation, studying the literature at least passed through two layers of interpretation: the author's and the researcher's. Second issue is that studying the literature would not reflect the reality of the ways in which theory and practice are produces and interact with one another as the texts are merely the final product and this research is investigating into the processes behind such products. The third issue, and perhaps the most important one, is that the knowledge and supposedly theory do not only exist in the literature. As the domain of the research for this dissertation is the conscious interaction between theory and practice, the practice side needs to be addressed in terms of their own mechanisms of developing theory. Following this point, the ways in which professionals transfer knowledge is not limited to studying the literature; they use other channels that need to be reflected on in order to provide a better picture of the interaction between theory and practice.

Finding out how practitioners are using theory and how theorists use the practice is the objective of the research at this stage. As was mentioned in the literature review, groups that support theories or ideas play an important role in developing and making any given theory successful. Therefore, it is necessary to explore how groups support a discourse. This argument necessitates using interview as the research method. A similar research aiming at linking between research and urban design also used the same way of interviewing (Ter Heide & Wijnbelt, 2007). Therefore, it seems that this method for finding such information is appropriate.

For theorists, the questions in the interview are to investigate the process of theory-building. Particularly parts the process of developing their theory that are not reflected in their texts. For practitioners, the aim is to see how they employ theory in their practice and what they need from theory. Interview as a method of data collection could be used when data that a research seeks is not available in texts (Zaman & Ahmad, 2007). Therefore, interviewing both practitioners and theorists contribute to this research.

Interview with practitioners and theorists have different aims and different information is expected to be achieved. Nevertheless, the key point in interviewing both groups is to allow them to define the problem and setting of the interaction. This is following the research methodology (Deleuzian philosophy) and manifested as *wondering in data* method (Coleman & Ringrose, 2013). In this way the interviewee *defines* the problems rather than his/her responses being fit into the pre-made categories. Reducing the interviews to pre-set format or codes would hide specificity in each interview. Not only is this approach in line with the research methodology, it is also suitable for the nature of this research. Due to the fact that the theorists and practitioners being interviewed in this research are all well-established, their experiences qualify them to define the problem, perhaps more than the researcher. The research's aim then would be to gather different views and analyse them. For the same reasons, the interviews should be semi-structured. One step in this then can be codifying and finding key concepts of each interview.

Who will be interviewed as a theorist?

This research aims to interview theorists whose texts are repeated in the universities' reading lists again and again. This group of theorists are considered to be successful as they have made outstanding contribution to mainstream urban design.

Writers of the texts in readers were first included but after a quick review of readers, it appears that many of their names appear in the reading lists, and those who are not are academics do not consider themselves to be urban designers, for example Zukin. Writers of most-read journal articles are not included because many of them appear to be focused on specific issues that might not be urban design concerns. Despite the fact that they are excluded from interviews, their texts are analysed.

Since theorists are from all around the world, the interview with theorists when face-to-face is not possible will be online via Skype or other possible ways. Expectedly, like any other research, if some of them for any reason are not available, the research will carry on with available ones.

Who will be interviewed as a practitioner?

Urban design practitioners, according to earlier discussion in the literature review, are professional designers who are recognised to have insightful contribution to urban design. Following the discussion in the literature review, this selection excludes those who change urban form through everyday life, those who are consciously changing urban spaces but are not professionals, and those designers whose design is not inspiring.

This research is trying to find out how professionals (theorists and practitioners) consciously interact, so the focus is on cases when the *interaction* happens. Therefore, practitioners are groups of professionals whose design is knowledge-based. The list of such practitioners will come out of a questioner from a group of urban design academics to see which practitioners of urban design are inspiring for academics. In these cases, it could be assumed that their practice is contributing to theory and the interaction between theory and practice is happening.

This enquiry will be done from those academics at UCL whose names appeared in The Bartlett Urban Design Academics[1]. Despite the fact that some of them do not consider themselves as designers, due to the institutional credit they are considered to be qualified to indicate influential urban design practitioners for this research. Therefore, everyone from this list has been asked to introduce two to four influential practitioners whose work inspires academia or whose work contributes to knowledge-based design.

This is done at UCL for two reasons. Firstly, because this research was conducted at UCL so this methodology would work better due to peer pressures. Secondly, because UCL is one of the highest ranked universities at urban design research, thus it could be assumed that it is a place with relatively good interaction between theory and practice.

The achieved list of practitioners includes designers from various companies with a wide range of projects all around the world. They may or may not be located in London but their works institutionally (through their creativity) are inspiring for academics at UCL. The interviews with practitioners will be face-to-face when possible.

In a similar research looking at practitioners and their view towards the knowledge (Schon, 1984), a similar method was implemented.

Interviewing practitioners provides an opportunity to go beyond their design document and the actual built environments, and look the process in which they are find inspirations from the literature. Nevertheless, in case they highlight one case to be informative, this research will investigate the case whether it is the built environment or the design document.

[1] http://www.bartlett.ucl.ac.uk/cross-faculty-initiatives/urban-design/people/academics

It is also important to justify the language of the questions for practitioner. Supposedly academics are more familiar with jargon and practitioners prefer less professionalised language. Thus, when needed the questioners must be adjusted in order to address what the interviewee has experienced.

The primary types of the application of urban design theory in practice as was mentioned in the literature review are:

- Understanding the problem
- Analysing the problem
- Making solution
- Evaluation
- Communication and justification of designing

This list will be revised if practitioners want to add or remove any them to it. Also the implication of the typology and the five sources of creativity will be tested in analysing the interviews.

What will be asked of each group?

As was mentioned, the expected findings from interviews looks into unwritten aspects of the interaction between theory and practice and the way each group has been informed about the other side's work.

Urban design teachers are the third group of urban design professionals who are playing the role in-between generation of theory and practice. They are responsible for finding the best collection of knowledge and establishing it.

Groups	Expected data
Teachers	• The list of (most important) texts on urban design theory
Theorists	• What was the problem of knowledge and how theory tried to solve it? • What was their first inspiration? (Comparison with other branches of knowledge, innovative thought, built environment, everyday life…) • What was their first goal of their theory and how it had changed? • Which theories (thought) from other fields (in which ways) influenced them in their work? • Which practices help them? (How?)
Practitioners	• How (where from) they know their general knowledge and how they understand the practice's problem • How they update their knowledge • Which specific theory they used, why it has been useful • Which well-known theory is not useful and why • What they need from theories that they do not provide • How they use theory in practice • How should practice inform knowledge (theory) of urban design

Table 9: Key information, aimed to be found out by interviews.

In reality these three groups have people in the common but the general role of teachers is to teach important texts of the literature to students. Predominantly, teachers transfer knowledge. In this respect the university reading list would reflect their common view. Despite the fact that teachers may refer to a text in order to criticise it, the shared body of knowledge is reflecting the common understanding of professionals and should be seen. In this research, the texts that teachers suggest to

students (university reading lists) would be achieved before the interview. Table 9 shows which data would be achieved from interviews each group.

Research Ethics

Ethics is an on-going debate in the built-environment that has been fed by arguments from both the philosophy of ethics (asking what is right and wrong) and applied ethics (asking about issues as ethics in medicine or anthropology research). The main aim of research ethics is to ensure that researchers avoid violating people's rights (particularly vulnerable people such as children and people with mental health problems), avoid unacceptable practices in animal or human experimentation, and secure rights such as the necessary copyrights for materials (Elliott & Stern, 1997).

This research faces the topic of ethics at a few stages; namely institutional ethics procedures, interpretation of data and honesty, revealing private data and, finally, theoretical arguments around ethics (the philosophy of ethics derived from the Deleuzian philosophy for this research).

Regarding institutional codes for ethics, the Bartlett School of Planning at UCL has well developed processes, although this thesis was designed and the empirical study approved well before these regulations became obligatory. Given that this thesis presents few ethical challenges, it was decided not to go through any retrospective formal ethics procedure.

In terms of how the process of this research faces ethical arguments, the methodology described in this chapter requires the interviewees to be aware of the aim of the interview and where they will be quoted and cited. As long as the participants have given informed consent, it is ethical to disclose their name. Given that the content of questions was primarily about the published works of the interviewees, it follows that the work being discussed is identifiable.

Regarding what Deleuzian philosophy offers in terms of research ethics, Deleuzian methodology conceptualises ethics as the voice of minorities (Deleuze & Guattari, 2012). This implies that each research must consider overlooked aspects, for example peoples and concerns that are being hidden by established processes. From this perspective, this research follows Deleuzian ethics as it critically addresses key arguments in urban design.

Limitations

Like any other research, this methodology has its own limitations. Limitations are not necessarily negative; rather, they are boundaries defining the characteristics of the research. It is necessary to clarify the limitations in order to clarify the scope of the research.

Two types of limitations are notable here. First, those caused by ways in which the research was conducted. Second, limitations caused by the theoretical stance of this research.

The nature of this research, as a PhD dissertation, caused time and structural obligations. The research design, discussed earlier, is developed in accordance to such limitations. The topic may have been addressed differently if a different set of limitations had been imposed.

This PhD has been conducted in The Bartlett School of Planning. Despite the research being conducted at UCL, which provides relatively good access to research resources, a number of books and professionals were not accessible.

The second set of limitations is caused by the research's specific methodology. Unlike many conventional urban design researches, this research does not focus on a certain aspect of urban design

or a certain set of case studies. Instead, it tries to find out the factors that are influencing the interaction between theory and practice in a more comprehensive way. In doing so, it aims to keep its scope open when interviewing the professionals. This approach, being comprehensive, imposes certain limitations on the research. Notably it limits the possibility to fully explore each factor. In other words, this research aims to have a comprehensive view over the generation of theory and practice and not an in-depth exploration of factors involved in the process.

Despite the research's open approach in identifying the influencing factors, it has a robust methodology. This methodology is defined through the literature review and the research's objectives.

Relying on the existing literature is another limitation of the research. One could argue that moving on from the existing literature is more beneficial (Inam, 2014). However the aim of this research is to investigate the existing condition of the generation of new theory and practice thus the existing literature is pertinent.

Finally, the fact that only Anglo-American trends and English language literature are studied, clearly limits the scope of the research. Ellin points at different traditions in the French and Anglo-American urban design axes (Ellin, 1999). Research boundaries can be better defined by language/culture rather than geographical borders. Knowledge moves more easily between two countries with the same language compared to two languages or traditions. Nevertheless, there is not a concrete boundary between other traditions and English language urban design, in fact many key texts of urban design are translated from other languages. Future studies can focus on how other languages/traditions are connected to English urban design literature.

Limitations of the Delleuzo and Guatary's philosophy

As described thus far, Deleuzian methodology has the potential to make considerable contributions to urban design arguments. This philosophy however has its own limitations. The practical limitations would only be derived after comprehensive work attempting to operationalise this methodology. Therefore, the practical limitations of the methodology will be discussed in the conclusions chapter. Here more theoretical limitations of Deluzian philosophy are introduced.

A key limitation for Deleuzian philosophy is its language. Using terms with different meanings make the philosophy inaccessible for many (Scruton, 2015). The problem is exacerbated by the fact that the Deluzian concepts work with one another as a whole (Žižek, 2004), in the sense that no single concept can reveal the ontology, epistemology and the scope offered by the philosophy. The attempt to escape from the way in which language often solidifies meanings by offering a set of concepts that are carrying different meanings than those in common use, has resulted in many scholars questioning whether Deleuzian terminology and concepts can describe the existing processes. This objection is, to a great extent, valid as the philosophy seems to be confusing in this sense (Lambert, 2006). Deleuzian thinkers, on the other hand, believe Deleuze and Guattari's ideas and concepts are valid.

The research here faces a dilemma concerning whether to translate all Deleuzian thinking into common concepts or to continue using purely Deleuzian language. The problem with translating the concepts into common language is that it would miss the opportunity to engage with new thinking offered by Deleuzian philosophy. On the other hand, not translating the concepts would keep the contributions inaccessible in the wider urban design literature. In the broader context of research, this means that researchers would have to choose if they want to remain in Deleuzian language or to make their contributions available through explanations that inevitably question the very reason for using the philosophy in the first place. This research aims to find a middle way between finding inspirations in the philosophy's scope and translating it to common language. In this way the philosophical foundation of the argument such as the ontology and epistemology is inspired by Deleuzian thinking but through the methodology it is linked to common urban design language as an additional layer of thinking. This is

particularly reflected when this chapter introduces the concepts and their potential relation to research methodologies (table 5).

Another limitation of the philosophy is the confusion over the methods it suggests. Anti-fascism (see table 5), as the main theme is too broad. For this dissertation the directive aspects of the philosophy have been linked to real urban problems in order to pin down urban design normatives.

Even though this section shows the limitations of the philosophy for this research, the potential contributions of the philosophy makes it a valuable choice for this research.

To keep the Deleuzian discussion coherent, the first set of these limitations were discussed earlier after introducing the methodology. The second set of limitations, the assessment of its implementation to this research (the practical limitations), are discussed in the final chapter.

The leitmotif of this research is a complex and dynamic picture of the ways in which urban design theory and practice are generated in relation to one another. Different methodologies would provide different pictures of the complexity. Albeit the same methodology may have different findings if it had been conducted at a different place or time. This is due to the dynamic nature of the research subject. After all, the research limitations comprise the defining boundaries for the research. Therefore the research structure is defined by the limitations. But how altering these limitations would change the final outcome could only be seen in future researches.

Conclusion

As was demonstrated in Table 1, findings of this research aim to answer the research questions. But the research materials resulting from the interviews require interpretation and analysis. As was discussed, the research approach is to allow interviewees to define the problem from their own perspective. This is in line with Deleuzian methodology. Consequently, in analysing the interviews the research reflects on the specific perspective of each interviewee.

The findings of the research are expected to provide a better understanding of influential factors in the relationship between theory and practice of urban design.

According to the literature review's findings and frameworks, the methodology set the research methods. This research particularly requires a methodology that is able to acknowledge complexity, and ever-changing phenomena. It also needs a clear ontological and epistemological argument in order to explain how knowledge is acquired and how it relates to practice and other aspects of life. The first part of the methodology chapter examined existing philosophical methodologies (Honan & Bright, 2016) and suggested a new methodology with possibilities for future researches.

This chapter then explained the reasons for the chosen research methods and the expected outcomes. The question worth revisiting here is how Deleuzian this methodology is. The subject of this research could have been studied with a similar approach without necessarily being titled Deleuzian[1]. This is due to the fact that the research methods are not *exclusively* Deleuzian[2]. Nevertheless, the philosophy has a significant contribution in this work. The key contributions of Deleuze's philosophy for this research are as follows:

[1] For example, Fayerabend's conception of multiple methods of developing knowledge (Feyerabend, 2002) has potentials for such a study.

[2] Deleuze's philosophy is affirmative therefore, instead of rejecting other methods it encourages the use of any adequate approach for any given intention, time and space (Massumi, 1992).

1. Multiplicity: The chosen methodology in fact refuses any rigid models (Holland, 2013). It opens up the possibility to define (and operationalise) urban design as a multiplicity of meanings.
2. Learning from the reality: Closely connected to the previous point, Deleuzian philosophy allows the study to redefine the problem in accordance to what different professionals have experienced rather than imposing one *right* definition thus limiting the findings.
3. Challenging the existing processes: As a recent paper on employing Deleuze and Guattari's philosophy in writing doctoral thesis explains, such research belongs to the "post-qualitative movement, where researchers attempt to imagine and accomplish an inquiry that might produce different knowledge and produce knowledge differently" (Honan & Bright, 2016). This requires *unsettling* and *disrupting* the existing methods, approaches and assumptions. The methodology of this research enables this critical stance.
4. Comprehensive view: The chosen methodology provides a comprehensive view capable of acknowledging the complexity of urban problems; urban design interfaces with psychology, politics and design values. Deleuzian philosophy is suitable for urban design literature as the nine reasons for applying Deleuzian philosophy demonstrated (see p.79). In this respect, this research can contribute to existing Deleuzian urban studies.
5. Analytical techniques: Deleuzian methodology also helped in finding techniques for analysing and interpreting the findings (Coleman & Ringrose, 2013) e.g. presenting the interviews as a rhizome in chapter 5.

That is why this research is inspired by Deleuzian methodology. The methodology is also supposed to be useful for further urban design researches.

This research has a broad scope. Therefore, the methodology is required to address the subject in a researchable way. There are for sure other ways of addressing the subject, nevertheless discussed methods are justified in this chapter as a fairly robust way of looking into the research question. If the same research is repeated after a period of time, the ways in which the knowledge has changed could then be discussed. Such a research could make a considerable contribution to understanding the ways in which the interaction between theory and practice change. Accordingly, this is a fundamental research that contributes to further researches.

The next chapters discuss the findings of the research achieved through operationalising the research methods.

4. Empirical study Part one: Investigations of the shared body of knowledge

Key texts of urban design represent a reading of the shared body of knowledge. Shared body of knowledge is both derived from and contributing to the professionalism. This chapter investigates the shared body of knowledge in three ways, from universities, urban design readers and the urban design journals.

Based on these three methods, the next step will be to find out how the mainstream texts have developed. Some traces are available in the texts itself but more in-depth detail will come out of the interviews with the writers when the process behind these texts will be examined.

Following this chapter, the second phase of the fieldwork is to carry out interviews with theorists to investigate how individuals relate to the shared body of knowledge.

The shared body of knowledge in universities

To enable this study, thirty-three universities that have urban design courses were asked for their reading lists on their urban design courses. From this enquiry, twenty-five reading lists were obtained. The reading lists of few universities were already available online, but others needed to be asked. All the lists acquired are for the year 2013-2014. Table 10 shows the list of universities that identified having an English language urban design course. The reading lists used for this research came from courses at both BA and MA level. The list of universities was derived from two sources: the article on pedagogical traditions of urban design (Banerjee & Loukaitou-Sideris, 2011, pp. 41–52), and the list provided by RUDI (2014).

The title of majority of the programmers is master of urban design; however, a few courses have various titles.

Country	University	Course	List	Module	Online
India	School of Planning and Architecture Delhi	Master of Arts (Urban Design)	No	Urban Design theory	
New Zealand	The University of Auckland	Master of Urban Design	Yes	Urban Design Theory And Practice	
Australia	University of New South Wales (Sydney)	Master of Urban Development and Design (MUDD)	Yes	History and Theory of Urban Development and Design	
Australia	University of Sydney	Master of Urban Design	Yes	Urban Design Ideas and Methods	
Australia	The University of Western Australia	Master of Urban Design	Yes	The Basic Historic Urban Design Primer	
				Urban Design Elective	
Canada	University of Toronto	Master of Urban Design Studies	Yes		Yes
US	Kent State University	Graduate Certificate/Master in Urban Design	Yes	The Forces that Shape Cities	
US	University of Michigan	Master of Urban Design	Yes	Theories of Urban Design	
	University of Texas, Austin	Master in Urban Design	Yes	Urban Design: History, Theory. Criticism	
Sweden	Royal Institute of Technology, Stockholm	Master of Urban Planning and Design	Yes	Urban Theory	
Ireland	University College Dublin	MSc in Urban Design	No		
UK	Bartlett School of Planning, UCL	MSc in Building & Urban Design in Development	Yes	Urban Design Place-Making	
		MA Urban Design & City Planning	Yes		
UK	Cardiff University	MA in Urban Design	Yes	Urban Design Thinkers	
UK	Newcastle University	MA/PGDip in Urban Design	Yes		Yes
UK	University of Dundee	MSc Spatial Planning with Sustainable Urban Design	Yes	Discourse in Urban Design	
UK	University of Liverpool	Undergraduate Planning	Yes	Urban Design: An Introduction to Place-Making	
		MA in Civic Design	Yes	Making Places: the History, Theories and Practice of Urban Design	
UK	University of Sheffield	MA in Urban Design	Yes	History and Theory of Urban Design	
US	university of Washington	Master of Urban Design (MUrbDes)	Yes		
UK	Kingston University	MA Planning and Sustainability	Yes	Sustainable Place-Making and Urban Design	
UK	University of Bristol		Yes		
US	University of Washington		Yes	Introduction to Urban Design	
Canada	Simon Fraser university		Yes	Urban Design: Integrating Theory and Practice	
US	University of Maryland	MA Community Planning	Yes	Urban Development and Design Theory	
US	Cornell University	M.R.P. in City and Regional Planning	Yes	Introduction to Physical Planning	
US	Ball State University	Master of Urban Design (MUD)	Yes	Urban Design analysis	

Table 10: List of universities

Findings

Different universities have different approaches to reading lists. Some universities – Ball State University in the US, for example – do not have reading lists for their module, they "focus[es] on practice with theory being taught as an integral part of studio and methods courses" as mentioned in their email. In this case, they believe the fact that the majority of their students go to practice means they do not need theoretical list of reading separate from training and working on projects.

Also, the number of books in different lists has a great variation from as small a number as five to (surprisingly) 120 texts for one module. This disparity reflects the fact that reading lists serve different purposes at different universities. Some teachers expect students to read all the reading lists whereas some are intended to introduce related texts to the students.

On the other hand, reading lists in different countries suggest different focuses. This refers to their political economy and also to the schools of thought that they are supporting. It is useful to remember that different schools of thought are crystallised in different institutions and universities.

Nevertheless, this survey found that the majority of universities have modules on mainstream urban design theories, some of which focused on theory, some on history and theory. In cases where the most related module was not identified, the university was asked to provide the reading list of its closest module to urban design theory.

A challenge in analysing the lists is comparing them: the number of texts in different reading lists varies dramatically. However, it is the common texts that are being identified as shared body of knowledge. Therefore, even if there are disparities between the numbers of titles recommended in lists, they do not prevent identification of the shared texts.

A count of all titles suggested by the reading lists revealed 817; of these, 650 appeared only once. Since such a large number (the majority) of texts were not repeated across the reading lists, it suggests that an immense variety of texts are not part of the shared body of knowledge.

Title	Author	Year	Frequency	Present in readers	Type	Source of its creativity
The Image of the City	Lynch, Kevin	1960	17	•	1	Urban reality
The Death and Life of Great American Cities	Jane Jacobs	1961	15	•	1	Urban reality
Public Places Urban Spaces: The Dimensions of Urban Design	Carmona, M, Heath T, Oc T & Tiesdell S	2003	12	•	2	Literature
Townscape	Cullen, G	1961	11	•	1	History
The Architecture of the City	Rossi, Aldo	1966	10	•	1	History
Responsive Environments: A Manual for Designers	Bentley I. and others	1985	10	X	2	History
City Planning According To Artistic Principles	Sitte, Camillo	1889	10	•	1	History
Life Between Buildings: Using Public Space	Jan Gehl	1971	9	•	1	Urban reality
Urban Design Compendium 1	Llewellyn Davies	2000	8	X	2	Literature
Collage City	Rowe, C and Koetter, F	1978	8	•	1	History
A New Theory of Urban Design	Alexander, C	1987	7	•	1	Urban reality
Urban Space	Krier, R (trans. C. Czehowski and G Black)	1979	7	•	1	History
The Urban Design Reader	Larice, Michael, and Elizabeth MacDonald	2007	7	-	3	Literature
A Pattern Language	Alexander, Christopher	1977	7	•	1	Urban reality
Learning from Las Vegas: The Forgotten Symbolism of Architectural Form	Venturi, Robert, Denise Scott Brown	1977	6	•	1	Urban reality
The City Assembled	Kostof, Spiro	1999	6	X	1	History
Designing Cities: Critical Readings in Urban Design	Cuthbert, A (ed)	2003	6	-	3	Literature/ dystopia
Urban Design Reader	Carmona, M, & Tiesdell S (ed)	2007	6	-	2	Literature
Town Planning in Practice	Unwin, Raymond	1909	6	•	1	Future
The Social Life of Small Urban Spaces	Whyte, W H	1980	6	•	1	Urban reality
The City of Tomorrow and its Planning	Le Corbusier	1924	6	•	1	Future
Making People-Friendly Towns: Improving the Public Environment in Towns and Cities	Tibbalds, Francis	1992	6	•	2	History
Cities for People	Gehl, J.	2010	5	-	1	Urban reality
Garden Cities of To-Morrow	Howard, Ebenezer	1902	5	•	1	Future
Design of Urban Space	Madanipour, A	1996	5	•	3	Literature
Finding Lost Space - Theories of Urban Design	Trancik, R.	1986	5	•	1	Urban reality
A Theory of Good City Form	Lynch, K	1981	5	•	2	Literature
Urban Design Guidance	Cowan. R	2002	5	X	2	Literature
Urban Design: Methods and Techniques	Moughtin, J.C, Rafael Cuesta, Christine Sarris, Paola Signoretta	2003	5	X	2	History
Urban Design - Street and Square	Moughtin, C. et al	2003	5	X	2	History
The City Shaped	Spiro Kostof	1993	5	•	1	History

Table 11 shows the texts that are repeated in university reading lists. The last column shows what type the text is.

Table 11 shows the books that appear most frequently in reading lists. It is not possible to judge whether or not this shows strong agreement between professionals on the shared body of knowledge. In fact, the most frequently suggested text (*The Image of the Cities*) was absent from 32% of the reading lists. Yet this does not necessarily mean that there is no clear or strong core of knowledge. If the same study were to be carried out in the future, a comparison would reveal whether or not the basic agreement amongst academics is getting stronger or not. **Table 11** illustrates that there is some consensus amongst universities on certain key texts of urban design – texts mostly written between 1960 and 1980.

The texts that are preferred by more than 25% of universities worldwide are either from more than forty years ago or are comprehensive texts that provide an overall view of urban design. The old texts of this list are texts this dissertation considered as type one, and comprehensive ones are allocated to type two.

Despite the fact that some the texts in this list have had influential impacts in other fields[1], they were all originally written for urban design and belong to the urban design domain. This implies that urban design is a specific area of knowledge in itself, and not merely a subsection of another area of study. This finding supports the claim that the shared body of knowledge is closely related to professionalization of urban design.

The last column of **Table 11** draws on five sources of creativity identified in the literature review (see p. 64). It is evident that not all the texts would clearly fall into the mentioned categories, namely those texts that are inspired by the existing literature cannot easily fall into one of the categories. Originally it was argued that literature cannot be one category alongside with the others because all categories have their own relevant literature. Nevertheless, here the finding is not reduced to the pre-existing categories in the sense that if a text draws on the existing literature for its creativity, it is mentioned as literature. Comparing the typology and five sources of creativity shows that type one theories often draw upon history (as historical environment) or urban realities whereas type three theories are inspired by the existing literature. Therefore the five sources of creativity seems to be of limited help in this part of the research.

Unlike what was mentioned in the literature (Lang, 2005; Tibbalds, 2000) it is not easy to pin down certain environments or times as the key sources inspiring the shared body of knowledge. Scanning the archived lists, it appears that urban design find lessons from a very wide range of cases studies from different times and geography.

The core body of urban design in the US, UK and Australia

Table 12 and 13 show the shared body of knowledge from university lists in the US and UK. The findings of this study show that it appears that US universities do not have the priority to define urban design as a comprehensive body of theories. They pay far less attention to texts that show what urban design is compared to texts that consider practical and historical debates in urban design. Courses at US universities seem to place emphasis on historical texts whereas in the UK the emphasis is more on practical texts.

It appears that in the US and the UK, two different questions are being addressed. The shared body of knowledge of urban design in the US focuses on how urban design knowledge and theories

[1] For example Jacobs (1961) is frequently referred to in the field of sociology, Lynch (1960) is used in architectural studies, and Alexander, et al. (1987) has been referenced in many different fields – from architecture to computer and digital games.

have emerged, whereas in the UK the question of how theory is informing the design is under the spotlight.

Another difference between the shared body of knowledge in the US and the UK is that the theoretical debates under attention in the US are closer to what are called theories *in* urban design (type one theories) or theories that are focused on specific issues. They do not necessarily provide a comprehensive view over the literature. When considering these two differences it could be concluded that in the US the literature is led by problems, providing the historical context of the problem and the theories related to it; in UK the literature is led strategic understanding of knowledge, in the sense that it tries to provide the students with an overview of the body of knowledge. This supposedly enables students to apply proper methods when addressing a problem.

Title	Author	Year	Frequency
The Image of the City	Lynch, Kevin	1960	4
The Death and Life of Great American Cities	Jacobs, Jane	1961	4
The Urban Design Reader	Larice, Michael, and MacDonald, Elizabeth	2007	3
The City of Tomorrow and its Planning	Le Corbusier	1924	3
City Planning According To Artistic Principles	Sitte, Camillo	1889	2
Collage City	Rowe, C and Koetter, F	1978	2
Town Planning in Practice	Unwin, Raymond	1909	2
The Social Life of Small Urban Spaces	Whyte, W H	1980	2
Garden Cities of To-Morrow	Howard, Ebenezer	1902	2
A Theory of Good City Form	Lynch, K	1981	2
The History of the City	Benevolo, L	1980	2
Suburban Nation	Duany, Andres et.al.	2000	2

Table 12 shows the texts that are recommended at universities in the US and the number of times they repeat in the lists.

Compared to universities in the UK and Australia, universities in the US use a wider range of texts for their courses and the level of agreement between their lists is far less. Lists from US universities heavily refer to US writers. This confirms that universities in different contexts are crystallizing different trends. Some classical texts, mostly from architecture, frequently appear in US universities' reading lists. Le Corbusier's work is regularly commented on in the literature of urban design; in other countries, universities rarely put his books on the reading list. Even though Le Corbusier's model for design is not advocated by universities, the appearance of his texts in what universities offer as the literature reflects the importance of his thinking in the formation of the current condition of the literature.

Title	Author	Year	Frequency
The Image of the City	Lynch, Kevin	1960	10
Public Places Urban Spaces: The Dimensions of Urban Design	Carmona, M, Heath T, Oc T & Tiesdell S	2003	9
The Death and Life of Great American Cities	Jacobs, Jane	1961	8
Responsive Environments: A Manual for Designers	Bentley I. and others	1985	8
Townscape	Cullen, Gordon	1961	7
City Planning According To Artistic Principles	Sitte, Camillo	1889	6
Life Between Buildings: Using Public Space	Gehl, Jan	1971	6
Urban Design Compendium 1	Davies, Llewellyn	2000	6
Making People-Friendly Towns: Improving the Public Environment in Towns and Cities	Tibbalds, Francis	1992	6
The Architecture of the City	Rossi, Aldo	1966	5
A Pattern Language	Alexander, Christopher. et al.	1977	5
A New Theory of Urban Design	Alexander, Christopher. et al.	1987	5
Urban Design Guidance - Urban Design Frameworks, Development Briefs and Master Plans	Cowan, Rob	2002	5
Urban Design: Methods and Techniques	Moughtin, J.C.; Cuesta, Rafael; Sarris, Christine ; Signoretta, Paola	2003	5
Urban Design - Street and Square	Moughtin, C. et al	2003	5

Table 13 shows the texts that are recommended at universities in the UK and the number of times they repeat in the lists.

UK universities have stronger agreement between their reading lists. Just as US universities pay more attention to American authors, universities in the UK refer more to UK writers. Whereas Cliff Moughtin (2003) is not a reference for urban design courses in the US, in the UK his books are considered to be important in theoretical debates.

Title	Author	Year	Frequency
The Image of the City	Lynch, Kevin	1960	3
The Death and Life of Great American Cities	Jacobs, Jane	1961	3
Townscape	Cullen, G	1961	3
The Architecture of the City	Rossi, Aldo	1966	3
Collage City	Rowe, C and Koetter, F	1978	3
Design with Nature	McHarg, I	1969	3
Public Places Urban Spaces: The Dimensions of Urban Design	Carmona, M, Heath T, Oc T & Tiesdell S	2003	2
City Planning According To Artistic Principles	Sitte, Camillo	1889	2
Responsive Environments: A Manual for Designers	Bentley I. and others	1985	2
Life Between Buildings: Using Public Space	Gehl, Jan	1971	2
Urban Space	Krier, R	1979	2
A New Theory of Urban Design	Alexander, C. et al.	1987	2
The Urban Design Reader	Larice, Michael, and MacDonald, Elizabeth	2007	2
Town Planning in Practice	Unwin, Raymond	1909	2
Learning from Las Vegas: The Forgotten Symbolism of Architectural Form	Venturi, Robert; Brown, Denise Scott	1977	2
The Social Life of Small Urban Spaces	Whyte, W H	1980	2
Designing Cities: Critical Readings in Urban Design	Cuthbert, A (ed)	2003	2
Urban Design Reader	Carmona, M, & Tiesdell S (ed)	2007	2
Garden Cities of To-Morrow	Howard, Ebenezer	1902	2
The Next American Metropolis	Calthorp, Peter	1993	2
Urban Design: the American Experience	Lang, J	1994	2
Everyday Urbanism	Chase, John et al	2008	2
A City Is Not A Tree	Alexander, C	1965	2
Invisible Cities	Calvino, I	1974	2
The City as a Growth Machine	Molotch, Harvey Luskin	1980	2
Space is the Machine	Hillier, B	1987	2
Emerging Concepts in Space Design	Broadbent, G	1990	2
Recombinant Urbanism: Conceptual Modeling in Architecture, Urban Design and City Theory	Shane, D.G	2005	2
The Endless City	Burdett, R and Sudjic D (Eds)	2007	2

Table 14 shows the texts that are recommended at universities in Australia and the number of times they repeat in the lists.

The core body of urban design in Australian universities draws from both UK and US literature and trends. It could be seen as a synthesis of both. Though only four Australian universities are surveyed for this article, the agreement between their lists as to what constitutes key texts is high. Figure 7 shows when texts belonging to different types were first published. The types have been mentioned in

Table 11. In general, the texts belonging to each type appear to have emerged consecutively; type one texts emerged before type two texts, which in turn emerged before type three texts. This is not merely a coincidence and is due to the fact that the earlier types are necessary for the formation of the later types. Figure 7 shows texts belonging to different types and decades. Blue is type one, red is type two and green is type three.

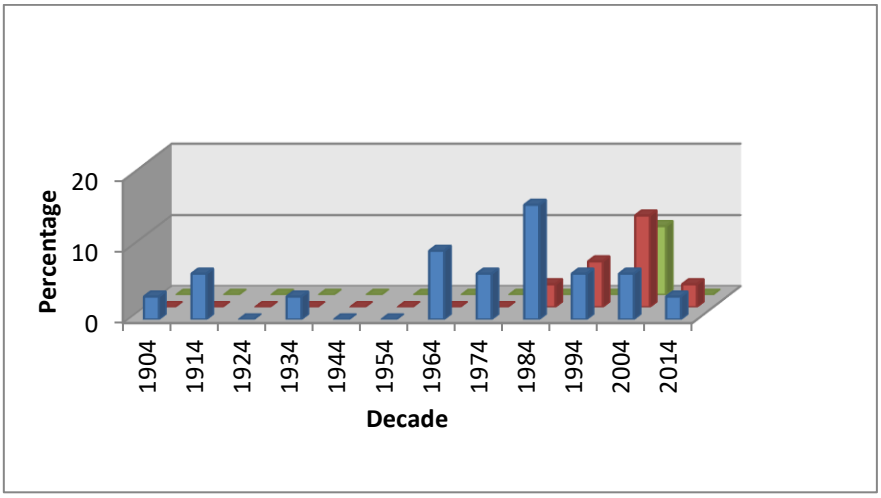


Figure 7 shows texts belonging to different types and decades. Blue is type one, red is type two and green is type three.

The number of texts that could be allocated to type three is considerably less than type two, which in turn is considerably less than type one. However, texts from all three types appear in various reading lists. This suggests that there is a common understanding amongst numerous professors who teach urban design theory of the need to introduce all types of theory to students.

The shared body of knowledge in urban design readers

Readers on urban design are books that select the most important texts of the field from the editors' point of view. For example, Carmona and Tiesdell's reader "presents a selection of key texts". The authors declare their intention is "to produce a 'useful' reader that includes a good range of 'classic' or 'staple' texts – that is, those that are referred to again and again" (Carmona & Tiesdell, 2007, p. 3). This dissertation shares with the editors of urban design readers the goal of finding such key texts. Thus, the content of readers is studied to see if the same picture of the key core of the literature emerges from the readers as is found by the earlier analysis of the reading lists of universities. This comparison proves helpful in checking the results from the first part of the study.

The various readers on urban design provide different collections of texts and serve different purposes, even if a number of well-known writers can appear often. *Time-Saver Standards of Urban Design* (Watson, et al 2003), an extensive book with a broad scope, is the only reader which includes a focus on practical debates. *Designing Cities* (Cuthbert, 2003) looks at urban design from the angle of political economy. *Urban Design Reader* (Carmona and Tiesdell 2007), not to be confused with *The Urban Design Reader* (Larice & MacDonald, 2007), focuses on dimensions of urban design as defined in the authors' previous book. *The Urban Design Reader* is published in two editions, both of which try to represent the key debates. The first one is more concerned with debates within urban design (Larice & MacDonald, 2007) and the second one considers more classic texts as well as more recent debates in

order to provide a holistic view of urban design (Larice & MacDonald, 2013). *Urban Design Reader* attempts to identify texts which are considered as the main core of urban design (Foroughmand Araabi, 2014). *Urban Design* is the latest and the most comprehensive collection of the literature, with ninety-nine texts located in various chapters according to their topics (Banerjee, 2013). This massive collection is not generally accessible to many urban designers, student or profession, because of its high price, but it still contributes to the structuring of knowledge by its choice and categorisation of content. Because it is generally held that the editors of the readers are aware of other readers, all of them together can be assumed to cover the key debates of urban design. Appendix 2 shows the contents of the readers being analysed in this study.

Almost all common texts between universities' reading lists appear in urban design readers. **Table 11** shows which texts from the shared body of knowledge are presented in the readers. This repetition supports the idea that a common understanding of a shared body of knowledge exists. However, some titles appear frequently in the readers without being included in the shared body of knowledge in the universities. Examples of such texts are Relph (1976), Zukin (1995, 2010), Oldenberg (1999), and Hayden (1997).

This means that the editors of the readers consider certain texts to be important but university teachers do not have an agreement over them. Texts belong to this category are often not written with a focus on urban design; perhaps this is the reason behind the disagreement.

Amongst the readers, only *The Urban Design* (2013) reader has had a revised edition published. The changes from the first edition to the second reflect on the changes of the knowledge between 2007 and 2013. Most of the new texts in this edition are either classic texts written before 1980 or those written since 2000. Classic texts that have been added reflect key debates from American urban design literature, and include: *A City Is Not A Tree*, *Collage City* and *Learning from Las Vegas* – important texts that caused surprise when omitted from the first edition. Recent texts new to this edition cover current debates on urban design, such as urban resilience and the emergence of urban design as a field (Foroughmand Araabi, 2014). On the other hand, the omitted texts, compared to the first edition, as the editors stated, are excluded due to already being available. The changes between the first and the second edition of this reader confirm the assumption that readers are being published in order to help navigations in the literature, and in their totality they can be seen as one indicator of the key texts.

Based on the typology suggested in the literature review, Table 15 shows the types of debates that are offered by the readers. In addition to specific approach of the readers, this table shows that readers are covering the majority of debates in urban design.

	Type of theories	Carmona 2007	Cuthbert 2003	MacDonald 2007	MacDonald 2013
1: Theories of subjects within urban design	*Theories of composition*	8	2	11	
	Theory of facades visionary aspect of urban design	2		1	
	Theory of safety	2		2	
	Theories of the image of the city	6	1	4	
	Theories of involving other senses than sight	1	1	1	
	Theories of the sustainability / city and nature		3	6	6
	Theories to evoke social interaction	6	6	6	
	Theories for economical enhancement	1	2		
	Theories to enhance identity	2	5	7	1
	Theories on health				1
	Theories of meaning of the built environment and political aspects of urban design	6	15	5	4
	Theories of performing and management	4	4	6	2
	Urban design in other contexts (countries)				4
2: Theories of object of urban design		3		2	1
3: Theories of the knowledge of urban design		4	4	5	4

Table 15 shows the types of debates that are offered by the readers.

Historical analysis

Considering the date when texts of the shared body of knowledge were published helps to map the development of the literature. The key debates of urban design are generally held to have emerged during the 1960s. The emergence of the key debates of urban design at this period is usually explained as a response to the post-war rapid urbanization and environmental issues (Krieger & Saunders, 2009; Moudon, 1992; E. Mumford, 2009). The question is how this explanation would be reflected to the readings of the shared body of knowledge?

Despite the fact that bigger number of more recent texts appear in the universities' reading lists, they are less repeated. In contrast, fewer older texts appear on the reading lists, but when they do, they are seen on the reading lists of several universities. This shows that the core body of knowledge was ossifies over time, with key texts proving relevant decades after publication. This process could be seen as the institutionalization of the knowledge.

As indicated, the total number of texts' titles in the reading lists was 817, this number is what is being offered by all universities and not the repeated titles. Figure 8 is the histogram of the dates of publication of all 817 texts.

When comparing the histogram of this list to the shared body of knowledge or texts in the readers, it is evident that in reading lists, more recent texts are generally suggested more frequently than older ones.

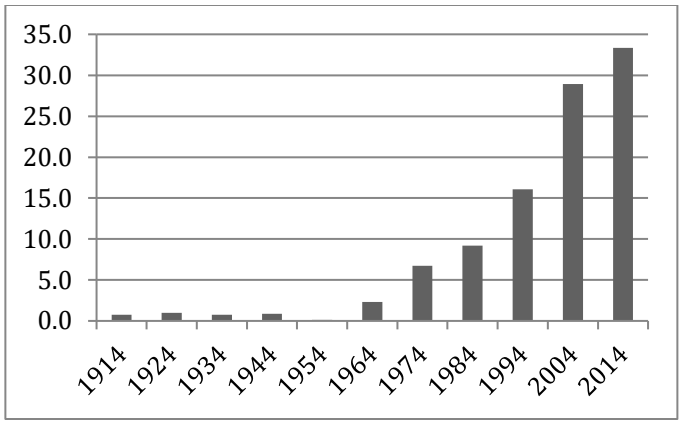


Figure 8 shows the percentage of texts appearing in different universities' reading lists, by decade of publication date.

Figure 9 shows from which decades the texts common in university reading lists come. The general trend confirms that more recent texts are more popular. Texts from the last decade, despite being highly reflected in the reading lists, were of greater variety, meaning that lists had fewer texts in common. This would be expected, and reflects the idea that a text must stand the test of time before being accepted to the shared body.

Worth noting is that texts from the 1960s are not greater in number on the lists than texts from the later decades. It could therefore be argued that while key debates emerged in the 1960s, texts from later decades discuss them more usefully.

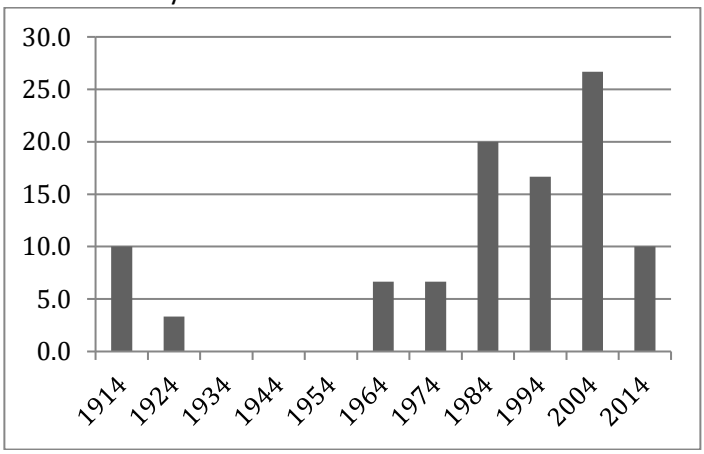


Figure 9 looks at only those books common to more than one university reading list. It shows the percentage of the list each decade of publication date makes up.

The publication date of the texts included in the readers is shown in Figure 10. The same trend as with the texts can be seen in the readers. However, since all the readers were written between 2004 and 2014, the decrease in the number of texts used from the last decade could be due to the editors not having access to the most recent texts at the time of editing their reader.

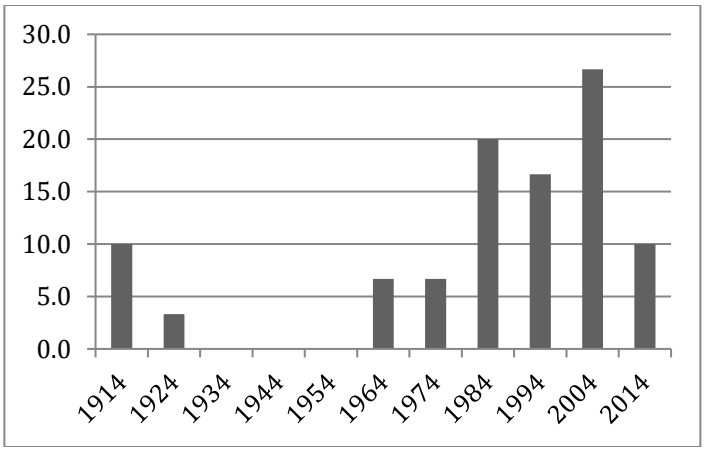


Figure 10 shows the percentage of texts by publication date found in the readers of urban design.

Historical analysis of the texts shows a preponderance of more recent texts. The very emergence of readers in the last decade could be seen as reflecting a growth in urban design writing. Readers become necessary when there are many texts on the topic, since some sort of structure or selection helps to make sense of volume of ideas.

This section represents the histograms in ten-year division units. Other time units were tested and it appeared that ten years is a reasonable period of time and smaller divisions would reflect the same trend. Nevertheless, future research is needed to elaborate on the reason behind the change in the number of texts being published in regard to urban design topics. No matter why this progress is happening, the histograms here show that the shared body of knowledge is being informed by wider range of references yet it saves appreciation for its classics.

The shared body of knowledge in journals of urban design

There are a limited number of journals that exclusively focus on urban design. Nonetheless, there are many journals that publish articles related to urban design. Two examples of such journals are *Environment and Planning B: Planning and Design* and *Proceedings of the Institution of Civil Engineers - Urban Design and Planning.* Both of which have articles focused on planning issues as their most-read papers.

The survey in this section is focused on the journals that are exclusively publishing urban design papers, as it was discussed in the methodology. The purpose of this survey is to investigate which articles have been read the most and their subjects in order to reflect on what topics are welcomed amongst the professionals.

A search in the internet portal of SCImago Journal & Country Rank, which is "a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus database (Elsevier B.V.)", shows six journals and proceedings under the title of urban design. Amongst them there were only two which were still being published at the time of the search; *Urban Design International*[1] by Palgrave and *Journal of Urban Design* by Taylor & Francis. The *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* can also be added to this list. These three journals are high-ranked peer-reviewed journals that are focused on urban design topics.

[1] http://www.scimagojr.com/

However, Urban Design International's site does not show the number of citations and downloads for their article and they did not reply to this research's query asking for this information. Consequently, investigating Urban Design International was not possible. Nevertheless, the other two journals do show the number of downloads under the title of 'most read'. Table 16 and Table 17 show the ten most-read articles from each of the journals.

Title	Authors	Date	Topic (type)
The Place-shaping Continuum: A Theory of Urban Design Process	Matthew Carmona	2014	Theorising urban design (type one)
Making a City: Urbanity, vitality and urban design	John Montgomery	1998	Elements of urbanity and sense of place (type one)
Contemporary Public Space: Critique and Classification, Part One: Critique	Matthew Carmona	2010	Evaluation of critiques of public spaces (type two)
Urban Design: Is there a Distinctive View from the Bicycle?	Ann Forsyth & Kevin Krizek	2011	Cycling (type one)
Measuring the Unmeasurable: Urban Design Qualities Related to Walkability	Reid Ewing & Susan Handy	2009	Developing a quantitative way of studying walkability (type one)
Addressing the Challenges of Urban Landscapes: Normative Goals for Urban Design	Anastasia Loukaitou-Sideris	2012	Increased scope, perspective and impact of urban design (type three)
Placing Graffiti: Creating and Contesting Character in Inner City Melbourne	Kim Dovey, Simon Wollan & Ian Woodcock	2012	Informal character of place (type one)
The New Urbanism: Critiques and Rebuttals	Cliff Ellis	2002	Evaluation of new urbanism (type three)
Roles and Challenges of Urban Design	Ali Madanipour	2006	Evaluation the condition of urban design (type three)
Urban Design and the English Urban Renaissance 1999–2009: A Review and Preliminary Evaluation	John Punter	2011	Studying British urban design (type three)

Table 16: Ten 'most-read' articles from the Journal of Urban Design (July 2015).

As is evident in Table 16, the majority of the 'most-read' articles are written in the last ten years. Using the typology described on p. 49, four of the articles include arguments that fall into type three theory as shown in the table. One article falls into type two and the rest fall into type one theory. All the type one theory articles have an in-depth focus on one specific topic (for example walkability or cycling).

Cuthbert suggested that articles in the Journal of Urban Design during the period of 1997-2007 can be categorised as:

- Case study: location
- Case study: typologies
- Methodological typologies
- Theoretical investigation
- Theory driven case studies
- Qualitatively driven case study
- Practice
- Education (Cuthbert, 2007b, p. 207)

Considering Table 16, Cuthbert's categorisation is highly limited and the logic behind it is confusing. Yet it highlights the fact that many articles in this journal are involved in practice and case studies. This, to an extent, could be the result of the journal's aims and scope. Nevertheless, learning from practice seems to be an important element in urban design articles. In other words, urban design journal articles often reflect on case studies.

Title	Authors	Date	Topic (type)
Social Effects Of Poor Sanitation And Waste Management On Poor Urban Communities: A Neighborhood-Specific Study Of Sabon Zongo, Accra	George Owusu	2010	Waste management (type one)
Quantitative Analysis Of Urban Form: A Multidisciplinary Review	Kelly Clifton, Reid Ewing, Gerrit-Jan Knaap & Yan Song	2008	Quantitative morphology (type one)
Generative Methods In Urban Design: A Progress Assessment	Michael W. Mehaffy	2008	Collaborative urban formation (type one)
Sustainability And Vulnerability: Integrating Equity Into Plans For Central City Redevelopment	Elizabeth J. Mueller & Sarah Dooling	2011	Sustainability (type one)
Walkability: What Is It?	Ria Hutabarat Lo	2009	Walkability (type one)
Urban Morphology	?	'URBAN MORPHOLOGY', 2008	Morphology techniques (type one)
Latino Urbanism: Placemaking In 21st-Century American Cities	Jesus J. Lara	2012	Editorial introduction
Urban Theory Since A Theory Of Good City Form (1981) – A Progress Review	Reza Banai & Melanie A. Rapino	2009	Revisiting Lynch procedural theories (type one)
Historic Preservation's Impact on Job Creation, Property Values, And Environmental Sustainability	John I. Gilderbloom, Matthew J. Hanka & Joshua D. Ambrosius	2009	Impact of preservation on job (type one)
Borrowing From The Past To Sustain The Present And The Future: Indigenous African Urban Forms, Architecture, And Sustainable Urban Development In Contemporary Africa	Raymond Asomani-Boateng	2011	Evaluation of African urban design (type two)

Table 17: Ten 'most-read' articles from the Journal of Urbanism: International Research on Placemaking and Urban Sustainability (July 2015).

Journal of Urbanism, unlike Journal of Urban Design, does not have many type three articles. Its publications focused on specific topics in urban design that can be attributed to type one theory. Most-read articles in the Journal of Urbanism (Table 17) are often creative in suggesting new methods; walkability, quantitative methods, assessing knowledge in specific location, sustainability and economy of urban design are topics that gain most attention in this journals.

Like any other organization that produces and establishes knowledge, the approaches of the people in charge influence the outcome of the journals. The fact that type three theories do not appear in the Journal of Urbanism may echo this claim. Nevertheless, what people choose to read would reflect on what the broader body of professionals consider to be helpful. The question to be answered is how

much these texts are influencing the practice of urban design? This will be examined in the next chapter.

Discussion on urban design journals

What professional journals choose to publish shows which topics they consider to be helpful at that time; and what becomes popular with readers indicates which topics are more interesting for a wider range of professionals. The nature of the literature in the journals is more focused on specific topics or cases.

What the professionals read reflects what is welcomed in the professional circles. Following the typology offered in the literature review, the articles in urban design journals rarely fall into type two. This is perhaps because journals are highlighting contributions and they are less capable of providing a comprehensive understanding of the field. One can assume that journal articles are a better format for type one texts and type two argument can be better presented in the form of books.

A considerable number of most-read articles are free access publications. Having free access to articles seems to be an important factor in making an article more popular. However, it is worth noting that not all of the articles on these lists are free access. In turn, not all free access articles are widely read. Therefore, it cannot be seen as the only indicator. Above all reasons, these papers are being downloaded by a considerable number of readers who are interested in the topic and the writers.

It is interesting to note that the writers included in these two tables are often not included in the university reading lists or in urban design readers (shared body of knowledge). In this respect, journals are making a platform for new arguments in the shared body of knowledge. It could be claimed that what the journals offer is not discrete from the shared body of knowledge. This can be supported by the fact that the shared body of knowledge is often reflected in the bibliography of the urban design papers. It means that journals are taking the shared body of knowledge as a departure point. Considering the date of these papers, it could be concluded that the shared body of knowledge in the journals is a more updated version of the literature.

Conclusion; investigations into the shared body of knowledge

In general, universities are the most important organisations developing (research) and disseminating (teaching) knowledge. This is the case for urban design. However, universities are not the only institutions that produce knowledge. In some disciplines there are research institutes separate from universities (see Heidelberg University, 2015) that are often well-financed research centres. But there are no such centres focused on urban design research. In urban design, the institutes outside of the universities are usually focused on establishing a professional society and/or publishing journals. Urban Design Group is an example of such institutions.

Knowledge existing in universities, nevertheless, is not exclusively in the form of published books and articles. In fact, knowledge appears in various forms in seminars, academic gatherings, class discussions and research reports that never get published. Despite the potential for unpublished knowledge being more updated than the literature, this fell outside of the scope of this research. Mainly because it is not possible to systematically collect such forms of knowledge. Knowledge in this form is fresh and inspiring but not solidified. This dissertation only reflects the published form of knowledge because it can move from one place to another easily and thus could be shared with less interpretations.

Urban design firms can also develop knowledge; the next chapter shows this in fact is the case. But the type of knowledge produced in practice of urban design does not necessarily connect discrete arguments or people. Consequently, universities are the place for studying the shared body of knowledge. This means that universities are the result, and at the same time, the means of the institutionalisation of urban design knowledge. At universities, supposedly the next generation of professionals, academics and practitioners encounter the current generation of academics and the current condition of the knowledge. Also universities are the place for the development of urban design. Many books of urban design are either for or from universities. For example some ideas published (Alexander, 1987; Bentley, 1985; Lynch, 1960) emerged from working with students. Madanipour's book (1996) is the result of the research carried out in order to inform the development of an urban design course at the University of Newcastle. This is another example of the role of universities in developing knowledge.

This chapter started by studying the content of urban design theory courses in various universities. In this part of the study, the urban design teachers collectively contribute to providing an answer to what urban design is.

The second part of this chapter explored urban design readers, books that collect the important texts based on their editors' views. This method confirmed that a common sense of a shared body of knowledge is held by the universities and readers of urban design. This chapter then analytically mapped the shared body of knowledge in relation to the typology suggested in the literature review. The three types of theories were seen to emerge in order over time; type one theories appeared before type two which in turn appeared before type three. This confirms the logic of the typology.

The final section of this chapter studied the topics and dates of the most-read articles in urban design journals. This section did not fully meet the expectations of the study due to such a limited number of journals being focused on urban design and still in print. Nevertheless, this method showed which topics and trends are most read in urban design journals.

The study presented in this chapter using only university reading lists, urban design readers and journals to form a picture of the shared body of knowledge. However, sources of knowledge are infinite and not confined to university, books and journals. This implies that professionals can learn from various other sources. This will be explored in the following chapter.

Also readings of the shared body of knowledge change through different methodologies, contexts and times. Additionally, the interpretation of it can alter based on the research approach. Referring to the Deleuzian methodology applied in this research, the shared body of knowledge could be conceptualised as the *state/royal science* that codifies the processes. It is supported by institutions and it is the reference point for education and development. On the contrary, creativity can be defined as *lines of flights* and escapes from the dominant discourses. Creativity breaks the established codes and suggests alternative mechanisms and new knowledge. This new knowledge may then eventually be absorbed by the system and become *state science* (see Table 5 p. 79). Universities are places where both old and new knowledge co-exist, where new knowledge is struggling to find a voice and to eventually become old.

In this respect, the shared body of knowledge could be seen simultaneously from two angles: first as orthodoxy, second as a platform for creativity. In the context of this research, the shared body of knowledge represents the main theoretical arguments of the field based on which individuals, whether theorists or practitioners, define their own stance in the field. By departing from the orthodoxy of urban design, individuals create their own specific approach. The shared body of knowledge therefore will be used as a theoretical reference point in order to make sense of the ways in which theory and practice of urban design are interacting in the interviews in the next chapter.

5. Empirical study Part two: Interviews (exploration of the interaction at individual level)

So far, this research has studied the nature of urban design theory and the shared body of knowledge. Additionally, the literature review recognised the importance of individuals' approaches. Both individuals and the shared body of knowledge are influential in the generation of theory and practice of urban design. The shared body of knowledge functions as the norm or a reference point for the profession and professionals, from which individuals both align and distance themselves in order to define their own approach.

If each professional is thus linked to the shared body of knowledge, connections between the professionals can also then be conceptualised in relation to the shared body of knowledge. The ways in which professionals are connected to each other and to their institutes raises questions; Which channels do they use in order to generate and transfer knowledge? How is the knowledge that is transferred related to the shared body of knowledge? When does the transferred knowledge differ from the shared knowledge? What are the key factors influencing the interaction between theory and practice of urban design? And finally, how do individuals define their specific stance in regard to the professional groups? This chapter addresses these questions through analysing interviews with influential theorists and practitioners of urban design. In other words, this chapter investigates mechanisms of the production and application of knowledge at an individual level.

All the interviewees for this study are influential urban design practitioners or theorists. The methodology chapter discussed how they are chosen. In short, the theorists interviewed were the available writers whose texts appeared amongst the most referenced literature of the shared body of knowledge. The practitioners interviewed were those available from a list which resulted from a survey amongst UCL urban design academics asking which design projects they found most inspiring. The selection method here aimed to find those who were recognised to have made a significant contribution to the field.

Therefore, both practitioners and theorists interviewed here are well qualified to *define* the problem of the interaction between theory and practice. The methodology allows each professional to draw upon their experience. The aim here is to open up space for disparate understandings of theory and practice instead of limiting the interviews to a rigid structure. The Deleuzian approach discussed in the methodology chapter endorses such a research method (Coleman & Ringrose, 2013; Honan & Bright, 2016).

In this regard, each interview is comparable to a case study. It is worth noting here that prior to each interview, a brief research was done in order to adapt the questions to the interviewee's work. The key question for each interview was aimed at finding out how the interviewee conceptualises the problem of the interaction between theory and practice according to their experience. As well as allowing the interviewees to *define* the problem, this method also encourage them to express suggestions for solutions.

Before discussing the individuals' points of view, it is helpful to make some generic conclusions from the key points of the interviews. Thus, the first question is which channels/mediums are being

used by professionals in order to transfer their produced knowledge or learn new knowledge. It then follows to ask which kinds of knowledge are being transferred by these channels. *Channel* here is taken to mean mediums that transfer theories and knowledge.

When focusing on individuals' understanding of the problem, both practitioners and theorists use various concepts. Their specific stance can, in turn, then be defined through those concepts. However, both the concepts and professionals' approach are dynamic entities that can change over time. Therefore, the individual stances constantly change. An overview of the interviews highlights what the interviewees considered to be particularly important concepts involved in the interaction between theory and practice of urban design.

The methods used to determine the interviewees resulted in a list consisting of fifty-two professionals. Out of this list twenty-two interviews were secured; thirteen with practitioners and nine with theorists. The interviews took between 45 to 90 minutes. Due to the interviewees' limited availability the interviewer had to be flexible. Consequently, the interviews started in 2013 and ended in 2016.

All of the interviews except two were longer than one hour. Such intense interviews with such established professionals enabled the research to benefit from a wide range of in-depth arguments. Thus, it could be concluded that the research is informed by high quality interviews. Table 18 shows the list of the interviewees who participated in this research.

Practitioners	Theorists
Roger Evans	Matthew Carmona
Mark Brearley	Ian Bentley
Kelvin Campbell	Ali Madanipour
Ian Tuckett	Roger Trancik
Bob Allies	Cliff Moughtin
Steve McAdam	Alexander Cuthbert
Martin Crookston	Bill Hillier
Patrick Clark	Anne Vernez Moudon
Max Farrell	Jon Lang
David Rudlin | URBED	
Robert Cowan	
Colin Haylock	
Mark Smout	

Table 18: List of interviewees.

This chapter begins with introducing the main channels (mediums) through which the interaction between theory and practice is happening. Then it follows with common concepts that have been repeated in the interviews. This helps in comparing interviews to one another. After introducing the common concepts, this chapter presents an analytical and critical reflection on each interview. This method is justified in the methodology chapter. At the end, this chapter discusses and interprets the findings.

Analysing the interviews; which channels professionals use and how?

Analysing the interviews, a certain set of mediums appear to be dominant channels of transferring knowledge between theorists and practitioners. It is necessary to see how these channels are being used by different groups, which sorts of knowledge are being transferred through each channel, and how the knowledge transferred through each channel is related to the shared body of knowledge.

Studying the channels necessitates further investigations of factors that form the bigger context in which theory and practice are being produced. This section focuses on the channels and the following section elaborates on influential factors forming the bigger context.

Dominant channels through which theory and practice were found to be transferred are: university, work place (offices), conferences and professional events, projects, books, professional journals and academic journals.

University

Based on the interviews, universities are the main place where knowledge is being transferred. This is an expected result as was discussed in the previous chapter. It did not come to surprise that many interviewees point to universities when explaining where they learn theory and where theory is being made. Lectures, reading lists and university projects are key ways of transferring knowledge and training. Universities, unlike all other channels, always contain different generations of professionals. The next generation of professionals learn at universities from the currently established generation. Universities are also the main place where research and expanding of knowledge is happening.

Both practitioners and academics repeatedly recall what they learned at universities, and the first time they encountered urban design as the key departure point. This confirms the long-standing influence of formal education. On the other hand, some interviewees (Martin Crookston and Patrick Clarke) did not graduate from any urban design course. It is only recently that universities have begun to offer urban design programmes, therefore many contemporary influential contributors have not specifically studied urban design. Those who have not directly studied urban design at universities gained their knowledge through other channels.

This point also reflects the professional validation of universities; in other words, university is the channel for professionalisation and legitimising the professionals' abilities.

Another distinguishing characteristic about university as a channel of transferring knowledge is that universities are more focused on the shared body of knowledge or classic form of knowledge, whereas other channels identified in this research are taking different routes in regard to the core body of knowledge.

Work environment (offices)

According to the interviews, many practitioners learned how to *do* urban design in their work environment through the day to day dynamic of working on projects. Martin Crookston mentioned that the main source of his urban design knowledge was working in Richard Rogers's office. Mark Brearley and Bob Allies also made a similar point.

Throughout the interviews it was also mentioned that in the work environment practitioners often learn presentation skills, negotiation skills, analysing methods and teamwork before, later in their careers, developing their design skills.

It appears that the professionals are well aware of this fact. This point was also acknowledged by Farrell and Allies when explaining how much they teach students, and at times students teach them. Farrell added that the current qualification system for architecture students makes it impossible for them to stay in urban design offices for a long period of time.

Two main types of knowledge that are being transferred in professional environments are: case-related and technique-related knowledge. It could be claimed that in work environments very specific parts of the shared body of knowledge are being transferred. It would follow that work environments cannot provide a comprehensive overview of the field.

Conferences and professional events

The interviews found that face-to-face interactions between professionals and short talks seem to be inspiring for the professionals, especially practitioners. Many of them mentioned that they update their knowledge and share their findings through conferences and in professional events (for example Roger Evans, Colin Haylock and David Rudlin). A comprehensive list of events was not achieved from the interviews. However, a wide range of events in which such transference of knowledge is happening were mentioned throughout the interviews, for example book launches, events related to organizations such as RTPI (Royal Town Planning Institute), Urban Design Group and CABE (Commission for Architecture and the Built Environment).

If actual face-to-face interaction between professionals is an influential way of transferring knowledge, then the actual place they are living and working is evidently important. Professionals located in big cities, such as London, have easier access to events. The importance of a professional's location is elaborated upon when key factors are discussed in the following section.

Projects

Urban design projects and their reports are also a medium transferring urban design knowledge. They contain specific forms of knowledge – for example presentation, analysing methods, data collection, collaboration skills and design. Despite the fact that urban design projects are often not published, professionals are keen to find out what other firms are doing, especially when they realise that firms have worked on *the same site* or *a similar topic* (as it was mentioned by both Allies and McAdam).

This medium of transferring knowledge is mostly used to connect practitioners to practitioners. This channel does not reflect the shared body of knowledge.

Books

Traditionally, books are a key medium for transferring knowledge. However, one finding of this study suggests that professionals do not frequently read books. It was found that practitioners are mostly interested in reading books which they consider to open their minds rather than classic urban design texts. Often theorists read books that are focused on their research projects (interests). Consequently, the shared body of knowledge is not significantly being transferred by books amongst established professionals. Nevertheless, they do occasionally '*go back' to* classic texts (Brearley, Haylock, Allies and McAdam).

In most cases, it seemed that practitioners found the books they read randomly. In some cases, they found the books through "word of mouth" and "colleagues' recommendations". For theorists, new books are of high interest and found more systematically.

It could be concluded that books are a limited platform for interacting with established practitioners, and they seem not be read by the intended audience. Yet academics systematically find related texts. If texts are related to their research or their interest, it is more likely that they will read it.

Academic journals

Influence of academic journals in relation to the shared body of knowledge was discussed in the methodology and first empirical study chapters, and as expected they appear to be an important channel of transferring knowledge. Here, academic journals are introduced as a medium through which theory and practice can interact. The academic journals that practitioners were interested in spanned a broader range than those with a purely urban design focus. For example, Journal of Urban Morphology was found interesting by Roger Evans and scientific journals on climate change interested Mark Smout.

Professionals have strictly limited access to academic journals, therefore not many professionals follow them. It was argued in the interviews by Brearley, Haylock and Hillier that academic journals employ jargon and abstract concepts. That is probably why many professionals in interviews mentioned that these journals are academics serving themselves.

Nevertheless, between academics, journals are an important means for dissemination of knowledge. Many academic articles have had a considerable impact on their research and the academic interviewed were well aware of this fact.

Professional journals

Non-academic professional journals appear to be a key channel that is being used by many professionals. Urban Design Quarterly, CABE publications and Town Planning Journal were mentioned in this regard. One-off publications also interest the professionals. The recent Farrell Review is an example of such publications. This has exceptionally high engagement with a wide range of academics and practitioners. A big number of professionals involved in developing a report (in this case, The Farrell Review, had more than thirty professionals involved with twenty supporting institutions) potentially increases the influence and reach of the document amongst professionals.

Academics are less keen on writing in non-academic journals, perhaps due to the fact that publishing in such journals is less appreciated in academia. Non-academic publications appear to be written and read mainly by practitioners (with few exceptions, such as Carmona).

Surprisingly, professional journals transfer both the shared body of knowledge as well as new discussions, but this is rarely done using type three theory.

Channels of interaction; what is being missed?

Key channels through which practitioners and theorists interact are introduced here. Regardless of the content of these channels, they are vital for interaction between theory and practice. Presumably any suggestion for enhancement of the interaction will inevitably concern these channels. Recognising the nature of the knowledge that each medium is transferring is a requirement for such an enhancement.

After all, advanced platforms of interaction seem to be absent from the interviews, in particular not many interviewees were active on social media. This may have been due to the fact that the professionals were already established so do not need to use the new mediums in the same way as early career professionals. The professionals often stated the reasons for not engaging with social

media as a lack of time and being unfamiliar with the platforms. Nevertheless, social media as an emerging channel of interaction could be expected to be more and more influential.

The channels discussed in this section are functioning within a wider context. In what follows, key factors forming the context in which the interaction between theory and practice is happening are explained.

Common factors (concepts) in the interviews

Throughout the interviews, a set of factors appeared to be important in forming the context in which the interaction between theory and practice is happening. The fact that many concepts were repeated implies that the interviews, in general, provide a picture of the subject of the study.

These factors nevertheless are not tangible objects. They and their influences are actually subjective concepts which the professionals formed in order to articulate their experiences. In this way, these concepts carry with them specific meanings. Following Deleuzian philosophy, concepts – as was discussed in the methodology chapter – are human-made abstract components that enable thinking about the chaotic experiences of the world (Deleuze & Guattari, 1994). This definition suits this part of the research. These concepts are taken from the interviews, therefore the ways in which professionals think about the problem is reflected in them.

Despite the fact that a set of concepts is being repeated in the interviews again and again, in each interview these factors are framed and employed in slightly different ways. The similarities between them makes a common ground for comparison and understanding. When different vocabularies were used to articulate a similar conceptualisation, they were interpreted as describing the same concept. On the other hand, when one word was conceptualised in different ways, it was interpreted as describing different concepts. Accordingly, the analysis of interviews here looks at the functions and meanings of each of the concepts.

Concepts introduced here are all understood to be influential in the interaction between theory and practice but they have different functions in relation to the gap; broadening, lessening or either at any given time. Common concepts of the interviews are as follows.

Government

Any government and state directly influences urban design in both academia and practice. Most of the British interviewees have mentioned the role of government and its influence on their work. The radical changes after the coalition government in 2010 in UK and cuts in design researches and institutes highlighted the importance of government amongst urban designers and increased the awareness of the role of government on urban design. It could logically be followed that if a given government does not change their policy for a long time, their influence would be less recognised.

Academics mentioned government projects and research funding. For the practitioners, government policies and projects were also important. For both practitioners and academics, governmental support of institutions, such as CABE, was influential in making better interaction between theory and practice. Additionally, a government's role was discussed especially in relation to developing a network of professionals and supporting good design.

Government in its current condition appears to be a broadening factor of the interaction between theory and practice. Unless some reaction to the current condition happens, current policies will leave its impact on both generation of knowledge and designing public spaces. Furthermore, it could be argued that urban design should develop to be more independent from governmental supports, as argued by Moughtin, Bentley, Campbell and Clark. What is the right and wrong decision

falls out of the scope of this research, but government was evidently an important concept in the interviews.

Personal choice

The gap between theory and practice has been institutionally constituted and supported. It means that the ways in which universities develop the knowledge is not necessarily connected to what is needed in the practice. Without systematically defined counter-processes, the gap would carry on. Nonetheless, a practitioner and a theorist both have their own agency in interacting with each other, and can contribute toward the counter-processes.

Many successful practitioners and academics decide to find new ways to benefit from such interactions. Carmona and Moudon are examples of such academics. Practitioners also try to find and absorb new knowledge by getting in touch with academics and disseminate their knowledge, for example Haylock, Crookston, Evans, Smout and Allies. The attempt of individuals to bridge the gap is called *personal choice* here. To some extent it is going against the well-established routines in order to find new inspiration.

Chance

Many great contributions to both theory and practice have happened accidently. This has always been the case in the history of progressing human knowledge. Chance or accidents are hard to formulise yet it is argued that insights into new ways of thinking can hardy occur as the result of fully predicted processes. It is explained that chance and accidental events have a fundamental relationship to breakthroughs in knowledge (Feyerabend, 2002). Established processes produce expected outcomes but abnormalities in the process make it possible to have unknown outcomes.

Accident/chance was reported to have produced new opportunities to interact in many cases. Systematically analysing the element of chance in the interviews is not easy, as chance seems to be more easily defined as what it is not; it is not anticipated. In the interviews there were many examples of chance influencing interactions; accidental meetings with other professionals (Moughtin, Cuthbert), finding a text by chance (Rudlin and Madanipour), becoming involved in projects (Colin Haylock, Crookston), accidental influence of personal life on professional achievements (Hillier) and arbitrarily choosing a study programme (Lang).

Nevertheless, accident can only provide the opportunity. It is the individual who takes it and makes it; it is the individuals who need to be capable of making the most out of such opportunities.

Education

Throughout the interviews, education was repeatedly mentioned to be an influential concept. Many interviewees appeared to think that through education it is possible to lessen the gap between theory and practice (Moudon, Cuthbert, Trancik and Campbell).

In contrast, education was argued to cause the separation between theory and practice and other disciplines related to urban design (Madanipour, Bentley, Land and Allies). The ways in which academia separated the built environment-related disciplines gave too much focus in professionals whose contribute to the knowledge would potentially exacerbate the problem in a bigger picture (argued by Bentley and Campbell). More importantly, academia mostly appreciates pure academic achievements such as peer-reviewed articles and teaching funded-research that do not necessarily look at existing problems. Therefore, the education system is not fully linked to practice (argued by Evans, McAdam and Farrell).

Nevertheless, by changing the understanding and expectations of the professional, the gap can be less in the future. Education systems can be controlled more easily than government and chance, therefore making change through enhancing it is more feasible.

Client

Urban design projects and research often rely on a certain client's support. This means both practitioners and academics are serving clients. In this respect, they cannot totally go against the client's will. Clients and professionals often have different views over details. In an ideal situation, total support of a powerful client would boost the contribution of projects. But in reality professionals and clients may disagree thus altering the final outcome from what the professional had in his mind.

Many influential works happened because of the client's support (as Brearley argued), but after all, there are always opportunities for designers to educate their client during their involvement (Rudlin, Evans and Tuckett). In this circumstance, the client and negotiation skills directly influence the outcomes. Whoever the client is, the designer needs to establish a mutual understanding of the value of design and research. This discussion highlighted the need for academic courses to include training in negotiation skills. Many interviewees believed that this need is not currently being met.

Developing ideas before the project

Many examples of influential contributions in practice happened when the project was conducted as an independent project (Brearley, Tuckett, Campbell, Cowan and Farrell). In other words, the project was developed before any engagement with the client. Later on, the client became involved because of the value in the report. This is a particular example of involvement with clients, nevertheless it appears to be inspiring for practitioners as a way of making an influential document. Owing to the fact that developing a report in this way is more focused on a problem and less limited to regularities, it could be argued that there is a potential for such reports to be inspiring and different from typical reports. Academics also at times work without funding (Madanipour).

This way of contributing to the field is not available for all professionals. Supposedly, it is time-consuming; examples of practices that manage to develop such reports were often big enough to be able to manage such a project as side of their main projects. Additionally, academics were established enough to be confident about the result of their projects. Yet this concept highlights the fact that dealing with urban problem merely through regulated processes is limiting the opportunities to address them differently.

Communication

It was found that communication is considered a fundamental factor by both theorists and practitioners. Communication is an important skill for urban designers in order to disseminate their ideas. This factor appeared in interviews repeatedly in relation to updating knowledge. Many individuals expressed their concerns about the lack of communication between theorists and practitioners; 'academics serve academics' and 'practitioners are reluctant to discuss their theoretical underpinnings'. The main forms of communication were explored earlier in this chapter, referred to as channels.

In general, communication is kept to a minimum level in both practice and academia because of its time-consuming nature. Additionally, urban designers are not skilled in many communication techniques, for example social media. Also, practitioners often do not write about their projects.

Site visiting

Surprisingly, many academics and practitioners highlighted the fact that for them visiting good urban environments has always been a main source of learning and developing their understanding. The existing built environment accordingly appears to be an important factor influencing the generation of theory and practice of urban design. Nevertheless, good environments are neither theory nor professional practice. Following this, different lessons can be achieved from the existing built environments based on the visitor's attitude. For example Giedion in *Space, Time and Architecture* highlights the movement of space in Renaissance Italian cities in order to, later on in his book, support the American highways (Giedion, 2009), whereas the same environment was constantly referred to as a glamorous example of human scale and a smaller space (Moughtin, 2004; Tibbalds, 2000; Zucker, 1970). The built environment carries with itself a potential for various lessons.

Carmona, Cuthbert and Moughtin mentioned the built environments as the best inspirations for them. Successful built environments are places in which theory and practice interface and solidify. If academia and practice cut their connection to the built environments, the gap between them would increase dramatically. Visiting successful sites inspires both practitioners and theorists. The inspiration is available for both novices and well-established professionals. Site visiting must be connected to urban design education as Lang, Moughtin, Rudlin and Allies reflected. The appearance of site visiting as an important factor here implies that theory does not replace *experience* that informed the theory; one cannot put all the lessons from the built environments on paper in this respect.

History

Closely related to the idea of site visiting, many interviewees pointed at the importance of learning from history. For them history is theory and practice at the same time. History is manifested not only in the built environment but also in the literature, visual history, collective (oral) history and social norms. Some think that it is possible to test new ideas against history.

Moughtin mentioned history is the theory. Learning from history in addition to visiting sites is involved in investigating thoughts behind developing the built environment. However, some interviewees would disagree with this conception of theory (Cuthbert).

In many societies, going against history would raise resistance, thus history could be seen as a factor that with a limited scope influence the generation of theory and practice. Despite the fact that history is not changeable, it could be understood and applied differently.

Location

The cities in which professionals live directly impacts their interaction with their peers. For example in big cities such as London, the dynamic of professionals has different characteristics compared to a smaller town (Haylock, Cuthbert, Crookston and Campbell).

The actual location of professionals forms their network. As it was argued in the section on channels, it seems that conferences are fairly successful in gathering the professionals together from limited distances.

Research

Many interviewees mentioned that research can lessen the gap between theory and practice (Carmona, Crookston, Haylock, Campbell, Evans, Hillier, Madanipour and Moudon). Nevertheless, what they mean by research significantly varies. Some expect research to come up with an explanation of how design can achieve specific objectives like safety (Rudlin), some expect research to expand the

understanding (Madanipour), some take a middle way and expect research to both expand the knowledge and have practical applications (Carmona and Moudon). Research can then enhance the existing theories (Evans) or be informative for new theories (Carmona).

In its general meaning, research is a key concept in the interaction between theory and practice. Traditionally research is responsible for developing knowledge, and knowledge ultimately would enhance the experience of cities. Therefore, it is not surprising to see that research appears to be an important concept.

However, research does not happen in a vacuum. Research needs funds and institutional support. At the time when governmental support is less available, academic research has the duty to lessen the gap between theory and practice.

Professionalisation (division of labour)

The way in which built environment studies have been professionalised during the last few decades separates the professions and theories belonging to differentiated branches of the built environment.

Fifty years ago, great designers were teaching at universities as well as designing, they were urbanist and architect. This is becoming less and less the case (argued by Madanipour and Bentley). Urban design, architecture, planning and landscape urbanism were integrated together and theory and practice was closer together a few decades ago. As the built environment knowledge developed, professionalisation was inevitable. Consequently, a bigger gap between theory and practice is a by-product of such a professionalisation. A result of such procedure is more specialised professionals with less comprehensive perspectives. In line with this, there are more professionals with focused topics of activity. In this sense, this trend broadens the gap between theory and practice.

Comprehensive view

Professionalisation cannot be easily changed. Hence its consequences can be countered through various strategies. Establishing a comprehensive view is a potential concept lessening the gap generated by the professionalisation.

Professionalisation of the built environment related fields serves the practitioners with focused theoretical debates without a comprehensive framework. The interviewees manifested different calls for such a comprehensive view. Moughtin, Bentley, Farrell and Campbell address *comprehensive view* both as a necessity for urban designer and as a reason for their successes. They believed moving towards a more comprehensive view would lessen the gap between theory and practice in this respect. But how is it possible? Campbell believes that built environment related disciplines must start from big issues, such as urban problems, then professionalise in specific issues such as architecture in postgraduate programmes. Moughtin believes more philosophical understanding of cities and the nature of change proposed by professionals would make more comprehensive view. Bentley argued that universities cannot change their curriculums, but the nature of urban design theories should turn into comprehensive theories that collaborate with historically inherited social structures in places. Bentley believes this shift would make a more comprehensive view.

Orthodoxy of urban design (domination of solution to understanding of the problem)

Urban design is an applied field. Therefore, there are many guidelines and how-to-do texts in the field. This amplifies the potential for taking solution for granted without fully understanding the problem. Evans explained how the orthodoxy of urban design is preventing new thinking. Furthermore,

the same concept, manifested differently, appeared in Hillier, Bentley, Campbell and Clarke's interviews. This issue not only broadens the gap between theory and practice but also neutralises the affectivity of urban design.

Analysing the concepts

As was discussed, the list of concepts achieved from the interviews overlap with each other and many of them are strongly interconnected. However, together they can represent the context in which theory and practice of urban design are interacting from the perspective of the interviewees.

The list of concept consists of different types of concepts; they are different in nature and are the results of different processes. The methodology of this research allows a consideration of key influential factors due to not imposing any presupposed structure. For example, if the research methodology was focused on theoretical aspects, it would have easily missed concepts such as location or client.

Figure 11 maps the concepts (factors) onto two axes; first whether change requires individual or common endeavour, second how whether they belong discretely to the urban design domain (controllable) or not (uncontrollable). The aim here is to make a framework for managing the factors.

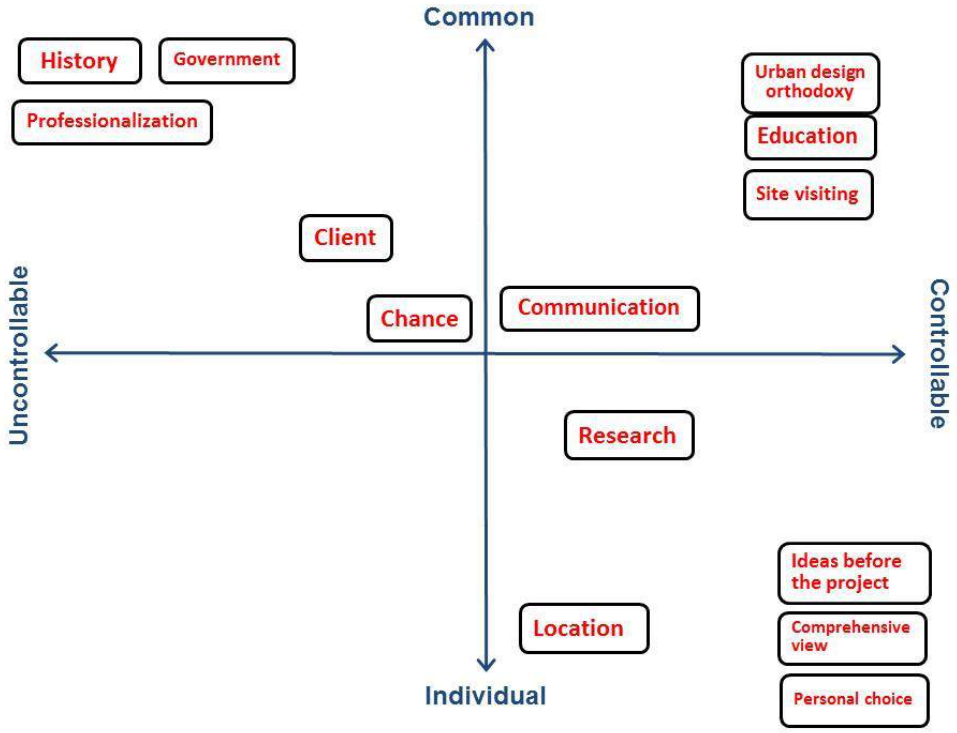


Figure 11 shows how frequently mentioned concepts can be categorized. The two axes represent; a) what is required for change: individual/common endeavour; b) if they belong discretely to the urban design domain or not: controllable/uncontrollable.

According to Figure 11 it can be assumed that those concepts that are in the urban design domain should more easily change the interaction between theory and practice. Individuals can also choose to gather their endeavours together or individually attempt to make a change. Figure 11 demonstrates that the majority of the concepts discussed in interviews are internal to the urban design

domain. Despite the fact that the importance of factors has not been investigated in this dissertation, it could be argued that there are potentials in the urban design domain to integrate theory and practice of urban design more thoroughly. Nevertheless, Figure 11 is not a prescription for the future of the field. It is only an analysis helping to better understand how the interviewees picture the key factors influencing the gap between theory and practice.

Revisiting the research questions, it is necessary to draw on individuals' interaction with the existing body of knowledge. The interviews revealed that individuals have different expectations of theory. Practitioners such as Evans, Allies, and Rudlin expect theory to be normative and demonstrate what good design is and how to enhance specific aspects (type one). Cowan and Farrell emphasise on the communicative aspect of theory. Also, theorists have different expectations. For Cuthbert, theory should be related to political economy and the social process of making urban meanings, otherwise it is not connected to the real of forces that make cities. Moughtin understands theory as an updated articulation of history and philosophy. Madanipour pictures urban design theory as a crystallization of different schools of thought when they face urban problems. Hillier thinks that theory is discovery; it follows the spatial logic of societies. Carmona and Moudon think of theory as a mechanism and structure that explains cities. Lang expects urban design theory to present generic solutions. What professionals expect from theory forms the ways in which they employ theory in their works.

The individuals' stance

It is clear that the term theory has different meanings amongst the interviewees. This is the case for many concepts. More importantly this is the case for the problem (the ways in which theory and practice are linked). This section opens a space to find out how individuals stand in relation to the network of concepts. Five points in each interview are reflected in this section:

1. Points that directly address the problems of interaction between the theory and practice of urban design.
2. Ways in which the problem is manifested from the specific view point of the interviewees.
3. Parts that are repeated by the interviewees in regard to the subject of the research.
4. Suggestions for enhancing the interaction between theory and practice.
5. The process in which their ideas have been formed.

The presentation order of interviews here is in a way to make a line of connection between interviews.

At the end of each interview, a visualization of three analyses is provided. Figure 12 is an example of such visualisations. First, on the left, there is a visual representation of the concepts that are mentioned in the interview. If a concept is more important it is located closer to the centre. The importance of the concepts was determined by how much interviewees emphasise them. This presentation was made with UNICET software. In the middle, the second visualization shows which types of theories have been discussed in the interview referring to the typology of urban design theory in the literature review (three types of urban design theory p. 49). If few theories at any type are referred to by the interview, more than one red dot is allocated to them. When the theories in one type are closer to one another the dots are closer, and when they are discrete, separate dots represent them. The third visualization reflects on the five sources of creativity in urban design (p. 64) and explores which one is being more used by the interviewee. Below is an example of such visualization. These visualisations are structured analyses and reflections of the interviews linking to the more open analyses presented in the texts.

This chapter will end by analysing the interviews and making conclusions after presenting the reflections of each interview.

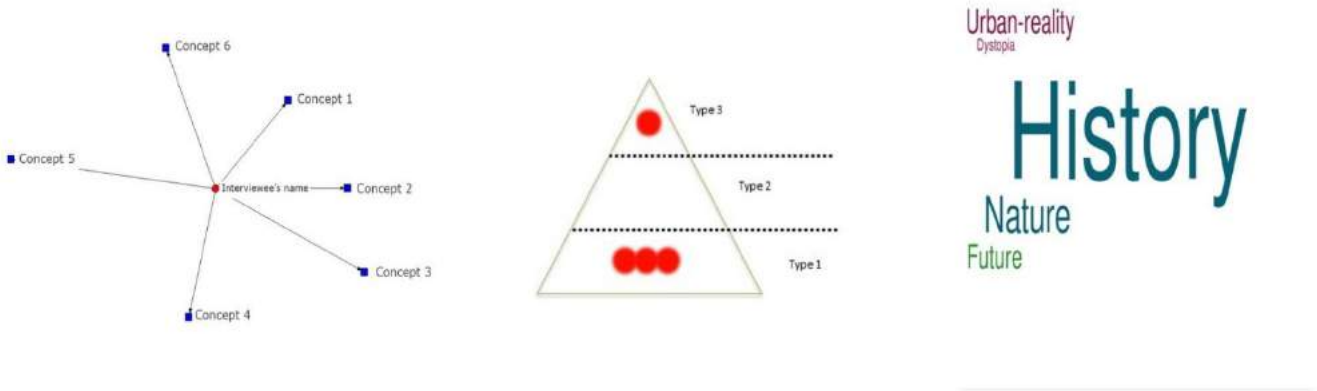


Figure 12: This visualization is a qualitative representation of the interview in regard to three analyses taken by this dissertation.

Matthew Carmona

The first interview of this research is with Professor Matthew Carmona. This interview was considered to be both a pilot interview (in order to find out how the answers can be analyzed in terms of the research question), and an interview with one of the theorists whose texts was referred to in academia again and again. It is also important to mention here that Professor Carmona had been informed about this research beforehand due to his engagement with this dissertation as the primary supervisor. Therefore, this interview was longer than usual followed by his suggested amendments.

The interview addresses a wide range of topics reflecting the various contributions Carmona made to urban design. It could be concluded that generating research-based knowledge is Carmona's distinguishing argument in the interview.

Carmona's most accomplished text, *Public Places, Urban Spaces* (first published 2003, revised edition published in 2013), locates the existing debates in urban design within in a new structure of Dimensions of Urban Design. However, his recent works are providing more theoretical debates. For example *The Place-shaping Continuum: A Theory of Urban Design Process* defines the urban design process as the intersection between intellectual endeavours and the existing forces in each place (Carmona, 2014b). This article is highly informed by Carmona's study on public places in London with the existing criticism about urban design (Carmona, 2010, 2012). Considering Carmona's publications, it could be said that he contributed to theoretical debates at different levels (types) and in various ways. But three broad topics are his research interests: design governance, public space and London spaces.

Matthew Carmona, like many who contribute to urban design theory, does not consider many of his works to be exclusively focused on theory[1]. Nevertheless, they have theoretical contributions. For Carmona "*theory is, on one hand it is sort of underpinning of ideas that help to structure the discipline and make sense of that discipline. That theory also develops through time. I think theory also has a strong relationship or should have a strong relationship to practice.*" This echoes Carmona's research interest that covers practical arguments. From his point of view there is a gulf between practice and theory and this gulf is bigger than what "*one would think when reading the texts.*" Despite this,

[1] One exception is *The Place-shaping Continuum: A Theory of Urban Design Process* (Carmona, 2014b) where the main aim of his writing is actually to develop a new theory.

Carmona's interest was always to connect the research and theories into practice. Certain academic works are distinguishably detached from practice without any intended contribution to urban developments. Such works and their authors, Carmona argued, have got too much space in academia recently. Carmona believes that this trend was endorsed by geographers' studies in planning and urban design. He added that this is not a threat for urban design.

The successful historical built environments and existing cities are rich sources of inspiration for Carmona. In learning from the built environments, what is happening in places in relation to people is more important that the "*authorship of place or who has designed it.*" Many inspiring places emerged through history and incremental changes in the way that it is impossible to allocate one designer for them. This approach is reflected in Carmona's works in the way that case studies of real places inform the conclusions[1]. The importance of visiting various cities is generally mentioned in many other interviews and it is an important issue for both practitioners and theorists.

As was discussed, urban design professionals are divided into two main groups of academics and practitioners, and members of these groups are not very keen to interact with the other side. They often say they do not have time for it. This means the benefits they get from the interaction is not worth the struggle. Carmona, however, always tries to draw on practical issues. "*Like my London public spaces work, which was based primarily on academic debates, I all the time bring it back to practice.*" This is because "*I think as the academics we have a duty to engage with practice."* That is why his research, generally benefits from both first-hand data in theoretical contributions. Few other academics interviewed in this research (such as Madanipour and Cuthbert) rely less on first-hand data in their publications.

A key element in interaction between theory and practice is communication skills and their channels. Communication can happen in two ways: communicating in academic language, or communication in everyday language. Scholars are often keen to disseminate their works exclusively in academia using the academic language. This point was mentioned in many interviews. However, Carmona approaches a wider-range audience. His short pieces entitled *Urban Design Matters* (available online and in Town and Country Planning TCPA*)* and the Place Alliance[2] project are an examples of attempting to communicate with practitioners, planners and politicians. A similar intention is expressed by Robert Cowan when he explains why he produces his short videos on urban design (see Robert Cowan, page 139). It seems that using academic language and journals limits the communication, however it is not clear how much the attempt for using non-academic style has been successful.

Carmona chooses his research topics, as he mentioned, based on his judgement about whether he can contribute to the debate and if the research appears interesting to him or not. As a matter of fact, a researcher's interest and judgement are both deeply related to his/her experience, knowledge, context (including his expectation for the research's success) and other factors. Nevertheless, the issue of choosing a topic is important in generating knowledge.

A certain combination of elements is necessary to make any research possible. For example the main motivation for writing *Public Places, Urban Spaces* (Carmona et al., 2003) was to make a textbook that gathers existing theoretical text on urban design together in a comprehensive manner. Such a research happened because of Carmona's involvement in an urban design theory course he was teaching at the time. This point re-emphasises the influence of context on knowledge generation. Another example of choosing research topics, mentioned by Carmona, is his research on high streets (Carmona, 2015). He realised that he could contribute to the ongoing debates on high streets

[1] Such as *Capital Spaces* (Carmona, 2012), *The Value of Urban Design* (Carmona, 2001) and *The Place-shaping Continuum* (Carmona, 2014b).

[2] https://www.bartlett.ucl.ac.uk/placealliance

happening at the time[1]. In this case, Carmona's knowledge of what was happening in the Mayor of London's office in regard to high streets helped in choosing the research topic.

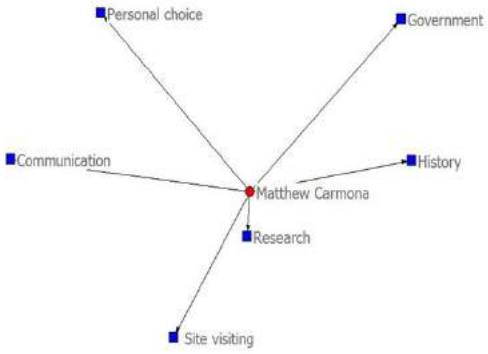
A final point in regard to selecting research topics, mentioned in the interview, is that focusing too much on one topic for a long time can be boring for any academic. Academics generally are interested in exploring new areas, however if they change their research areas too quick, they cannot deepen it.

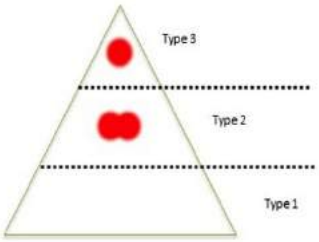
Carmona clarifies that he does not follow any fixed theory in his works. He instead evaluates the existing theories and adjusts them based on what his research needs. This approach logically makes it possible to go beyond the existing discourses, which is an essential element for a new way of thinking.

Assuming that a research can begin either from a theory or from a problem in hand, Carmona mostly uses the latter approach: "*I start with a question, and then I conduct empirical work or literature review and I then structure and develop a structure or a theory out of it, rather than starting with theory and testing that theory.*" This, in response, makes the outcome more related to real problems.

Ways in which theory and practice can potentially contribute to each other are considered by Carmona to be various and flexible. Having a flexible approach in adapting theory/methodology for each research is necessary when dealing with the unknown (wicked problems). Another key finding of this interview is the role of personal choice and interest in interaction with practice.

For Carmona research is an important concept whilst *history*, *government*, *personal choice*, *communication*, and site visiting are also mentioned. His works are more concerned with theories that this research categorises as type two and three. From the five sources of creativity *urban reality*, what is already happening in the cities, and *history* are more important for Carmona's work. Accordingly, the three visualizations below represent this interview.





Ian Bentley

Ian Bentley was interviewed as a theorist. He is an emeritus professor of Oxford Brookes University. He was the head of *The Responsive Environment*'s team (Bentley, 1985) which is one of the pioneer books on urban design in the UK. Despite Bentley's contribution to mainstream urban design, the key point of the interview is his critical/radical stance towards the mainstream urban design especially the way in which institutions work.

Bentley mentioned that he is suspicious about the differentiation between theory and practice. "*I think it is a by-product of the way in the Western thinking we split the mind and the body and in the*

[1] Echoing his comment here, Mark Brearley, a practitioner who was involved in high street design in London, mentioned that Carmona was amongst very few who ever tried to academically analyze what they were doing.

end it makes a kind of, I think, artificial view of something odd." Despite this, *"I see it is traditionally inherited and you can't just ignore it*." He points at "*the way universities separate theoretical and practical courses and they often being taught by different people teaching different things*." Such a thinking and operationalization of thinking exacerbates the problem. This condition would not change easily. Bentley believes many urban designers are not willing to condemn urban design mostly because they are achieving benefits from the current condition of the profession.

Concepts emerge in addressing a problem, Bentley says, by referring to Deleuze and Guattari's *What is Philosophy* (1994). The question for urban design however is the way society and institutions are involved in production of the understanding of any problem, also in a broader context in producing the understanding of the *reality taken by different actors*. The central problem based on which urban design developed, for Bentley, is having different actors dealing with cities. An unfortunate way of dealing with this is trying to solve supposedly unrelated problems separately by different actors. This will end up with fractured body of knowledge. The separation between built environment disciplines is another issue that adds to this problem. Despite the fact that the professionalism is inevitable, having a broader view is being missed in the way that educational system works. Madanipour and Campbell also mention this point in their interviews.

The development of knowledge begins with a set of ideas that one uses to generate design. Some of the ideas work and some do not. Professionals keep the ones that work and discard the ones that do not, and therefore there is an organic structure that is used to generate the knowledge. This process in many ways developed over the time. Therefore "*I think urban design is that central archive of structures which is available to everyone*… a*nd that is very difficult to build into the kind of universities we evolved in this country and I think in most countries*." The concept of structure Bentley refers to is Gidden's structuration[1], on one hand, and the archetypes or patterns discussed by Alexander on the other. This archive is easy to understand. Understanding it, however, does not necessarily makes someone a professional. Nevertheless, it seems that many statements in architecture and urbanism were manifested regardless to this archive if not against it. Reflecting on five sources of urban design creativity discussed in the literature review, Bentley's view relies on the reality of the cities and strongly rejects professionalism.

Bentley's view and approach, compared to the time when he founded the Joint Centre for Urban Design at Oxford Polytechnic, has faced a massive change; he thinks a similar change (paradigm shift) is possibly in the future of the field when considering the new debates emerging all around the world. This change could be summarised in moving toward having more complex-system approach, along with changing the role of urban designer as the one who "*knows everything*" necessary for design to someone "*who coordinates with the existing forces"* within the structure. In this sense, knowledge mainly exists in the society in the form of the structures.

Cities consist of various urban systems, each of which has specific regulations and structures that emerge through time. "*This is much more complex understanding of the physics of cities than we had in Responsive Environment. What really matters is the interface between these different systems and changing them. Then it became quite complex to figure out how to think for a way through it*." Urban designers in this view would not understand the cities but coordinate with it. The issue of complexity

[1] The concept of the structure for Giddens is "Understood as rules and resources, structure is recursively implicated in the reproduction of social system... structure can be spoken of as a referring to the institutionalised features (structural properties) of societies" (Giddens, 1984, p. 185). Giddens' structure is different from the structural sociology in the sense that it addresses a more complex system that shapes and changes through behaviours of various agents, therefore it is far less deterministic. Bill Hillier also refers to this concept as one of the key ground theories for his researches.

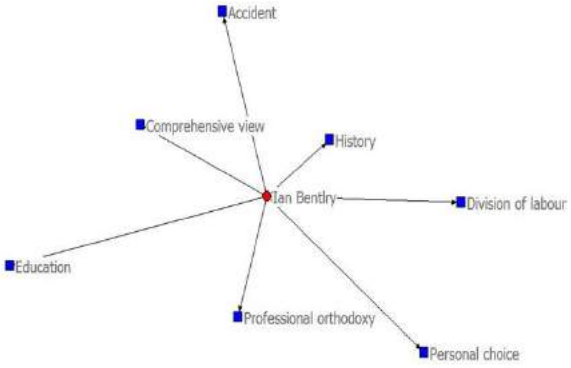
and necessity for defining a new role for designers are both mentioned in Kelvin Campbell's interview as well.

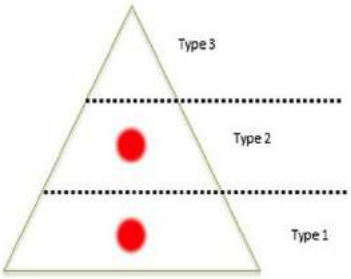
In regard to formation of knowledge for Bentley, as he mentioned in the interview, *Responsive Environment* was a crystallization of the ideas that existed in the air at the time (Jacobs and Lynch's). Some of the ideas were indirectly influenced by Aldo Rossi's works, especially his ideas about type. This influence happened mainly through Italian students studying at the time in Oxford Polytechnic. This is an example of how ideas and thoughts are flowing from one place to another by using various channels. In this case the universities provided the channel. It might be thought that in the time of the internet, the flow of ideas has more channels.

Generally, it could be claimed that *Responsive Environment* has clear applications in actual practice of urban design. However, more theoretical discussions are available in Bentley's following book, *Urban Transformation* (1999). Therefore, Bentley is amongst those who contribute to both sides of the range of abstract and practical theories. Nevertheless, his texts are mostly formed by previous works.

Bentley's solution for the problem of interaction between theory and practice, and distinguishing between deduction and induction is to "*refresh minds.*" In reality, a human being does not interact with the world by asking himself "*Am I inducing or deducing? Is what I am doing theory or practice?*" Deduction and induction are fundamentally connected or *"actually they are the same."* The separation is rather a subjective matter.

Bentley's view toward urban design theory and its interaction with theory is rather radical. Focusing on the existing structures as the source of knowledge will question the norms that allow change in the system according to knowledge. The interview is represented in the visualisations below. The concepts of *history*, *professional orthodoxy* and *comprehensive view* appear in the centre as they are more important than others mentioned. Bentley's works are closer to type one and two theories and *urban reality* is the most important source of creativity for him. He believes urban design is the structure underlying the existing condition of (mainly historic) cities.





Ali Madanipour

Ali Madanipour, professor of urban design of Newcastle University, is mostly known for his theoretical contributions. The distinguishing point of Ali Madanipour's view is the way he connects urban studies in general and urban design in particular to broader social trends such as politics, economy and sociology.

In the interview, it was mentioned that the Iranian revolution[1] (1978) was an eye-opener enabling Madanipour to see that everything has political aspects. Such a view to urban processes in this interview went on to ask who funds research in the field of urban design (and why). Knowledge, and consequently producing new knowledge, has its own political directions. An important point standing out in this interview is the importance of an individual's background on how and why he/she is doing what they are doing. The way one develops his/her theory is inevitably influenced by background, however this might be unnoticeable in their final writings.

Madanipour's definition of theory is not complex: "*Some people mean by theory that it has to be so complex that nobody can understand but generally, in natural sciences and social sciences, theory is a set of statements which tries to explain something but it is not proven, it is not the fact.*"

The differentiation between social and design theory was discussed in the interview. Social theories typically try to explain what is happening, whereas design theories aim to theorise the design (what should happen). The challenge to connect between the two seems to be of interest for Ali Madanipour. In his works, Madanipour tries to locate planning practice within broader "*social political and economic theories.*" This view is close to Cuthbert's (Cuthbert, 2007a). They both believe it is necessary and beneficial to locate urban design in a political economy context. Their difference is that for Cuthbert, urban design in its status quo is not related to political economy (Cuthbert, 2005, p. 230), whereas Ali Madanipour took another way to see underpinnings of current condition of cities and knowledge in regard to political economy.

The reason Madanipour decided to take this specific approach is a combination of external opportunities and his personal view: "*I wanted to explore and understand urban design partly because I was asked to start a postgraduate programme and I wanted to know what is needed to be included in the postgraduate programme of urban design. So I had to think about it and I had to search for the ingredients of it and of course part of it came out of my own investigation into urban development.*" In developing a theoretical stance, in addition to the personal circumstances, Madanipour emphasises different schools of thought. In a way, many discussions are applications of various schools of thought in regard to urban problems.

Madanipour, like Bentley, sees the professionalisation as a factor that makes theory and practice less integrated[2]. A few decades ago, before professionalisation of the built environment fields, the great theorists were practitioners. They were architects and urbanists. But nowadays, books are written mostly by academics. "*Part of it is not personal choice; part of it is the way the institutions and the country are set up.*" The criteria that are used by universities are mostly publication, which often means practitioners cannot get positions at universities. However, growing theory and practice apart makes the research much more needed and more focused. The role of research is an important factor which repeatedly appears in the interviews. Roger Trancik believes that research developed significantly in the last few decades considering how many big American firms opened research centres (see Trancik below).

In application of theories, designers always have to choose how to use research and data in their design since "*there is always that gap between the data you collect and the design you produce, because ultimately the design you produce is a proposal and that proposal is partly rooted in that research but partly is your innovation and kind of suggestion."* Additionally, despite the importance of

[1] *"Personally my history is that I came from a revolution, the way you get to know issues differed, before the revolution we didn't know much about the world as such and it was very non-political circumstance and all that."*

[2] *"It is a general problem of the society that things are fragmented and specialised, and of course it is a necessity of a complex society to specialise and fragment, but then the result of that is that these things get disconnected."*

theoretical debates for practitioners they can be inspired by almost everything[1]. Such a view reflects an inevitable gap or difference between theory and practice.

Madanipour, like Carmona, chose the topics of his studies based on the current condition of the literature and his personal interests. "*I decided that there are lots of people who do that practice advice of what to do and produce check lists and guide book. I thought that is not for me.*"

Research funding is another important issue raised in the interview. Research in urban studies as an important means of producing knowledge and theory is funded by different funders; public sectors, government, trust are the main funders. Nevertheless, *Designing the City of Reason,* one of the theoretical books by Madanipour is an outcome of his exploration into the history of philosophy in relation to cities (Madanipour, 2007, p. 256). Writing an independent book requires free time. The academic life does not allow producing many self-funded researches in the field. Self-funded researches can stand outside of their contexts because they have the opportunity to not follow the criteria and focus on the trendy topics. These all seem to be characteristics of *Designing the City of Reason* (2007).

This raised the point of who and why funds various research. Despite the funder having "*rather open views in Britain,*" they ultimately fund types of the research that can potentially contribute to the available system and mechanisms. Nevertheless, the funding in our field is mostly spent on research assistants since urban study research is not involved in laboratories.

Another important point mentioned in the interview was that urban designers, in comparison with sociologist and geographers, do not have the adequate skills for research – especially if the research looks at the existing places. This in operation means that many researchers prefer to work with professionals from other disciplines, such as sociology and geography.

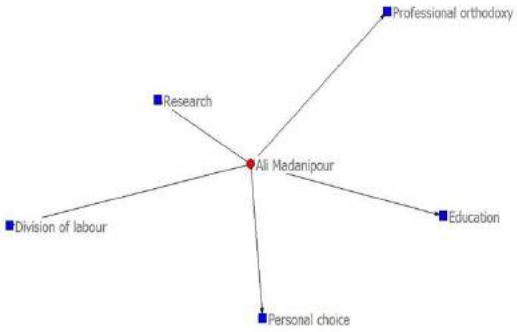
Many times the interviewee compared urban design with planning and architecture, especially when his argument looked at the nature of theory, the role of academics, research and the relationship between urban design and social sciences. Since urban design historically developed between planning and architecture, it benefits from debates from both fields. Madanipour argued that ultimately urban design literature consists of planning and architecture language and some of urban designers can be easily allocated to have planning language (such as Lynch) and some to have architecture language (such as Rossi).

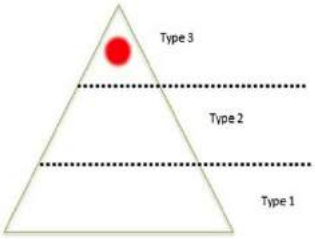
In this interview, the discussion about the interaction between theory and practice leads to the role of universities. Urban design in its nature is very practice based. Some institutions and universities including Oxford do not consider urban design as an independent academic field, they refuse to develop a programme dedicated to them. However, as Madanipour emphases in the interview, this depends on the various understandings of the field at different universities.

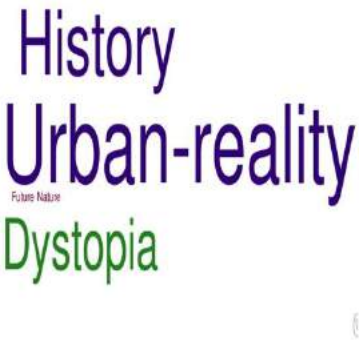
The practicality of Madanipour's work was questioned in the interview. The main contributions of Madanipour's work for practitioners, he thinks, is to question and revise "*something that have been taken for granted by professionals,*" the idea of neighbourhoods for example.

Madanipour has a particular stance towards mainstream urban design. He considered them to be important yet not deep enough in addressing urban issues. The interview is represented by the structured visualizations below. For Madanipour *research* is a central concept. Other concepts, namely *education, professional orthodoxy, division of labour* and *personal choice* are concepts that appear in this interview and are in common with many others. Madanipour's work is more concerned with the knowledge of urban design, and therefore reflects type three theories. His view is inspired by the current conditions of cities and critical thinking.

[1] *"'If you look at the process of design it is not linear process, it is a kind of process… A process that you may get inspiration from something which is absolutely unrelated, so sometimes when you work you see some stones on the other side of the way and get inspired..."'*







Robert Cowan

Carmona, Bentley and Madanipour clearly fall into the category of theorists, whereas it is not clear whether Robert Cowan is a practitioner or a theorist. By the methodology taken for this dissertation, Cowan belongs to a group of writers whose texts are frequently referred to at various universities for urban design courses. Nevertheless, his major contribution is not generating theory. This, again, implies that the separation between theory and practice is subjective and there is not a neat line between professionals belonging to each side. Robert Cowan is a London-based urban designer. Cowan, like many other interviewees, does not have a degree in urban design, he has studies planning, he also is not involved in academia.

From the perspective of this research, Robert Cowan's main contribution could be seen in re-articulating of existing theories and concepts. This is the common aspect of his *Dictionary of Urbanism* (Cowan, 2005), *By Design* (2000) and his other works. This interview puts light on the importance of language and communication. Also Cowan belongs to the tradition of urban design guideline writers. Guidelines cannot be seen as theoretical texts, nevertheless they are employing theoretical concepts.

Short videos by Cowan published on the internet reflect his view towards communication with practitioners[1]. The process and thinking behind them as well as the result of them is an important case for this dissertation because they stand between theory and practice.

The reason why Cowan wrote an urban design dictionary follows the same logic. To him, the success of the glossary of *By Design* (2000) was the main inspiration to write the *Dictionary of Urbanism*. The process behind it is not robust though. Choosing a term and allocation space to different terms are both his personal choices[2]. The meanings of the words are indicated by the ways in which professionals use them, thereby it is not a dictionary of what the right meaning of a word is, or in the professional vocabulary it is descriptive dictionary. Relying on existing usage for defining the terms implies that current collective understanding of professionals is a valid form of knowledge. This knowledge does not have a specific author nor does it offer a certain form of theory. However, the collective knowledge represents the common understanding or common sense of professionals.

[1] *"I always tried to communicate with people, I was thinking what to do with people who don't read books… and what is the message I tried to get over… the message is very simple... instead of trying to get people to read 500 pages, let's have simple messages and use humour in a way that people will listen to enjoy and think…"*

[2] *"I wrote the dictionary for me and to some extent I just wanted it to be useful."*

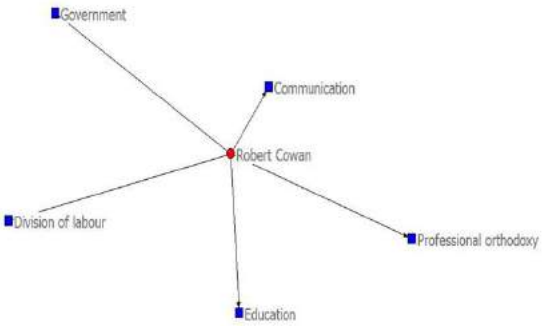
The way various professionals approach and define theory strongly echoes their position in the professional domain. It follows by the fact that individuals adjust the definition of theory based on what they are dealing with (or, far less possibly, their position is achieved due to their understanding). For Cowan "*theory is body of ideas that provide framework for thinking or thinking about something or practicing.*" This definition connects seemingly different activities of Cowan: writing a guideline, making short videos and dictionary[1].

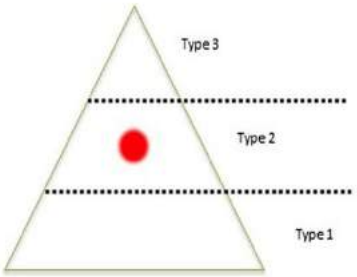
Cowan stated that urban design professionals use different words for similar meanings. They "*replace new words when the available ones get negative associations.*" For example, urban renewal "*got out of fashion because it got a bad reputation, people no longer wanted… urban renewal. Some would say, hey, we had that, it is awful! So [the professionals] say regeneration [instead of renewal]... people come up with new terms and politicians come up with new concepts*." The circle of emergence of concepts, operation, rejection and reappearance could be seen in many instances. Perhaps such a manner implies that urban design knowledge is functioning similar to fashion design, as Moudon discusses later in this chapter.

Urban design practice, for Cowan, is deeply involved with bringing different fields such as traffic design and architecture together through communication and collaboration. Collaboration succeeds when all the participants share the aim and approach. This only happens though clear communication and in many cases long-time collaboration.

Later in the interview, Cowan said "*My personal vision is to try to simplify things.*" This can be followed in his explanation of *By Design*. "By Design *tried to say planning is not just about land use… it explained what we can do about it. We didn't think consciously at all about theories but we tried to think how can we explain to planners in a very practical way about design… the guide tries to say how to make successful place…*" In writing *By Design,* no specific theory was in mind, however Kevin Lynch and *The Responsive Environment* influenced it a lot. Yet it is not an outcome of exploration through the literature.

Cowan has intention to represent the literature and manifest the existing knowledge in new forms. Nevertheless, it seems not to be systematically done. Cowan's interview is more directly reflected in the visualisations compared to the previous interviews. Here explaining important concepts highlights *communication* as an important concept. This is because many of his works try to make urban design knowledge accessible. He also has a relatively comprehensive view toward urban design that allocates him to type two theories. As for the interviewee, the key source of finding inspiration is what has happened in literature and *history*.





[1] *"I think they are both the same subject… when I wrote* By Design*, I wrote a glossary to it because I thought that all of these phrases we use need to be clean and it was very well received…"*

Cliff Moughtin

Cliff Moughtin, emeritus professor of University of Nottingham, was interviewed due to his theoretical contributions to urban design. For Moughtin, history and theory are tightly intertwined to the level that they are indistinguishable. History contains the necessary knowledge for making successful places (Moughtin, 2003) which is manifested not only in the built environment but also in writings of people like Leon Battista Alberti[1]. Moughtin believes that theory "*is conceptual tour for action something that does enable one to design or plan or structure the urban sphere."*

Moughtin, unlike many other scholars, started writing his books towards the end of his academic life. This has its own advantages and disadvantages. The experience of academic life is reflected in the works, but the author has limited opportunities to reflect on the feedback and criticisms. In this sense, the works will have a shorter lifespan.

Moughtin expressed his criticism toward the term urban design because of it being too narrow and economic-based, whereas the term *civic design*[2] addresses broader aspects of the built environment and the society. His call for more comprehensive view repeatedly appears in the interview. Nevertheless, Moughtin has a radical view in seeing urban design in relation to other fields of intellectual activities. "*I think [urban design theory] is an extension of philosophy, I don't think it is an extension of architectural theory or planning theory. I think they are both aligning to it but I think its roots are in philosophy and I think when we talk about civic design, we talk about creation in a microcosm. It is a part of this greater thing which is all around us, which is the environment… If I have to point to one philosopher, I will point to Leibniz and his monadology*[3]*, and his* [other] *theories…*[amongst with other Renaissance thinkers].

The question then is why we would need new theories, if referring back to Renaissance forms the foundation of the field? This is answered by Moughtin: "*…I think, well, theories and history have to be rewritten for every generation, and for every people and different cultures..."* Such a manifestation of theory regarding five sources of urban design creativity strongly relies on the history.

Nevertheless, Moughtin is amongst few who try to adapt scientific process to urban design process in his books (Moughtin, 2003, 2004). He thinks this is valid because the scientific process is a generic process and it is not limited to science[4]. However, the connection between urban design and society is different from the one that science portrays. The role of urban designer "*as it was the case in the Renaissance has lots to teach us*." Urban design process must be bottom-up, truly participatory and people–friendly, that is how the outcome could be loved.

Another interesting point in regard to generating new knowledge is why Moughtin did not write many articles? Publishing books leaves the writer with less interference from the peer-reviewers and the journals. That is why Moughtin preferred to publish books. This also brings up the role of journals to develop and support academic domain. Many academics, especially those who are in their early careers, cannot easily do the same.

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[1] Leon Battista Alberti was an Italian Renaissance thinker with contributions to humanism, art, architecture, poetry and more. Like many other thinkers of the time, he believed in connections between various aspects of life. Such connections advocated a sense of unity evolving around the idea of human being (Grafton & Alberti, 2000).

[2] *"I prefer the term civic design and that came from the Greek word civitas which is the city and its region, so it is the organization of civic space or urban realms."*

[3] Monadology is the name of manuscript by Leibniz where he tries to explain what are the elements conducting the cosmos and how the balance between them is important to keep the balance in the world…

[4] *"From what I got, many scientists actually jump into the conclusion first and then prove it or try to disprove it and so I think science is a method that you can apply it to painting as well I think, I have methods and technique when I paint…"*

In terms of generating knowledge, visiting different cities and countries has been inspiring for Moughtin. He believes that quality of space and design would be better understood when space is being visited.

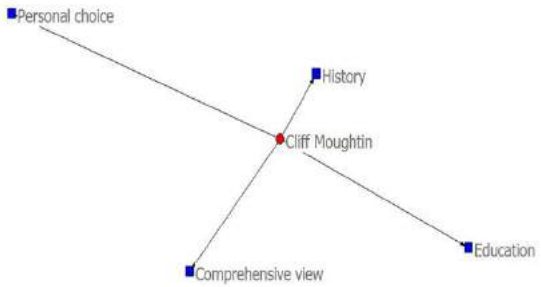
He also admires lessons from Professor Lionel Bailey Budden, the head of Liverpool University School of Architecture when Moughtin started his study until the following year when he retired. Moughtin considers Budden to be one of the "*last great Renaissance thinkers*." Learning from cities and Renaissance made Moughtin to think that every settlement has its own cultural meaning and function. This happened at the time when Le Corbusier was dominant voice at universities. Le Corbusier believed in detaching from history manifested in *cities to be machines for living*. It could be said that Moughtin's understanding of the importance of the locality and culture were rare at the time (during the 1960s). But in this case it was not radical, rather it conservatively concluded from historical texts and environments.

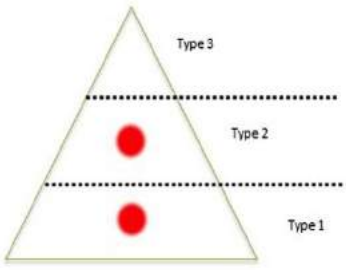
In terms of developing his theories, influential theorists for Moughtin are Camillo Sitte, who is "*the great grandfather of civic design,"* as well as other Renaissance thinkers, particularly art and architecture thinkers. Social anthropology was also influential to Moughtin. This collection of disciplines and people are echoed in Moughtin's texts.

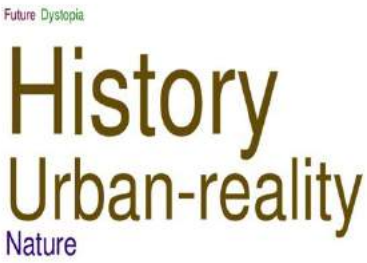
Moughtin thinks that there are many systematic problems in the field. For example, there are a great amount more skills and debates that students need to know, and it is hardly feasible in the current economy to devote more time to studying at universities. "*I think we should redesigning courses so then they are partly with employments at the same time*." At the same time Moughtin has rather a critical view towards practitioners, especially those who do not use theory appropriately. He suggests giving the power of building places back to people[1]. The history and great historical environments are supporting this view.

What Moughtin suggests as urban design is actually the "...*same as it was when designers worked for people in Renaissance; they have a plan, probably a rich fellow with lot of money or many people [with little money]"*. It was the designer who "*tried to persuade them that something else might be a little bit better.*" Aligned with this is Moughtin's view toward professional institutions is critical. The institutes should not interfere too much and the ideas should come from the grassroots unless it goes terribly wrong because the institute's interference is eventually no good. "*There is too much interference, I think, by institutions.*"

Moughtin's key argument is to shift the role of designer from someone who works for the government to someone who works with people. Kelvin Campbell also thinks similarly, with a different justification. Nevertheless, for Moughtin professionalism and high theory are both important as long as they work for the people. As for Moughtin *history* is the most important concept it appears to be central in the visualisation on left hand side. His work is concerned with theories about the subjects and the object of urban design (types one and two) and amongst the five sources of creativity, after interpreting the interviews, *history* and *urban reality* appear important as illustrated below.







Alexander Cuthbert

Alexander Cuthbert was introduced earlier in this dissertation. He was interviewed because of his theoretical contributions. Unlike the previous interviews, this one happened by Skype since face-to-face interviewing was impossible due to Cuthbert's location.

The main point of Cuthbert's view is his critical stance toward mainstream urban design through advocating Marxist political economy. However, Cuthbert has a hybrid understanding of theory. He prescribes the scientific concept of refutation along with social theories for urban design. This means that a good theory should be testable (which seems not to be the case for most of urban design texts). Theory also needs to address the social forces behind the urban change. Theory is generated and functioned in institutionalised forms. This is opposing what Bentley understands from theory as for Cuthbert theory is an intellectual activity of professionals, whereas for Bentley it is discovering the existing mechanisms/structures.

Cuthbert believes urban design theories do not meet the criteria of good theory. The main problem with them is that they miss the socio-political forces behind urban process: "*Planning problems are social problems in disguise.*"

Cuthbert started his career as an architect. Thereafter he developed his critical view. "*It was a gradual evolution of ideas that began in Edinburgh when I was 16 and went to college to study architecture. The high point was when I did my doctoral studies at London School of Economics and Political Science. Over time, I was also privileged to come acquainted with certain truly brilliant scholars, particularly professors Manuel Castells (UC Berkeley), Allen Scott (UCLA), Michael Dear (USC), Brian McLoughlin (University of Melbourne) and Jeff Henderson (Manchester University), to whom I owe a great intellectual debt. None of these individuals have anything to do with urban design or architecture."*

Cuthbert believes that he did not write a theory; his first goal was *"to open people's eyes to think differently and do differently."*

The question is how thinking differently would enable doing differently? Cuthbert thinks that there is an inevitable gap between theory and practice[1]. But compared to the existing literature, he considers his texts to aim at enlightening people without having a direct impact on practice[2]. On the other hand, his books are not informed directly by the practice of urban design. This is similar to Madanipour's works and opposing Carmona's. In this regard, one can argue that his theory is not closely connected to urban design projects. However, he asserts that historical cities are still the best teachers for designers.

Cuthbert argued that Jon Lang (interviewed below) understands of urban design as *project design,* whereas for Cuthbert urban design is about the whole process of formation of urban meaning. Jon Lang, as mentioned in his interview, counts these theories as urban theories and not urban design theory since it does not inform knowledge-based design.

Cuthbert's works are reflecting the generic problem of capitalism in urban design by considering existing urban design practice as tools for capitalist system. As the result of this argument, his prescriptions should either tackle the whole problem or solve the problem in the urban design domain.

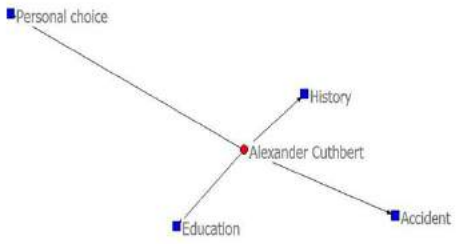
[1] *"There is always a gap, simply because there is no necessary relation between them. Theory deals with understanding. How this is translated from person to person, firm to firm, agency to agency is up to them."*

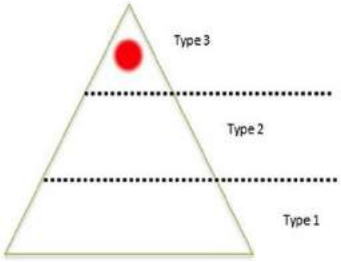
[2] *"I don't think I have made any propositions about urban design practice. Changes will come about through enlightened people reading the work and acting on it. Hopefully it will influence what they do, something over which I have no control."*

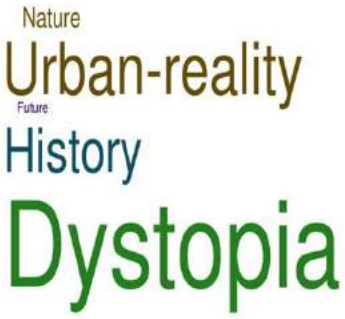
But none of these are possible in his work. Cuthbert thinks *"There is no solution to capitalism we can't solve, capitalism or communism. These are social processes that have been gone originally for thousands of years… and I think that is an excuse for us to say that we just have to do the best job we can... I think, for example, if I had read my book it would have put me a lot more further than I am just now and I would think very differently and I would do think very differently, than how I did."* Therefore he thinks that education is an important way of changing the condition of knowledge. *"The way to think differently is to train students differently. Now their skills is what is required by the practice and what practice wants is what helps the system, so urban designers are usually don't think further than project design."*

Another challenge with Cuthbert's criticism is why he thinks that scholars did not address this issue before him? Is it because he dismisses texts that are addressing the similar issues using urban design language? Cuthbert asserts it is because "*most of planners and designers got very simple minds, you know they are not trained… I know because I escaped from it. I think I was lucky to manage to get out of the prison.*" This attitude would distance his criticism with practical suggestions to enhance the situation. While urban design is a practical field working with different levels of improvements, Cuthbert's thinking appears to be black and white, not informing the practice. Referring to the five sources of urban design creativity, Cuthbert heavily relied on dystopia. Nevertheless, the fact that his texts come up in lists of most-referred texts shows that the academics are interested in his arguments.

Cuthbert refers to *history* as the key concept in relation to the ways in which theory and practice are linked. For him *accident, education* and *personal choice* are also important concepts. His works are mainly concerned with theories about knowledge of urban design (type three). His dark picture of the future and critical approach to knowledge suggests that his main source of creativity is dystopic. Particularly when he mentioned in the interview that there is no solution for capitalism "*I believe maybe a catastrophe would put an end to these processes*". Accordingly, the visualisations below sum up his interview.







But does it help the practice? Is it different thinking that ends in different ways of practice?

Anne Vernez Moudon

Both Anne Vernez Moudon and Jon Lang are interviewed in this research because of their direct contributions to investigations into urban design theory. Moudon's article is being reprinted in urban design readers (Cuthbert, 2003; Larice & MacDonald, 2007). Moudon's publications afterward moved toward morphological studies and more recently she has founded a research centre in University of Washington, aiming to conduct qualitative research regarding walkability and transport. She argued that both walkability and transport are ultimately about providing people-friendly spaces, as she mentioned in the interview.

The key points of this interview are about the fact that urban design scholars move from one theory (concept) to another without fully testing and applying the potentials of the first theory. This is echoing what Cowan argued about the ways in which words are being used in the discipline. Additionally, the nature of researching in relation to urban design is an outstanding issue raised in this interview.

Moudon believes that the answer to what is theory depends on how to look at it. In the way she looks at it, "*A theory basically is a set of assumptions that have or have not been verified, and my focus is on urban form and urban development theory."* Such assumptions inevitably are aiming to meet a set of purposes. *"The issue with urban design and design theories in general is that they are so normative that they never sort of loop back. There should be a sort of feedback of what is and how it works… The problem we've had in urban design is that we jump from one urban design theory to another and we don't hang on and test them systematically. So, it is more like a series of fashions, intellectual fashions in you want."*

Moudon mentioned two reasons in the interview for this issue. The first problem is that there is not enough funding for systematically evaluating theories. The second is that professionals are not interested in testing theories. In this circumstances there are series of coming and going set of theories without systematic validation. Interestingly, Moudon thinks that urban design theory is testable (refutable).

In response to the question of how this process can be changed, Moudon said that this can only happen gradually. "*Change, I think, is one thing that I've been trying to work on all my life. I think we need to be more reflective on what we do and to use more common terms to evaluate what it is we do."* In addition to this strategy, it is important to change the bigger condition through the education. By educating students who have deeper understanding of knowledge, we can expect the changes to happen more meaningfully. Currently, *"There is a tendency in the field to take theories for granted. Yet there are some changes like new peer-review journals and the fact that students are less interested in following the grand theory which brings hope for the future."* However, the speed of this change is considerably slow and the scholars have to find researches and funding to survive[1].

Meanwhile, a short-term strategy for Moudon is to be opportunistic and focus on the findings that can indirectly address the quality of cities. For example, many advertisement companies are interested in finding the correlation between people's movement in cities in regard to the places they eat. A research on that topic can ultimately contribute to the citizen's access to city services. Moudon's recent researches look at such topics. The lack of funding plays another role here. Many young researchers who start working with her research centre easily move to more established computer science companies such as Google: *"They steal our students."*

In relation to production of knowledge, Moudon mentioned that the first idea of writing her article (1992) emerged after attending a morphology conference where people discussed which theorist is *better.* Her article was to show that for each topic, there are different appropriate bodies of theories. The methodology in which Moudon mapped the knowledge is based on the course she was teaching at the time. The students helped to make this map of influential texts. When asking her how she would change the article, she argued that the main point of the article is still standing. But she would add real estate studies, which is becoming an academic field, and she would perhaps put more emphasis on climate change and sustainability arguments.

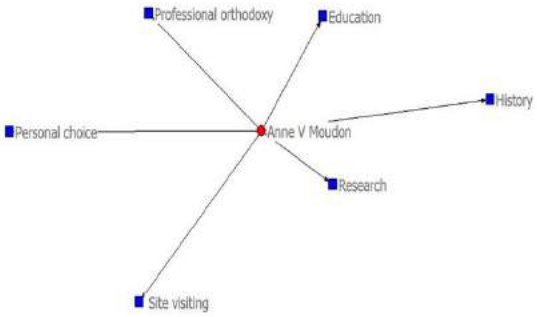
Moudon argues that urban designers in practice are not well informed by research compared to many other fields such as medicine, in which practitioners are not only aware of the new research but also conduct their practice based on them. Following this comparison, there is a time gap between

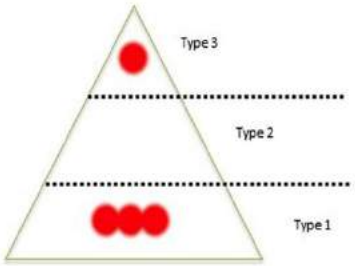
[1] *"…have to sort of be opportunistic because you have to survive, but you can plan your life to make that change little by little."*

research and practice in urban design. Some parts of medicine are lower in terms of research. "*In public health, which is low in hierarchy* [of research]*, and even in the low sectors of public health, people cannot go on without knowing what is the latest article on their topics… and there is a gap, like between two and three year max between theory and practice.*"

Moudon believes that in urban design, dominantly, professionals act based on what they learned at universities or what they personally think is right. Therefore there are two problems here. First is that the professionals' knowledge is not systematically updated. Second is that the research, in this circumstance, does not reach the professionals. This manifestation of the interaction between research and practice appears to blame the practitioners of not being interested in conducting research-based practice (problem one). It also condemns the communication channels for interrupting the circles of research-practice-research. The existing channels and their limitations were explored earlier in this chapter. Expectedly practitioners have a different view. They consider the quality and practicality of research as the main reasons for their lack of interest.

Reflecting on the five sources of urban design creativity, Moudon gets inspiration from the reality of cities. She has also contributed to what this dissertation calls type one theories as well as type three theories. The problem of the interaction between theory and practice from the perspective of this interview is seen through the concept of research and education. The illustrations below are the visual analyses of Moudon's interview. For her *research* is the key concept, she has multiple type one and type three theories and she takes *history* and *urban reality* as the key sources of creativity.





Jon Lang

Jon Lang, like Moudon, is amongst few urban design commentators who specifically study theory of urban design. That is why he has been interviewed in this dissertation. The key points raised in the interview are: Lang is supporting *self-conscious urban design* as opposed to everyday urban life being considered urban design. Lang also believes urban design practice is legitimised by theory. Therefore, he considers a high position for theory. He thinks that his books are theory books that structure the knowledge and have most impact on education and indirect impact on the practice of urban design.

Lang believes that his intention to study urban design is, to an extent, a reaction to his confusing education experience. At the time he was studying architecture, despite modernism in architecture being the dominant voice, it was evident that it would not work for urbanism and "*I became interested in theory as the mechanism for explaining how things work.*" Few other theorists, such as Cuthbert and practitioners like, David Rudlin, also mention that they develop their own attitude to urban design as *reaction* to what they studied.

Lang discriminates between prescriptive and explanatory theories. He thinks urban design theories are inevitably prescriptive. Therefore, theories that only explain what urban life is are for him urban theories. Urban theories might be informative for designers but are not *design* theory. In this respect, urban design theories are ultimately about project design[1].

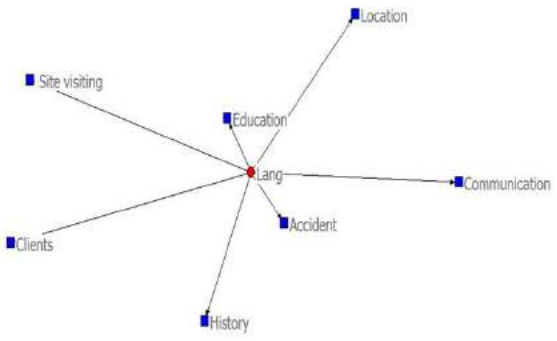
Lang thinks that the gap between theory and practice exists because "*people don't explain why they are making decisions or their explanations are not rounded in evidence.*" Lang wrote *Creating Architectural Theory* (1987) in order to make a science or quasi-science of design theory that connects all parts of theory those were available at the time. He also defends professionalism: "*There is another gap between what people think they like and what they would enjoy it if was there, and I think one of the urban designers' tasks is to educate their clients, not tell them what to do but to say what can be done.*" The role for designer defined by Lang is contrasting what Bentley and Campbell believe. This specific manifestation echoes the future being the key source of creativity.

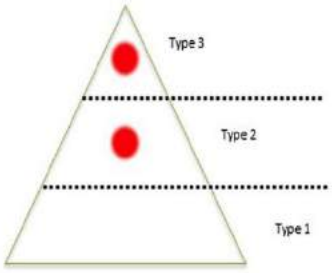
The current way of teaching urban design at universities is widening the gap between academia and practice, Lang stated. In studios, for example, often it is assumed that an infinite amount of money is available for design, but when the students come to real practice they will see that the condition in real practice is entirely different. Therefore, Lang suggested that it is vital to make sure that students are aware of the assumptions of their design so they can argue for design according to the assumptions. Bob Allies raised the same issue regarding the skills that students need.

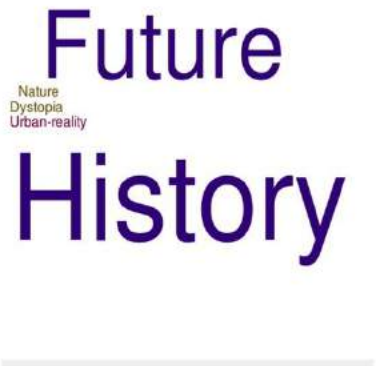
Urban design scholars, based on what Lang experienced in different academic environments (mostly University of Pennsylvania and UNSW – University of New South Wales), are very uptight and defensive of their realm of knowledge[2]. Academics are getting embedded in their knowledge: *"Maybe I am as well, it becomes very difficult to sustain serious discussion.*"

Lang believes that for having better environments and more influential urban design, it is necessary to work on the idea of type. "*Urban design theory is and needs to be more about general solutions or types."* In an ideal world, it is better to have specific solutions for each case but economy dictates the field to generate type which in total more effective. The idea of type in this sense is a manifestation of theory.

Many accidents are crucial in making one's career. Lang mentioned his arbitrary way of choosing his programme for his higher education and family reasons to move from US to Australia, both of which







had key influences on his academic career. Nevertheless, he emphasised that the way people are raised in their childhood has tremendous effect on who we are and he had the chance to experience different

[1] *"For example Sandy Cuthbert [Alexander Cuthbert] believes that urban design involves the whole process of urban revolution but I think that is urban theory… To me urban design is project design."*

[2] *"When I was the head of department, I asked all my colleagues what journals they are reading and their answer was abysmal."*

lifestyles[1]. Lang's visual analysis is fairly straight-forward. He refers to many concepts that are in common with other interviewees and his theories are about subjects of urban design and knowledge of urban design. Interestingly he takes both *history* and *future* as his main sources of creativity.

Bill Hillier

Professor Bill Hillier's name is intertwined with his Space Syntax theory. He has been focused on developing Space Syntax in theory and practice for the last four decades. Space Syntax Centre, as a result, is involved in doing research, developing theory, education and dissemination of the knowledge. This supposedly is an example of close interaction between theory and practice[2]. Space Syntax company is founded by Bill Hillier himself and UCL (University College London) has share of it. This is a unique situation of making and applying theory by the same people.

One way to connect theory and practice is for academics to be involved in real projects. "*So there is a good relationship between the academic and practice, which I wouldn't say thirty years ago. It seems to be the way for doing it; the only way to do it is getting involved in projects… What we have now is the whole situation where the research and practice is in the company, company produces problems that then feed the research… So the problems we address in the research are raised through our practice.*" This is a particular interaction between research, theory and practice in Space Syntax Centre. Nevertheless, this is only happening because Space Syntax Centre is focused on a specific theory which can have practical applications.

For Hillier, "*Space Syntax theory is close and sometime indistinguishable from a language; a language for describing space and architecture of cities.*" In this manifestation, theory is language, capable of description and communication. Nevertheless, amongst academics Space Syntax is claimed to be misunderstood.

Space Syntax does not have a clear philosophical foundation thus it is easier to say what Space Syntax's approach is not. It is not positivism, Hillier emphasised, it is not Darwinism and it is not complex theory, however it associates with the latter. It could rather be explained under the light of Wittgenstein philosophy (Hillier, 2011). Its underpinning is going back to social theories about space such as Durkheim and Giddens's.

Space Syntax considers the concept of space as a fundamental social concept therefore studying the space is studying the logic of societies. That is why Hillier believes Space Syntax is a theory of society and city with their interactions.

Space Syntax can both describe and prescribe. In fact, "*Space Syntax can prescribe because it describes.*" Here, Space Syntax goes beyond language and indicates norms. The existing theories in

[1] *"We are all trapped by our childhood. An advantage I have, or disadvantage, is that I grew up in three different worlds. [First] In India, in a colonial world being a colonist on a colonial background, my first language is actually Hindi… I raised not by my parents but by a nurse they hired. [Then] I lived in England for two years as a boy, not with my parents but on the farm in the middle of the England. I went to school in the south of England and so I got that exposure to the real farm life, not a romantic farm's life! So it was a different world but I had that exposure in that world that made tremendous impact on me. Then I grew up partly in South Africa with a family that was antagonistic too. I think being shaken from one environment to another environment really made me look at the world in a different way, rather than growing up in a safe place. I think our childhoods do really shape us tremendously, and I think that made me enquiring and also much more into the geography and much more interested in the world."*

architecture and urban design, Hillier argues, are problematic and handicapped by their oversimplified understanding of cities. The way they conceptualised space and people behaviour is so abstract that it hardly works in real environments. That is mostly because they have not developed a language to describe space. This means that professionals who are required to design space are unable to describe space.

In regard to the formation of the knowledge at first in developing Space Syntax, *"Mathematical and information theory on one hand, Strauss and structuralism on the other, and Durkheim somewhere in-between are the set of ideas that clearly inform me.*"

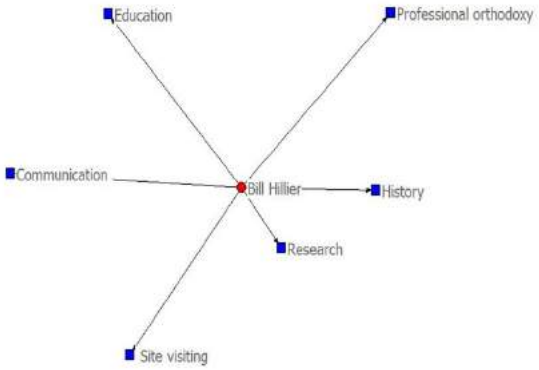
The individual's background is always important in formation of knowledge. Hillier mentioned that he used to go running which helped him with thinking about finding ways in cities in the way that Space Syntax manifests.

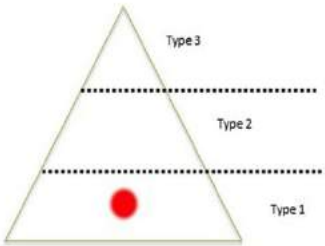
It is not easy to measure how successful Space Syntax is. Hillier says that "*We haven't been sued yet!*" Its success could be measured with Space Syntax criteria (satisfaction of client), however some critics (see Kelvin Campbell) would not agree with Space Syntax principles. The ways of measuring Space Syntax success is then problematic and perhaps subjective when the measurement happens outside Space Syntax theoretical domain.

There have always been questions about Space Syntax, its application and its theoretical approach. One of the key questionable characteristics is its refutability. In other words, it seems that no matter what happens, the research team will moderate their software (and their theory) to produce sensible outcome. Here the key question is how this adjustment has been decided by the research team? Do they follow a meta-theory to justify the way they decide what is acceptable and what is not? Or do they follow other urban design theories? Reflecting on what Moudon discussed about testifying theories, it appears that even in a case when theory is potentially testable, the way in which the theory is being treated is not systematic.

Hillier believes urban design generally has improved within the last twenty years. Nevertheless, it seems that even Hillier's general comment on urban design is concerned with Space Syntax. Apart from whether Space Syntax is successful or not, the next issue is: can urban design just see the city from Space Syntax point of view and are the prescription from Space Syntax enough for designing?

Reflecting on the typology and five sources of creativity, it seems that Hillier's work falls into type one theories and is inspired by the reality of cities. Hiller's interview is represented by the structured visualisations below. Research into the existing forms of cities represents his main means of producing knowledge. Consequently, the concept of *research* is more central than others. He has many works and at times he addresses different types of theory. Nevertheless, the main aim of his theory concerns a subject within urban design, namely street forms, and is not concerned with comprehensive aspects of place making. Therefore his works fall into type one theory.





Roger Trancik

Roger Trancik, professor of urban design at Harvard University, is widely known for his book *Finding Lost Spaces*, first published in 1986. Despite his involvement in academia and practice he did not publish other pieces at the same level. This, in itself, makes the interview interested to investigate how he has moved on since then. Trancik is interviewed in this dissertation because *Finding Lost Spaces* appears in the list of common texts in universities' reading list, especially in US universities.

This interview took place via Skype. The key point of this interview is the ever-changing nature of urban design theory in relation to urban change and changes in other disciplines. Trancik also highlights the role of research in urban design.

Trancik considers his book to be *a theory of urban design* (as the subtitle of the book[1] suggests) and his "*working definition of theory is speculation built around a set of principle,*" yet theory is very general and a catch-up phrase. The core of the book is presented in a graphic which shows three theories in urban design figure 13. Trancik thinks that the three theories introduced in the book are actually paradigms in the sense that they are one step prior to theory. In other words, the book suggests these three paradigms should integrate together in order to achieve good design.

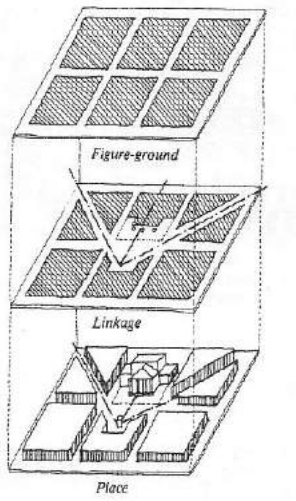


Figure 13

In achieving good design, Trancik said, guidelines are most useful. "*Guidelines are really where the principles meet practice. You know, we can talk about principles but when you go to apply them in urban design situation, I think of the most effective ways is to formulate them as guidelines.*" The guidelines proposed in *Finding Lost Spaces* are not limited to addressing the lost space. Rather, the concept of lost space is applied to grasp good urban design. The book is predominantly written for educational purposes[2].

It seems that Roger Trancik's background was influential in developing the theme of lost space. He was born in Detroit which was perhaps one of the most problematic cities in terms of the *lost spaces*[3].

In terms of how Trancik's view has changed since writing the book, he mentioned that he has changed because the world has changed. Nowadays, different issues such as environmental issues and designing water fronts are under attention. But this change in Trancik's view has not happened due to criticism of his work, he hardly saw any criticism. Perhaps the only place was in his classes where he asked students to compare different approaches (he mentioned Alexander's Lynch and his work) together.

What are the main sources of inspiration from outside of urban design domain for Trancik was answered to be mostly reading about urbanism by non-designers such as William H Whyte and ecologists like Ian McHarg. He also mentioned that he reads many crime mysteries. "*They are so good*

[1] 'Three Theories Of Urban Design'

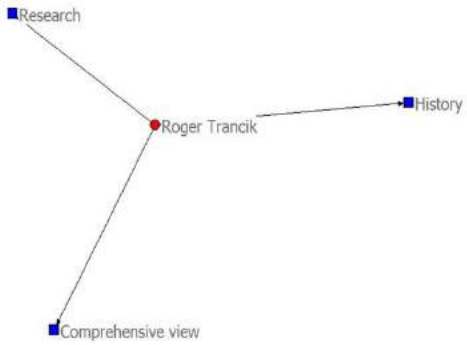
[2] "*One of the motivations behind writing this book was providing materials for my students at Cornell where the majority didn't have a background in design. So it was very basic and was understandable through the first reading and had some practical application in there that they can use in their studio projects and also in professional office… Teaching is what the book is primarily used for and I think that is why it is still been in circulation.*"

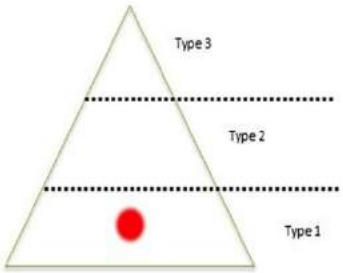
[3] *"I mean there is this background when I was kid, I saw all these voids in holes in the cities, and it has gone so bad."*

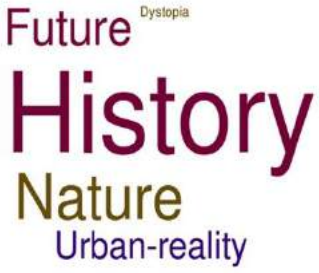
at writing. I get inspiration from those lost spaces, about urban design! Because they [crime mysteries] are based on places weaving together, very interesting stories with the quality of the environment and physical places that they are dealing with. For instance I read all the books by Camilla Lackberg. She is a fantastic writer and writes about this village Fjallbacka. And she is talking about places. It is really interesting for me and I get a kind of inspiration of these sorts of totally non-planner non-urban designer kinds of sources. So I think in lots of disciplines what we do is becoming important, its features in a lot of nonprofessional writing books and so on." The sources for inspiration are unlimited. This is the case especially when an encompassing issue like space is the subject of study.

One of the key points raised in this interview was about the institutional interaction between theory and practice. Trancik, unlike many others, believes that theory and practice are closer compared to a few decades ago. In supporting his statement, he refers to many urban design firms that have research units in them. He also pointed at the research-based nature of many new trends in urbanism. This disagreement between Trancik and other scholars (like Madanipour) should be seen in regard to their view and context. Trancik's view is more about ways in which research feeds both theory and practice which to him seems to be increasing. In this regard, research could be seen as a by-product of the professionalisation.

In regard to the five sources of creativity, Trancik is being inspired by the history and after that nature. His theory could have been considered type two at the time when it was published, but nowadays it is not comprehensive enough to fall into the second category. The below is the visual analysis of the interview. For Trancik *history*, *research* and *comprehensive view* appear to be important concepts. And his writings are focused on subjects within urban design (type three). His source of creativity is mainly *history* and *nature*.







What do academics think? Approaching practitioners' point of view

So far, interviewing the academics shows how each academic thinks about the interaction between theory and practice of urban design. Some concepts were discussed frequently in the interviews; namely research, education, value of the built environments, personal choice and history are five top influential concepts for academics. This chapter started with a more comprehensive argument about these concepts. In a general sense, it seems that some academics blame practitioners for not paying attention toward their academic works.

By contrast, practitioners (as will be discussed) believe that academic language aims to serve academics. For them concepts of government, client, research, history and value of the built environments are most influential elements that are forming the interaction between theory and

practice. As one would expect for practitioners and academics different sets of concepts appear more important.

What follows elaborates on interviewing the practitioners. In analysing the interviews, in addition to the way in which they define the interaction between theory and practice, the focus is how they apply theory and which types of theory they found more helpful in their practice. The visual representation after each interview is following the same structure as with the theorists.

Mark Brearley

Mark Brearley, currently a professor at London Metropolitan University, used to be a practitioner working in GLA on many projects including London high streets and London green spaces. His current position in academia suggests the possibility to move from one group of practitioners to the other group of academics. He is being interviewed here as a practitioner due to his name appearing as an influential practitioner in the survey from urban design academics (see the methodology chapter).

Brearley has a radical view towards urbanism and academia which could be seen as the key point of this interview. One of the interesting examples Brearley raised is that in negotiation for writing a plan, having a set of developed ideas can be very helpful. This is what he did in many cases with GLA. Having ideas before having clients is being repeated amongst other practitioners like Tuckett, Farrell and Smout.

Brearley criticises the academic style of communication of overusing jargon and long pieces of writing. He highlighted that when he was working for the Mayor of London, he simply was not able to spare time for reading such pieces. Therefore, he was more interested in short and clear writing. He also thinks that it is surprising that the number of times that academics approached them in a few years he *"could count on the fingers of one hand,"* despite them being very visible working with people like Richard Rogers in London. One of the people who found Brearley's work significant and wrote about it was Matthew Carmona.

Brearley thinks that some of the discussions in academia are not necessary helpful in real cases. His main example is about Marxist arguments in regard to urban problems, that he does not find helpful[1]. Such an approach does not contribute to any positive change. "*I would characterise as conspiracy theories. Like this is all the big trajectory through history and there are some people somewhere manoeuvring it, and it is all the fault of the capital or some monster construct which is always very hard to pin down, who and what is that thing that you are directing your critic at. It tends to overwhelm people with the assumption that mostly what is happening must be someone else's plan and must be wrong rather than 'things happen and they are partly wrong and partly right'.* [It] *seems to be very difficult for the people who get stuck in that to be positive and I actually think that* [being positive] *is the key to being effective. You know, there is bad and good and everything is always a mess... that is how life is…Okay, it is where we are, but what positive things we can get?*"

Being positive and bringing about a positive change seems to be the promise of urban design for Brearley. Nevertheless, the texts that have been helpful in Brearley's practice are "*a complex topography and fragmented influences dominated by experience,*" but he thinks none of them are actually theory. Brearley thinks that intellectual debates are most helpful in leading directions, making narratives and reassuring when thinking about urban matters. "*In other words, to help clarifying your own idea about what you should push or what you should argue very little in relation to day-to-day*

[1] *"The legacy of loosely described Marxist; thinking which I would certainly step away from the politics of that and rather see it as asset of mindsets and intellectual habits and the whole landscape of jargonization that is really unhelpful and you'll come across it [in the literature]."*

practicalities." He continued that urban thinkers often discuss process of design and rarely have very practical focused ideas about the actual design.

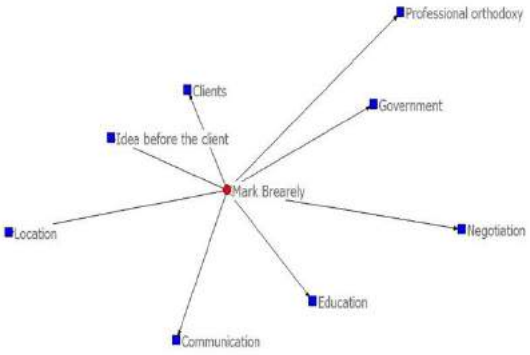
The ways in which Brearley found helpful texts when he was involved with the Mayor of London was mostly "*by chance*.*"* Yet the design team had projects in hand which needed to be done so they had to make a decision, even though their decision was not fully examined or based on the most relevant literature. He also thinks that there is a danger of being too stuck in the literature that can paralyze the design, and design thinking.

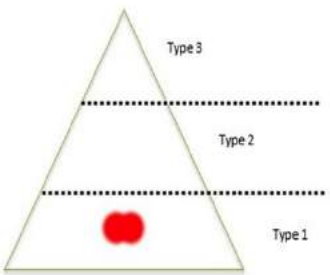
In GLA, they had to argue for what they believed and "*felt was right."* He explains: "*Political-wise, you got to persuade the Mayor. And that means that you got to persuade the Mayor's advisors and how do you make it? With argument! That is what we were doing. But it all came from 'this feels right, let's take a step, let's make an argument and let's hope that has a good effect'. That is all very very pragmatic.*" For example, he thinks that in high-street project they strongly felt it would work successfully. But where did this feeling came from? He thinks he had to spend a long time to find out it but it "*certainly did come from reading books about it.*"

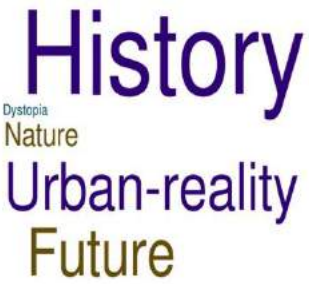
The reason why such a unique opportunity with the Mayor of London emerged and Brearley was involved in it is due to a combination of events, including a new institution of London GLA (Greater London Authority), then government, Richard Rogers's potentials to contribute, and the economic condition of the time. Such components constituted a unique opportunity for outstanding projects. The approach that Brearley supports is to use the existing potentials in each professional environment. "*The phrase catch-and-steer,*" crystallises this idea. "*It is like the mode of operating that is what we need to do if you are part of clustering of people who are involved in intervention in proposition… that is a very important mode, that is actually what you are doing. That is actually what planning will tend to be doing these days. When it is sophisticated, it will catch what is happening and have a go at steering it.*"

Mark Brearley is now the head of CASS cities programme at London Metropolitan University where he developed a programme based on his experience. He does not support the term urban design, since in reality you do not really design the city or urban. Also he criticises urban design literature because of rephrasing and repeating the available knowledge again and again, the knowledge which in its very nature is not generalised and systematic enough to be '*real theory*'.

This interview reflects the importance of various factors in producing successful practice; factors such as economy, politics and chance. This interview also highlights the messy relation between theory and practice. However, practitioners cannot stop the ongoing projects. They are inspired by the literature but often it is not possible to pin down the texts that are inspiring them. In this regard, it seems that type one theories are more useful for Brearley. He refers to a wide range of concepts amongst which *clients, ideas before the project* and *government* appear to be central. This is a result of his experience in the GLA. For him *history* is the main source of creativity and he is critical of dystopic views taken by many academics. Accordingly, the visualisations below illustrate this analysis.







Bob Allies

Allies and Morrison is one of the London's leading practices of architecture and urban design. Bob Allies and Graham Morrison founded this practice in 1984. Since then this office has been involved in many influential cases. Bob Allies is trained in architecture at University of Edinburgh. He also has experience in teaching in academia including University of Edinburgh, University of Bath and AA (architecture association).

Many issues were touched upon in this interview. The distinguishing point of this interview is the way in which this practice transfers knowledge with others firms.

Allies believes that they have strong theoretical underpinnings for their works which is sometimes innovative. But in principle, they do not dissimilate the theoretical underpinnings of their works with the exception of their recent book, *The Fabric of Place* (Allies & Haigh, 2014). Allies thinks that what distinguishes their practice from the others is their special attention to the context and connection of their site to surrounding areas in their master plans. Whereas many designers emphasise creating stronger *centres* in their design, for Allies and Morrison boundaries are of more importance. In principle, this view would enhance more streets and flow of people (see Image 1).

Image 1: Allies and Morrison's master plan for King's Cross, London (http://www.alliesandmorrison.com).

There are unconventional forms of transferring knowledge (and theory) happening in this office. One of them is where Allies and Morrison collaborates with other practices[1]. In these cases, they exchange knowledge. This means that there is situated knowledge created with other practice transferring through their similar projects. Allies mentioned they learn from each other in regard to techniques, approaches and presentation of the arguments.

[1] *"Sometime we worked with others, for example Steve McAdam, we worked with in… a lot of big projects end up having more than one urban designer involved and there is lots of crossover."*

Another important case of transferring knowledge in Allies and Morrison is their monthly seminars[1] where they invite scholars to talk about specific topics. History of urban forms and the ways in which they have changed and advanced methods of analysing urban forms are amongst favourite topics. A final way of exchanging knowledge mentioned in the interview is inviting individuals from academia to consult in specific projects. In particular, Allies mentioned their collaborations with Professor Peter Bishop from UCL, who is currently a director at Allies and Morrisons.

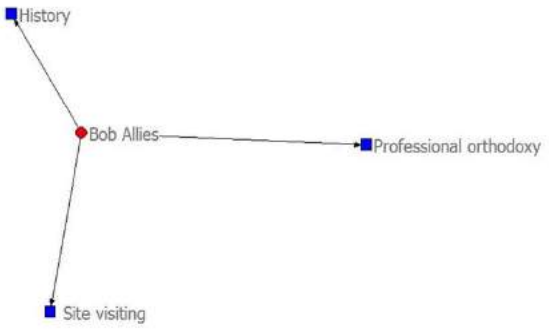
All of the above ways of transferring knowledge are entirely problem-based in the sense that the knowledge they exchange is in regard to practical issues and specific cases. On the other hand, the ways in which Allies updates his knowledge is not necessarily problem-based. He comes across interesting texts either by the word of mouth or by accident. In this respect, one of the key functions of the practice is narrowing down theories to problem-based knowledge.

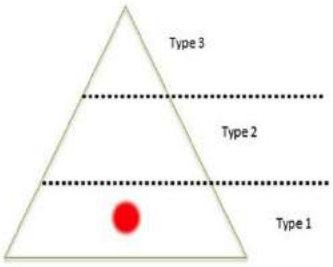
In the beginning of his professional career, Allies was affected by Rossi, Jacobs, Gehl and Alexander. Additionally, he was deeply influenced by the architecture of Edinburgh where classic architecture, modern planning and nature are presented in their extreme faces. Studying architecture in the city where he was able to explore these environments had a deep influence on Allies. Immediately after his graduation, he worked in Rome where he had the opportunity to learn from the built environment again.

In relation to academia, Allies thinks that young practitioners have difficulties to tune in with the practice environment. This is mostly because design in academia is detached from the reality of financial and socio-political pressures, like Lang argued.

He also expects academia to provide more research on how a good design city and public environment need to be like. Some older researches like Hillier and Krier had that dimension but more recent ones seem to avoid addressing it. This issue is repeated in other interviews, Farrell and Rudlin for example.

As it appears, Allies has been highly inspired by history and the built environments in his creativity and design. This interview is visually analysed below.





Roger Evans

Roger Evans is an architect, urban planner and urban designer. He is currently the director of the Studio REAL. He has directed urban studies at city and site development scales. He is a past Chair of the Urban Design Group and has taught as a visiting lecturer on urban design on several UK university

[1] *"... one thing we do, I organise a lecture series each year in last two or three years in our office where we have lectures every month in the first six months of the year."*

courses. Evans led the research and writing of the new *Urban Design Compendium 2* (UDC2) for what is now the Homes and Communities Agency. The key points of this interview are concern with Evans's practical approach toward urban design knowledge, and his observation about the term urban design becoming less and less promising. Evans also thinks that many of academic writings are not fulfilling the practitioners' need.

Evans has a practical understanding of theory. "*Theory is an idea of how something should work in practice. I often say nothing is as practical as a good theory, if it is a good theory it should be a route map of how to do things.*" Evans believes that the production and application of theory is not limited to academic environments, but good research in urban design needs to be related to the built environment in order to be helpful for practice. "*On the other hand, in practice you have more opportunity to invent things; you are working at a very practical level… I think a lot of ideas come out of practice. I think both universities and practice are generating ideas and theories and both are testing them in different ways.*" While practitioners must make many decisions, they can be more creative.

In academia, many works are not informed by first-hand researches about the built environment. *"An awful lot of research has been based on second-hand, third-hand, fourth-hand from internet and web reports. And I know this about my work that somebody got something wrong, really got the wrong end of the stick…"* On the other hand, he admits that lots of projects are not informed by updated researches or substantial theoretical understanding[1].

Evans criticised academics who write for academics and just for the sake of academic benefits. "*In my view it resulted in many academic papers being written in a way which is difficult for practitioners to understand, impossible to laypeople to understand. I think it is a real problem, it is a real challenge to express, if you have a good idea, to be able to express it in plain English and to communicate it simply.*" He thinks practitioners need researches that they can take on board in their work, texts like Alexander's *New Theory of Urban Design*. It appears normative and prescriptive aspect of theory is more important for Evans.

One of the problems mentioned in the interview in regard to the ways in which junior practitioners produce knowledge is that they do not have a good overview of their projects. They often move from one practice to another, so they do not get the chance to be involved in the whole projects. On the other hand, the time for completing a project and its implication is so long, practitioners rarely get the chance to actually see the consequences of their design. Developing empirically tested knowledge requires a long time, which is considerably longer than architecture. This issue is also addressed by Farrell.

If the practitioners are capable of producing knowledge, why it is not being acknowledged? Evans replied "*I think a lot of urban design is, and we are all guilty about it, can be quiet lazy. [When] you have an urban design proposal for a client, you are almost using existing principles to justify what you've done.*" This is an important factor that has been repeated amongst interviews with various articulations. The domination of solution to problem, or the ways in which mainstream principles lead and form the design instead of careful studying the unique problem in hand, is another aspect of this issue.

Additionally, lessons from practice sometimes cannot be re-applied due to the processes in which design happens. For example, it is difficult to apply what one may know on large scale urban design because many design projects in this country are often what we call plot urbanism.

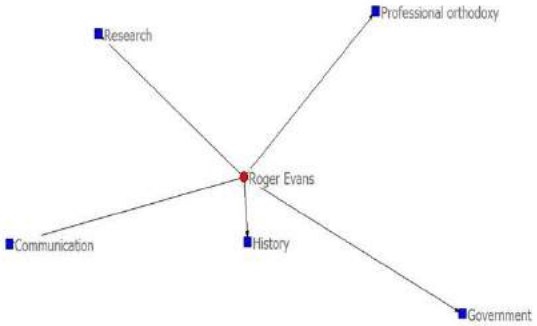
There is a unique way of exchanging knowledge between practitioners when they work on the same site. This was also addressed by Allies. This channel of knowledge exchange might not be of

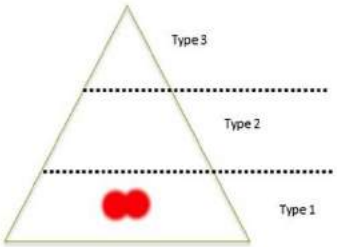
[1] *"Loads of practice is not based on knowledge, it is based on taken ideas or dogma or maybe working method that is not appropriate. So we have working methods of certain ways of doing things, whether it is design process or a different scale you are working at or producing ad-hoc."*

interest for academia. But it has been mentioned as an important way of acquiring knowledge by practitioners.

As a past chair of Urban Design Group, Evans believes that urban design has gone mainstream. So much so he introduces himself as an architect and planner rather than urban designer because "*the term urban design associated with some specific sort of outcome,"* and literature. He believes this happened partly because of the recession. In such a context, many researchers are concerned with what the funders wish to have rather than what needs to be done.

Evans sees the interaction between academia and practice in terms of production and consumption of knowledge in both sections. However, there are wider forces that seem to be entirely outside of urban design's domain, such as the government's approach and the recession. Many influential factors are falling outside urban design domain. These issues were discussed earlier in this chapter. Roger Evans's interview and works suggest that for him *history* and *research* are central concepts. He is mostly concerned with type one theories and for him (like Lang) thinking about *future* and learning from *history* are the main sources for creativity in his work





Iain Tuckett

Iain Tuckett is an executive director of the Coin Street Community Builders (CSCB). He has been active in the celebrated case of the redevelopment of the South Bank in London. Coin Street is a peculiar case of urban design. This regeneration is developed in remarkably close collaboration with local residents.

Tuckett, like many other interviewees in this dissertation, has never studied urban design. He had a background in sociology and when he moved to the area, in early 1970, he started to work with Country Hall. Then he was asked to teach sociology to planners and that was the first time he became familiar with planning arguments. Parallel to this, he joined the newly started campaign calling against the approved plan to clear the Waterloo area of residents[1]. Therefore, his professional involvement was closely connected to his personal background.

At the time, there was a strong financial motive to change the residential buildings into offices. "*What was happening at that particular time in the 1970s, if you could get a planning consent for offices*

[1] *"Now, planners who look at plans can see that [was problematic]… there had been a decision not to build any more housing, there had been a lot of demolition to make way for big office buildings, to make way for the Festival Hall, for instance. There had been bombing and then you had road works, Waterloo Roundabout, and, as a result of all of this, the population had plummeted… So, the population had fallen from about 50,000 at the beginning of the 20th century to about 4,500 by the early 1970s."*

on the site that was being used for housing, your land value went up approximately ten times, so there's a very strong incentive." The consequences of this soon appeared: "*The shops died, the schools died because there weren't the young people to justify them, and no community facilities, so the thing had got into this vicious circle and the people who remained, who tended to be quite elderly, decided they wanted to reverse that trend and to get new housing, particularly family housing because that would bring children and then the schools would stay open.*" The intention to bring the life back to the area could be seen as the main reason of Tuckett's activities ever since, which soon led to the idea of supporting and making community. The main objective was to reverse the process of changing the residential units to offices by relying on the community's power. That is how the first group formed.

At the time, "*the idea of communities and campaigns was in the air*." That is how there was "*on the one hand, good community action input and also this more theoretical, urban planning stuff coming in and what we then did was we looked around the sites that were, potentially, up for grabs and said 'okay, we want to do a housing scheme, how do we do that?'*" The decision in this case was made and led by the community.

A group with seven members started meetings with GLC, and convinced them that they could do housing in the area. The work was non-paid. In many cases they finished the work long before they had been commissioned any money for the project. After that GLC changed its policy, for a period of time the architects for the Coin Street group were only able to work in their spare time for the project until they managed to get support again. This mainly happened because they had a very convincing argument for keeping people in the area.

In developing their brief, CSCB divided the whole project into parts in order to make their plan feasible, both financially and legally. They collaborated with Llewelyn Davies to make the big schema for the area. Then they *"put in a one-and-a-half-page letter, attached to it our Urban Design Structure, and bingo! We got some SRB money."*

As their projects went on, they bought their current building where they applied highly adaptable architecture. So the building itself apart from being their office can host many events which can financially contribute to the community[1].

The specific characteristics of the Coin Street experience begins with its community-based nature, lobbying and negotiation with local authorities. "*The community-based thing was really influential, because we came from a community action background; we didn't start with thinking 'let's develop this stuff ourselves.' No, we started saying 'well, these are the things that need to happen' and lobbying the local authorities."*

Throughout the Coin Street experience, as Tuckett emphasises, understanding of the land value was of extreme importance. Clustering high-rise buildings in one place encourages huge increase in the land value, which they tried to avoid. Additionally, better sharing of the benefits of the increased values of the property, which mostly go to companies, with local communities in form of community property and activities can empower the living society.

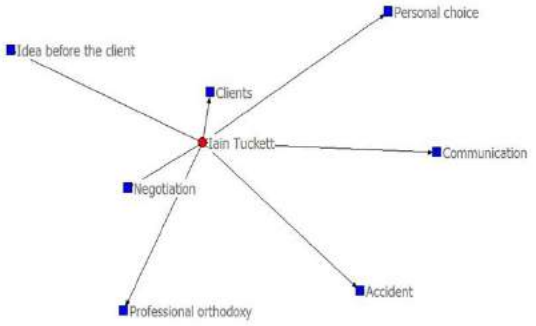
As a final important point raised in this interview, regarding the gap between theory and practice, Tuckett believes that this gap is huge. One example he mentioned with regard to Coin Street is that planners, designers and architects do not know how to "*teach their clients"* in the process of developing the projects. This seems to be an important missing skill that can enhance negotiations amongst professionals and other actors involved in any project.

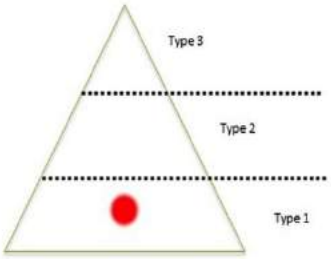
This interview touched upon many issues. The community's power to deliver a good design is the key characteristic of the Coin Street project. Also, the impact of the adaptability of buildings for

[1] *"In fact, there's a great advantage in having that flexibility to change in the light of experience. This building is a fantastic building because it is really very, very flexible. You can have all of the partitions, they're all raised, and you can completely change it in the future."*

adaptability of activities was touched upon. While urban design is concerned with public spaces, the private spaces can play a vital role. Economics of development have also been raised in this interview and the value of having a vision. Finally, the fact that Tuckett and most other members of CSCB were locals is important. In a way, this experience is what Moughtin defined as when community gathers together to enhance the environment. Nevertheless, these circumstances would not be available in many cases.

Tuckett has gone through a unique experience of place making. For him *clients* and effectively collaborating with them is central. He, like many other practitioners, is concerned with type one theories and for him *urban reality* is the key source of urban creativity as illustrated in the visualisation below.





Kelvin Campbell

Kelvin Campbell trained as an architect/planner and is currently the chair of the SMART URBANISM. He has been involved in practice and academia for more than thirty-five years. Campbell had a leading role in writing *By Design* and some other urban design documents. He is interviewed as an influential practitioner. His influences regard his view toward complexity and the necessity to move the discipline towards a more bottom-up urbanism.

Regarding the gap between theory and practice, Campbell thinks that there is little connection between the two in urban design. Never have academics tried to draw on Campbell's works despite him being one of the most prolific designers in the country. Campbell thinks this problem happens for many reasons, one of which is that urban design is currently a postgraduate course where the students have already developed a mindset towards city, which makes it hard to be changed. Since cities are reflecting more general problems, it seems logical to start the education from studying the cities then gain expertise in parts, such as building. This logic is happening in medicine.

Another reason for the gap regards the literature of urban design. Campbell counts few problematic aspects of the literature. Firstly, the fact that urban design literature highly advocates small scale pre-modern villages in the way that it does not really understand the complexity of big settlements. The common principles and values of urban design concern walkablility, small towns, active frontages, diversity… This is reflected to the idea of centre in the towns and neighbourhood. While a small town can have a centre, which traditionally is the water fountain, big cities like London do not have a fixed centre in the same sense. In urban life, centre is defined for individuals according to their everyday life, i.e. where they work, where they do shopping and where they go for recreational activities. "*Another criticism I have with urban design education is that it tends to be technocratic in the sense it that it falls back on fixed solutions or a set of tools, so that produces a set of tools and that*

intellect. And take it much further, I always question those tools." This issue as the domination of the solution to the problem has been mention in other interviews as well.

Another problematic example from the literature from Campbell's view is urban design assumptions. For example, in Space Syntax that moved it from a theory to a type of generic solution. Statements like 'human being can distinguish between the angles of their turns are taken for granted. He also criticises Lynch's theory for being too visual and failing to understand the city as an organism, not an artefact. Campbell concludes that there are many unchallenged statements that are taken for granted in the literature of urban design that issue in employments of literature in practice.

The main problem with unchallenged statements is that it makes the theory less applicable, and teaching them to the students, they do not learn to challenge theories. The outcome of this situation will be a body of professionals who are not really able to deal with real problems of big cities.

However, after all this criticism, Campbell thinks that having a theory is better than not having any theory. But urban design theory can be misleading if one takes them "*too serious without challenging them."*

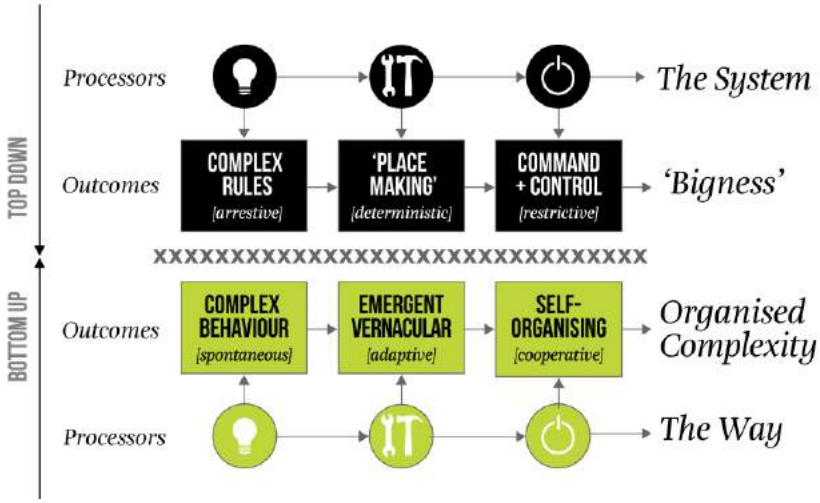


Figure 14: Bottom-up urbanisms.

Another key problem regarding the employment of theory is the role of government in delivering good design. The current literature and the current expectation of the government are mainly referring to top-down urbanization. But Campbell believes it is impossible within the current economy and the current democracy to implement big plans fulfilling such expectations. What Campbell suggests is bottom-up urbanism that enables operating big plans with small pieces or as he calls it Massive Small (see Figure 14 and Figure 15).

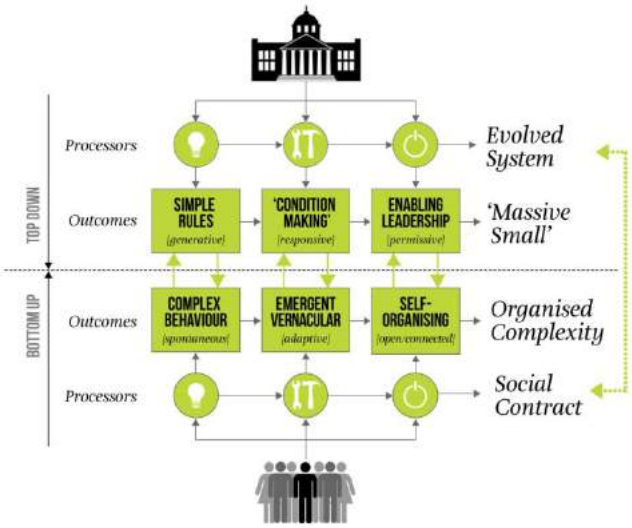


Figure 15: Bottom-up urbanism.

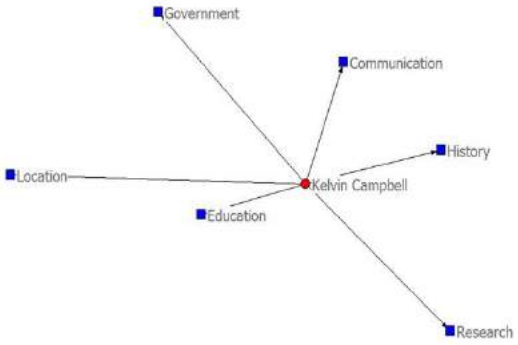
Campbell suggests a new role for the designer that necessitates new knowledge. This new role would benefit from simpler regulations that can better deal with complexity. Urban design will aim to be condition maker instead of environment maker; this means that instead of controlling the change, urban designers need to be the leader of the change that is happening by the people (Figure 15). Big plans need to be replaced by massive smalls, because cities are much more complex than the current understanding of the literature suggests, referring to unchallenged statements in urban design, Campbell argued.

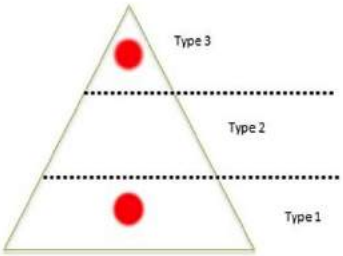
Campbell says that his view is reflected in his practice. He has always tried to challenge the literature and be the facilitator for urban change as much as possible, however, the change from the current system to massive small system needs to happen in a bigger scale than one office. Campbell suggests that a mind change can happen through education. Instead of teaching extremely limited skills, urban design needs to equip the students with a set of new ideas that enable them to deal with complexity. This can only happen if the holistic approach applied in academia means that students firstly start from studying the bigger systems. Campbell thinks that practice should lead the theory. He also goes a step further to mention that "*Practice must be theory."* In this respect he rejects any high or abstract theory.

Whereas many believe in government's role in good design, Campbell thinks that less government is more helpful. Campbell views are radical in relation to the core knowledge of urban design and mainstream processes of urban design.

The final question is how Campbell himself developed this idea? He thinks that questioning the established literature started for him in practice, where the theories were not good enough. However, texts like Alexander and Jacobs were inspiring to him, but he himself experienced a move from supporting the literature and widely celebrated texts like Lynch to more texts that are actually outside urban design domain, texts about complexity and dealing with bottom-up approach. This move is traceable in what he introduces as SMART URBANISM bibliography.

Reflecting on the models employed in each interview, it seems that Campbell tries to produce a type two theory and his inspirations are largely derived from the existing *reality* of cities.





Steve McAdam

Steve McAdam is the founder of Fluid and Sounding, two practices that have been involved in many regeneration projects in the UK. McAdam taught architecture in AA and London Metropolitan University for over fifteen years. He is most interested in dynamic master-planning and cross-disciplinary collaboration for it. The key points in the interview are his reflective approach, his close collaboration with people and transdisciplinary projects.

McAdam thinks that "*Some of the bigger and more interesting issues in urban design have crystallised at the intersection of practice and research – particularly multidisciplinary practice. For instance, some of the most robust and prevailing concepts to have emerged include 'defensible space', 'active frontages', 'high footfall', 'multiculturalism and identity', 'globalization', 'resilience'*". These concepts (associated with type one theories) reflect on the capacity of the city to respond to emerging needs. That is why this set of concepts is useful in practice. McAdam, like Campbell, thinks that the problem emerges when one takes theories *"too literally",* in the sense that without appropriation, application of theories might be harmful.

Some of the inspiring texts for him are from outside urban design orthodoxy and even design. In evaluating texts, McAdam thinks "*which are more nuance? Which could do with pathology or could do with social context decently? Or with new economic patterns?*" McAdam mentioned that *Reflective Practitioner* (Schon, 1984) echoes what he thinks.

One of the issues Fluid is dealing with is the attempt to find the invisible forces in urban areas. Forces that are not often representable on maps.

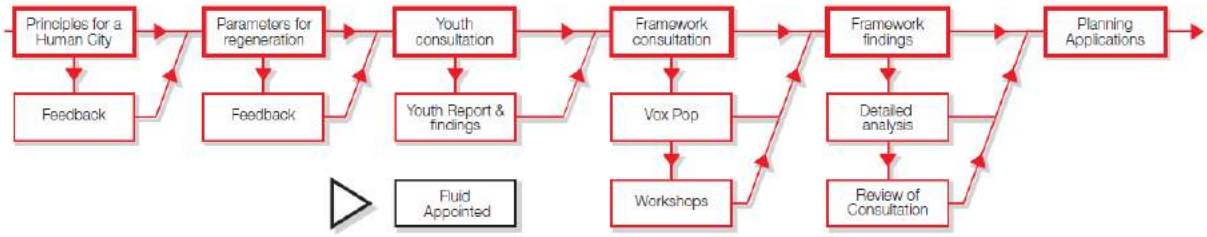


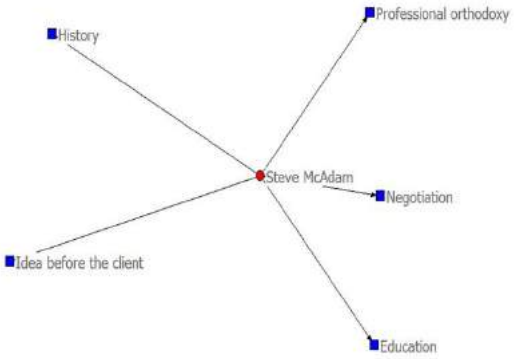
Figure 16: Statement of community engagement, from *Processing the Information* (Fluid, 2004).

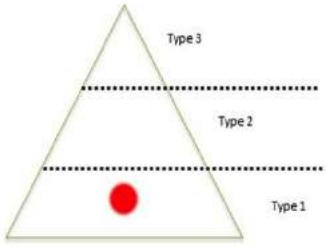
McAdam believes their works are distinguishable from many other architects because of defining their roles as not to be about a set of objectives, "*but the service of doing something"* for people. In this way, their work is also a process of making objectives in collaboration with other actors. Therefore, communication is of extreme importance for McAdams's company[1]. This view is reflected in Sounding, "*which operates as a consulting to plug in to other teams. So if somebody, local authority, developer, whoever wants to utilise us for our ability to communicate with people or make dialogue with people then he can come to Sounding.*"

When going beyond the orthodoxy of the literature, finding helpful concepts/theories is more accidental. Through accident, the Fluid team arrived at their current view. Nevertheless, flexibility is the requirement for benefiting from the accidents.

McAdams's team try to use methods that work *with* the society[2]. The problem with academic process and researches that make theoretical explanations is that "*Theory sometimes is not quick enough to pick up and reflects on real things."* McAdam said that there is a bubble in academia; very few of academics are "*involved in the problems in hand,"* rather they are deeply involved with academic dynamics[3].

This is also the case in education. McAdam agrees with Allies and Lang that university projects do not consider the reality of the context appropriately. This makes the university projects artificial and perhaps it takes time for the students to catch up with what is actually happening in practice. What McAdam suggests is similar to Campbell and Bentley in advocating comprehensive view[4]. He thinks that the designer must have a wider range of knowledge than mainstream literature. The following shows visualizations of the interview in relation to the framework. For McAdam *negotiation* and *education* are important so they appear central in the illustration below. His concerns seem to be about type one theory and urban reality is the key source of creativity for him.





[1] *"Communication is something that is extremely important to this company."*

[2] *"People can easily make their network these days but planning process hasn't been updated to these technologies, people are quick and fleeting while the planning process is in a different pace."*

[3] "*If you look at the dynamic of academia, there is a necessity to come up with new theories and approaches all the time. I think I've done that myself, I remember publishing papers of a sort on something like reflective urbanism*."

[4] "*Specialization is not necessarily always right. In science it is perhaps in humanities and sort of cultural practice. I don't think it is always useful so until that disappears and you see much an appreciation for broader form of knowledge, they can draw on all sort of knowledge, I think we will be rather stuck in this sort of 1950s."*

Max Farrell

Terry Farrell & Partners is an architectural and planning firm founded in 1980 by Sir Terry Farrell. Since then this practice has achieved many awards and become one of the leading practices in urban design. In 2014 Terry Farrell & Partners and their advisory panel published The Farrell Review which studies the concept of place and the ways to improve it. Max Farrell[1] is interviewed in this dissertation as a practitioner to reflect their experience in relation to the interaction of theory and practice.

Max Farrell thinks that one of the distinguishing points about Terry Farrell & Partners is that there is a loop between research and practice in projects. They develop a knowledge specifically in regard to the next of their problem in hand. "*We always start with the context and we always say every project is unique. Every place is unique and that is a sort of starting point… We start from planning. Whereas I think a lot of architects start from inside out… When we first approach a project, we want to understand the place and how it became the way it is, and what are the underlying forces that shaped it, and quite often they are too complex… In that sense I think our philosophy is much more in keeping with Jane Jacobs than Le Corbusier which we found too much object-focused.*"

Respecting the context and starting from the bigger view is common amongst the interviewees. Nevertheless, the process in which this view is achieved is important. Max Farrell responds to this question referring to Terry Farrell's background when he parted ways from Sir Nicholas Grimshaw, with whom he used to work. "*There was a conflict between modernism and postmodernism, sort of understanding more about the narrative and the value of history and heritage and retaining existing buildings, and Terry was much more concerned about that than his peers."* Thus, Terry Farrell was one of the pioneers who were active for endorsing urban design that respects the bigger context and history[2]. Max Farrell thinks that they were alone then. Sir Terry Farrell was campaigning to support urban design and delivering quality of public spaces. But the situation now is turned around. Max Farrell thinks that the intention to disseminate their view has been influential.

According to Max Farrell, another distinguishing point of their practice is that they, in some cases, do their work voluntarily[3]. The example he discussed in this regard was the Marylebone Euston Road case, which is located between three London boroughs, all of them reluctant to propose a design for the area. "*Because we'd done that piece of thinking, it gradually started to be received wisdom, and inform the local plans and things started to happen.*" This means that "*we don't start with formulated design or solution, we start with the problem.*" Such an attitude to thinking before being asked to develop a plan surprisingly appeared in this research in interviews with Tuckett, Campbell and Brearley.

In the light of this point, the importance of the communication methods was asked from Farrell. He mentioned their emphasis on visual communication[4]. The importance of visual language was also highlighted by Bentley when he discussed international effect of their book. Farrell always tries to be in touch with academia and schools of urbanism, this is considered to be "*healthy and beneficial for both sides."* The best example of such collaboration is The Farrell Review.

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[1] Max is Terry's son and a Partner at Farrells with responsibility for strategic planning and communications.

[2] *"Urban design wasn't a real thing. It is a very recent field. Terry was the founder of Urban Design Alliance and he went on to persuade the government that the commission for architecture should also be about the built environment so he got the BE put on CABE… So he was always championed for urban design."*

[3] *"We don't start by being given a brief, we actually think about problems voluntarily and I think it is very interesting way of going about things."*

[4] *"Thinking through diagrams and working through problems visually is quite important, partly to resolve the problems abut also to take the people with you."*

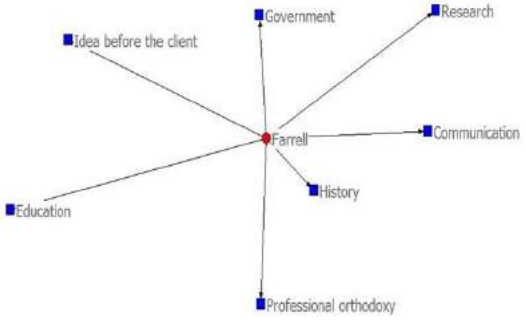
Farrell, like Evans, thinks that early career designers suffer from unstable work environment. This means that they would not grasp a good understanding of what dealing with city means. This happens because the way to be qualified as an architect is very prescriptive. Many people come to Farrell's office, they are talented and interested but because they have to pass their Part Three, they cannot stay.

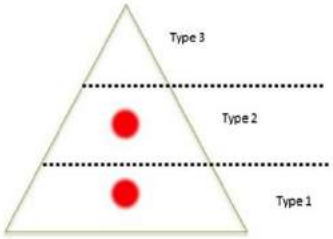
In response to which type of research he thinks is needed to be done to be helpful to their practice, he points at one major approach: interdisciplinary studies and finding what can be learned from "*connecting up different fields and different areas of endeavour*." One specific example of this type of research is finding the long-term benefits of making good places for the society (versus short-term financial benefits of housing). Such a study can provide a robust justification for further attentions to make good places.

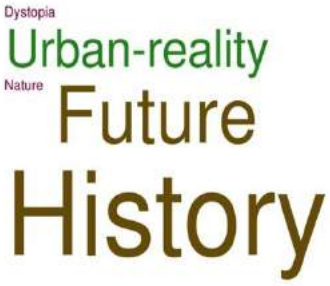
When paying attention to the context is the main strategy, then how is Farrell actively working in different socio-political contexts like China? Max Farrell believes that understanding these differences is part of the work itself before developing any proposal.

The final point raised in this interview was criteria that assesses the success of a place. He believes ordinary people working with the communities are the best commentators on places and criteria from the literature might be misleading.

Farrell addresses many key concepts, for him *history* is the central concept in relation to the interaction between theory and practice. He is concerned with type one and type two theories and takes an approach that sees, *history, future* and *urban reality* as the key sources for creativity.







Patrick Clarke

Patrick Clarke was one of the directors of Llewelyn Davies. Like many other professionals whose name came up in this research, Clarke does not have a formal education in urban design, and has instead studied economics. Nevertheless, his contribution to practice of urban design is distinguishable.

Clarke's main point in the interview is supporting a design-led approach in development planning proposals. To illustrate this point, Clarke uses the example of new towns where the statistics, transport, housing, infrastructure and other criteria are considered before designing places. This means that design has to happen in very limited space and practically it deals with leftover spaces. What Clarke proposes is to reverse the process and start with design and adjustments with standards to happen afterwards. Putting quality at the heart of urban developments is reflected in Clarke's debate on an unpadded version of Garden City as the main model for designing in neighbourhood scale and planning

in larger scales. Similar to the original idea of Garden City, Clarke's interpretation prioritises the green and pedestrian spaces over parking (see Image 2). He also supports lower density and less crowded spaces. This model echoes neo-traditional urbanism.

After this point, he mentioned the unfortunate impact of political change on designing places. He put a step further than other interviewees and mentioned that this to some extent happened because the Labour government "*was too dogmatic and too much into the business of setting standards and telling people what to do.*" This paved the way for the current government to move the attention from supporting institutes like CABE, and projects like *Urban Design Compendium*. Clarke thinks that despite the fact that the current government's view has negative impacts on delivering design documents and good places, many achievements are still available for professionals. However, the network of connection between practitioners and academics has been damaged dramatically. Clarke mentioned the interaction between Bartlett and Llewelyn Davies in developing *Urban Design Compendium* as an example of the network that is not available as such anymore.

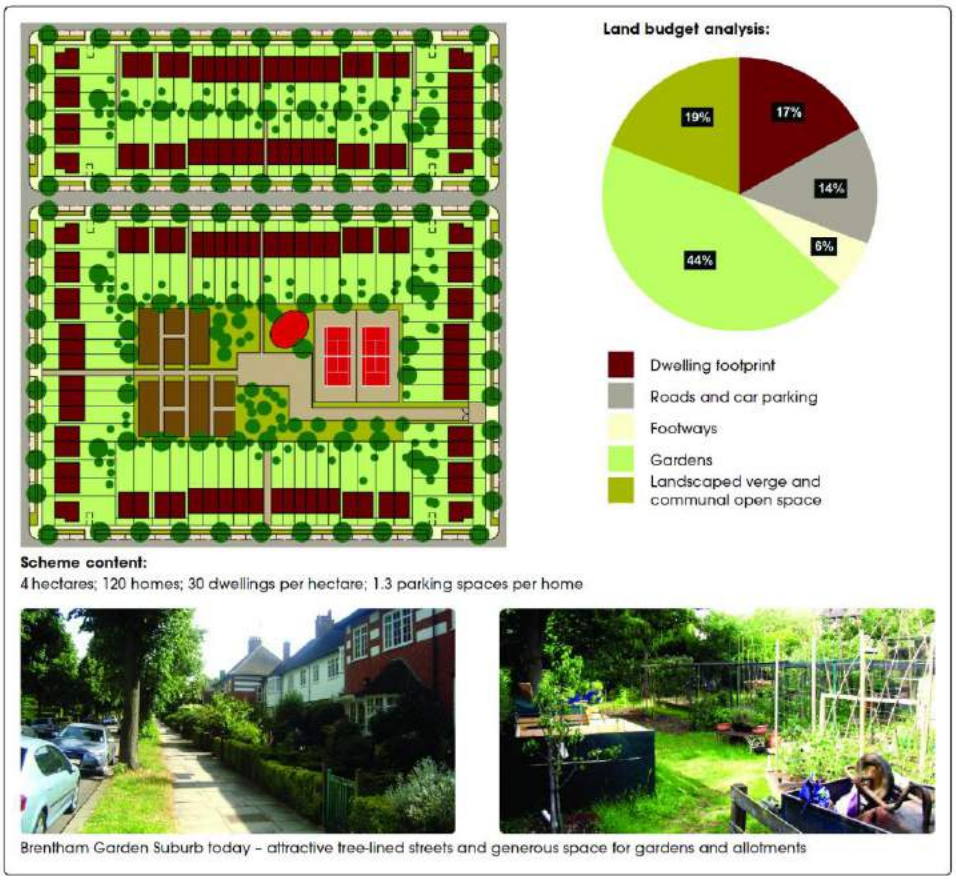


Image 2: Clarke's reinterpretation of Garden city (TCPA, 2012, p. 34)

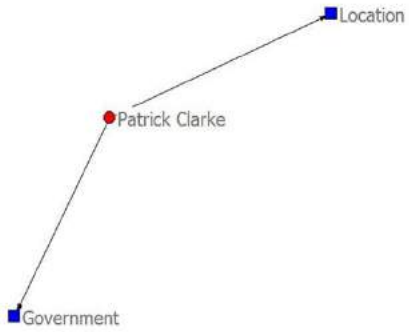
The cut in design budgets nevertheless has its own advantages. Clarke believes it opened up opportunities for designers to think in a more efficient manner. Good quality environments do not necessarily require a supportive government. In theory, good design benefits the community and the private sectors therefore benefiters can potentially support good design.

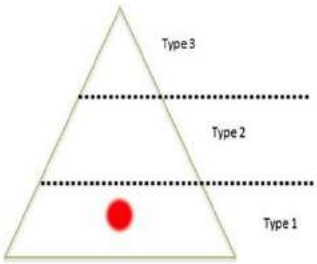
Additionally, despite the cuts and slowing down the process of producing knowledge, the existing knowledge is still available and it is possible for the professionals to reflect on it. Therefore, the government's cut in quality of built environments opened some opportunities.

Developing *Urban Design Compendium* is an interesting example in relation to producing knowledge. Clarke stated that this did not happen based on an academic-style research, rather it was based on making something that was considered to be necessary and needed.

The next question which raised inspirations was which theories and approaches Clarke considers to be misleading in practice? He points at copying Middleville town forms and applying them in new developments. He believes it never works because the society is different and it only developed through passing the time[1].

Clarke believes that he developed his own view mostly based on his practice and through the professional networks. His planning background, professional conferences and journals also have been helpful to him. The following visualisation represents how Clarke's interview is reflected in the three structures defined earlier. Clarke pointed to the importance of *location* and *government* in the interview. He uses *history*, *urban reality* and *future* as the source of his creativity. Interestingly these three sources have similar importance to him and his work is informed by them all.





Martin Crookston

Martin Crookston, like Patrick Clarke, has studied economics, was a director in Llewelyn Davies, and contributed to *Urban Design Compendium.* What distinguishes him from Clarke and makes the interview insightful is his emphasis on the economy of urban design. After his departure from Llewelyn Davies, Crookston works as an independent strategic planning consultant and focuses on housing market renewal. His recent book *Garden Suburbs of Tomorrow* (Crookston, 2014) explores the housing market in north England.

The significant point of this interview was Crookston's understanding of theory as something with local as well as universal values. Theory, in this sense, might be right only in a specific political economy of a given town and wrong in another.

Crookston starts the interview with emphasis on his limited experience of useful encounters with theory in his long-term experience. He believes that the discipline needs more theoretical arguments. One of the useful experiences of encountering theory was when he was involved in designing in Abu Dhabi. Theoretical explorations were helpful for him "*…to work out what would be the different urban*

[1] *"I think I've been frustrated by elements of new urbanism, and the way that has been applied particularly in relation to residential environment. I think elements of that have misled people to think we can create new communities that are based on medieval street patterns and very tight sort of urban form in new contexts… the reason I say that is, you know we all appreciate the qualities of traditional market towns and places that has grown up in hundreds of years, they develop in a very very long time."*

design in responses in a modern Arab city." He also mentions his engagement with a misleading theory for the same case, and the fact that he was not able to evaluate that theory because he was not familiar with the context. This is an interesting example for this research; when working in unfamiliar contexts[1], theories can be both dramatically helpful and misleading.

Crookston, despite not having formal urban design background[2], was involved in writing a chapter about good design in the *Urban Design Task Force.* There, he did not draw on a high theory or "*a deep reading of theory…* [The principles in the chapter] *came from a sort of wish to crystallise what look like good lessons from practice*." In response to how he thinks the guidance he contributed to influenced the built environment, he said "*Britain is the country in Europe that has the best guidance on planning and the worst practice… it is an interesting gap.*" The immediate question is why this gap exists; this is another manifestation of the gap between theory and practice. Crookston himself thinks that this is mostly due to the planning procedures and regulations[3]. Additionally, Crookston believes that academics in England are relatively less interested in culture and art compared to their European peers. The British mindset is more concerned with practice than hiring theoretical arguments. He also criticises the academic researches to be too focused on schemes rather than specific sites, or theories are not situated. Crookston believes that European academics are more likely to benefit from art and culture in their contributions and they are more open-minded in finding inspirations.

Crookston declares that he learned a lot working with urban designers, especially Richard Rogers. Educational aspects of the working environment have been repeatedly mentioned in the interviews. However, in this case Crookston highlights the fact that in working environments outside big cities (such as London), there are very few people with similar interests working on similar sort of problems. This means that updating the idea in the practice happens considerably more slowly[4].

Crookston, like many other interviewees, mentions the importance of the government in supporting activities that bring about quality of the built environment in the situation, and that developers and some designers do not particularly pay attention to the matter. Good design is a form of public good and the governments are predominantly responsible for it. After the decline of governmental support for such an aspiration, Crookston thinks that if he had the opportunity to rewrite *Urban Design Compendium,* he would make it more restricted and practical.

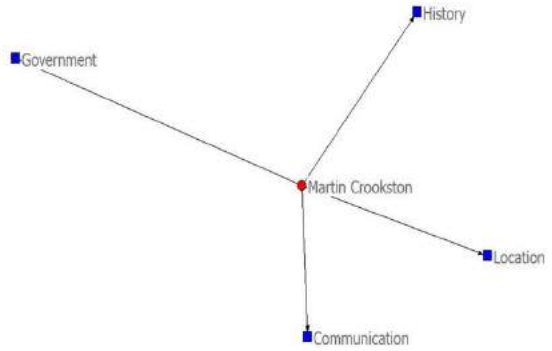
After all, he thinks a helpful task is making capacities in institutions, enabling the professional network and collaborations between academia and practice more conveniently. The following visualisation shows how Crookston's ideas are reflected in the three structures defined before.

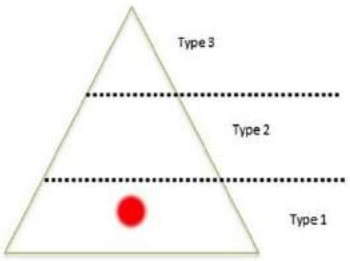
[1] *"In British context we are classically people who don't have much time for theory and get on with practice, that is the sort of cartoon British practitioners are at all levels…"*

[2] *"When I was in urban task force, people in Roger's office were teasing me, what are you doing here when you don't know how to hold a pencil…"*

[3] *"…Well because people who are responsible for implementation are not very interested in good principles, they are interested in getting the job done quickly and profitably… and aren't interesteding quality. However, defined as German equivalent or Sweden equivalents would be, I don't know whether that is to do with the role of theory or role of a kind of underpinning insistence on quality which is characteristic of the non-European politics…"*

[4] *"It is not the practitioners' fault not to update their knowledge because in the real world it is hard to find the time, space and the right contact to make those links to open up to those…"*





Colin Haylock

Colin Haylock is a former head of the Royal Town Planning Institute (RTPI). He is an architect by training and is experienced in planning and design. Haylock had significant contributions to institutions such as CABE. Haylock has also been involved in academia. He is currently a visiting professor at UCL and a professor at the University of Newcastle. However, he was interviewed in this research as a practitioner. His involvement with academia may suggest that he belong to academic side but his contribution mainly regard practice. Here again the distinction between theorists and practitioners is vague.

Haylock's contribution to practice of urban design is mostly due to his involvements in design-related institutions, namely CABE and RTPI, as well as being a constant in many development projects. Practitioners of urban design may not be the chief designer of a given project yet advisory panel, for example, can have significant contributions. Some practitioners interviewed in this research are often not the key designer but their contributions have been acknowledged by academics. This group of practitioners is represented here by Clarke, Crookston and Haylock, two of whom are not designers by training.

Haylock starts his argument by distinguishing between two types of academic or quasi-academic texts. "*There are a bunch of texts that have stood the test of time and now all people read them and love them, I can mention Kevin Lynch or* Responsive Environments*… but there are whole loads of urban design principle work that has been done through CABE and other places... I don't know how academically respected they are but they do the trick in the practice*." Haylock's quote looks at two points here. First, the fact that many practical texts, including work "*that has been done through CABE,"* are not academic but they are meeting the purpose. Second, that successful texts would be distinguished by standing through the test of time. Is the need for such practical texts due to inability of academic texts to serve the practitioners appropriately?

Haylock then explained that when he was studying, urban design was not a field. Therefore he studied architecture and got interested in placemaking, but he had to read town planning. Such a situation was inevitably cross-disciplinary whereas nowadays students can only learn urban design. Urban design emerged with the hands of those who had interdisciplinary thinking. It was inherited to the generation of less interdisciplinary practitioners. It is just recently that a call for more comprehensive perspectives is being heard here and there.

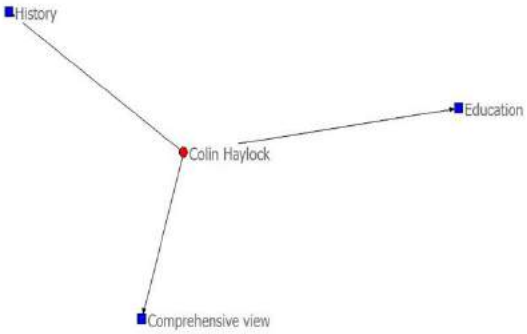
There is a tendency between urban designers to only serve their peers in their group rather than addressing fundamental issues and working with a wider range of people. At universities, peer-review research is more important than the practical aspects of the research. This is also the case for the funders, "*…and I always found myself asking why people do what they are doing and why someone funds it? However, things have moved.*" On the other hand, he mentions that in the planning

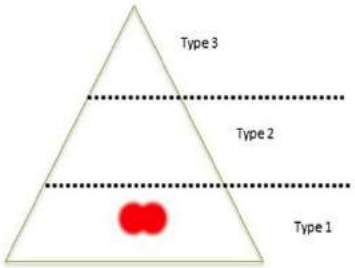
arguments, there is much evidence and information but lack of the *understanding*. Haylock distinguishes between evidence and understanding, arguing that in practice this difference is not understood accordingly. Many researches and practices gather a bunch of cases together as evidence-based approach to design, but they are handicapped in generating overall understanding from such evidences *"they can get away with this easily."*

Occasionally it happens that someone from practice calls academics to help them with their problems in hand[1]. "*In the ideal world, we try to teach students to be both helpful and challenging"* when they graduate. Slowly they move towards being more pragmatic and less critical, and this is part of the nature of the practice in the way it is. It takes three to eight years in practice before one has earned a space to work in challenging situations where critical skills are useful. Then the challenge is how you can be alert and alive until you get to that level. While many urban design courses are as short as one year, how could it leave the early career professionals to keep their alternative thinking alive by the time when they achieve a position that allows them to operationalise such thinking?

Another issue addressed in the interview was the necessity of collaborative work between different fields. No single field can master making places. Limiting the responsibilities to one discipline would produce serious problems in other fields. Making places needs to be done in collaboration with planning, architecture transport engineers and others.

The work environments in London (and probably big towns all over the world) are different from other places. In London, many people repeatedly work together whereas in other places they rarely get the chance to meet one another. London, and other big cities, therefore seems to be better places for professionals to enhance their community and collaborations. However, this may be changed by the rise of social media in due time. Colin Haylock's interview is represented by the visualisations below. He touched upon three main concepts of *comprehensive view, education* and *history.* He showed that he is more concerned with theories that are about specific topics within urban design (type one) and *history* appeared to be the most important source of creativity in Haylock's work.





David Rudlin

David Rudlin is the Manchester manager of URBED. Rudlin started working with URBED in 1990s and since then he has also been involved in a few CABE research projects. He, like many others, does not have formal urban design background but in collaboration with Nicholas Falk, Rudlin published a

[1] "*The idea that practice might actually stand back from issues and say 'we simply don't know' and understand about X and Y, and we could turn to academia to help us find way through this… just doesn't seem to happen."*

successful book called *Building the 21st Century Home: The Sustainable Urban Neighbourhood*, which was retitled in the second edition as *Sustainable Urban Neighbourhood*.

In late 2014 his submission with Nicholas Falk, which is done on an imaginary place called Uxcester, won Wolfson Prize. The interview for this research was arranged before the prize but took place shortly afterwards. Therefore, it is affected by Rudlin's ideas about Uxcester.

Rudlin has practical expectation of urban design literature. He thinks that he digested urban design arguments and developed his own attitudes from the literature. He believes the biggest problems of urban design at the moment are the professionals' attitude and implementation. "*The profession is made up of prophets who have seen the true light and are forever wringing their hands that no one will listen! The problem is twofold: the lack of research into the financial value of urban design and the assumption that urban design need be more expensive.*"

Rudlin mentioned two types of theories in the interview. The first type looks into timeless aspects of urbanism, in particular geometry of cities; the very nature of desirable distance for walking indicates good urban form. This is widely reflected in Uxcester plan. The other aspect of urban design theory mentioned by Rudlin is about dynamic and less-known aspects of urbanism, in particular economy of urban design and complexity. Regarding Rudlin's first category, there are basic urban rules which are more or less universal – cities all consist of streets and centres, for example – so at this level, teaching theory is more helpful. But there are other layers of rules that are situated at this level, which is often what a practice is engaged with. The generic rules are still helpful but by no means are they enough. In relation to the latter issue, Rudlin thinks that many urban designers are reductionist[1]. "*Our ethos is that urban design is not an ism it's actually much deeper than that. You can have traditional urban design, you can have fractal urban design, traditional urban design, suburban urban design… actually the principles are fundamental yet you can make some radical design... urban design is vibrant and changing.*" Urban design must not aim to deliver specific form of cities or traditions, rather it is dynamic and complicated. Many academic works, conferences for example, are focused on one aspect. Rudlin mentions a conference of the value of open space with emphasis on how important it is – the more of it the better. But the reality of the urban systems is more like a trade-off.

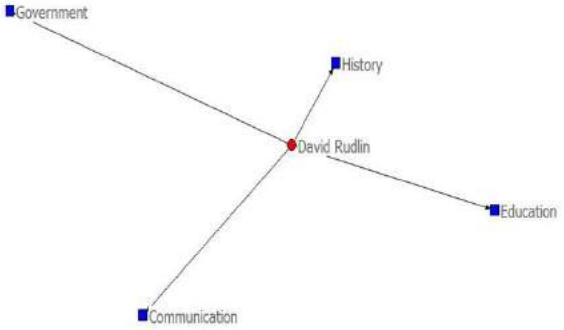
Rudlin added that what distinguishes URBED is that they do not want to make "*fake master plans."* He thinks that design can be dishonest when associating with a form or meaning that does not belong to the context. "*Our approach to design is, as designer, we should be creating form which creates strong sense of place that has purposeful design intervention, so we are more interested in Nash* [than] *say Sitte or a sort of organic form* [which is designed in one go]." Purposeful geometric intervention for Rudlin should be following the traditional form for the sake of the form, but it needs to manifest design ideas that are aiming to contribute to sense of place. Rudlin's pragmatist view is reflected in many of his works such as Birmingham centre and Uxcester.

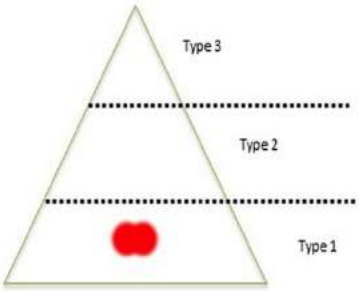
As a practitioner, it is really hard to find a client who is willing to have similar thinking. Clients commission practitioners to deliver what is in their mind. That is why we need research to counter a client's argument; for example, in crime when they say we want this specific form, a research is needed to show that form is actually increasing the crime.

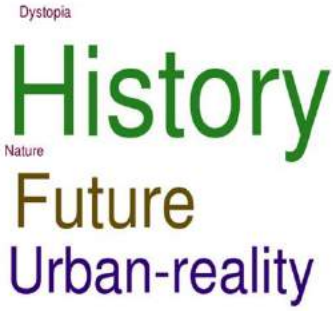
It seems that it was easy to make great environments in the past but now it seems impossible. "*It is not the form that is important in the process.*" The development process is not the same when thinking about great historical environments. In the past, people and small builders developed the plots whereas now we have big developers that make a new development in one go.

[1] "*…simplifying complex systems. I think research needs to embrace and understand this complexity."*

Rudlin is inspired by the past; he does not care about type two and type three theories and calls for more type one theories.







Mark Smout

Mark Smout is a director of Smout Allen practice and the course director of Master of Architecture in Urban Design at UCL. Smout has a particular view towards urban design. For him urban design is designing new environments, similar to what Lang argued. At the same time, Smout has a radical attitude to urban design.

Smout stated that he would name urban design courses *urban future* because what they actually teach students is delivering the imagined future and not designing cities. The programme reflects Smout's approach. They think that urban design can be inspired by science, architecture and studying the contexts, what they offer in the course is an introduction to these three areas yet the students themselves constitute the question, but "*it is impossible to master all three."* Following their own question in their projects, students find the related literature and the related skills and methods. In this sense, urban design is not a comprehensive body of knowledge nor is it a methodology that allows a comprehensive knowledge of cities. It is rather a specific method of designing and borrowing inspiration from science, art or architecture.

Urban design aims to understand cities and design with many actors: "*It is very beautiful in principle but it just seems impossible*." Smout's particular approach to urban design, he believes, would be better understood under the title of *design in landscape* (and not landscape design) because the ultimate product of the design is architecture, but it considered the whole landscape and does not limit the scope to urban contexts. In the way, that landscape inevitably includes townscape.

Smout himself is highly affected by scientific arguments, in particular in terms of energy and technology, but he believes that "*There is no point in trying to learn scientific language. Scientists, like planners and architects, have their own language.*" Nonetheless, without knowing the scientific language, one can still understand the key points of scientific writings. Therefore, the type of theory he is inspired by is not *standards urban design literature* but scientific arguments and technologies.

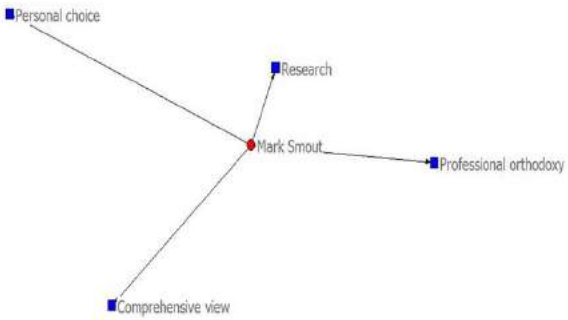
How does Smout navigate through a vast area of science when he is not a scientist? In response to this, he mentioned that he scans the topic and follows pop-science online sites. "*Of course it takes lots of time and we may miss many interesting cases,*" but the result so far was satisfactory to them. After finding a relevant piece of scientific argument for their case, the challenge is to transfer it into design. It where creativity, and design steps in.

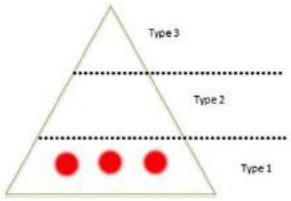
He thinks urban design's big problem is the fact that the field is not ready for dealing with climate change and all other big changes "*that we see happening.*" He believes that there are inspiring movements in urban design, such as smart urbanism, but the field has failed to realise the importance of the problem.

Why is the discipline not ready for the coming challenges? Smout believes that urban designers do learn from each other but they develop their own specific approach to an extent, and the sense of dialogue between practitioners and academics is at a satisfactory level. This problem is worsened by what architecture journals advocate as good design, which is often too uptight and focused. In this way, urban design knowledge is not being produced according to what we actually need but simply because of what would successfully gain attention amongst the peers and the public. Smout believes urban design professionals do not have adequate awareness of what is going to happen, but norms of the fields and existing problems are shaping knowledge and the built environment.

Smout addresses the issue of communication, urban design orthodoxy not being flexible enough and teaching urban design. Nevertheless, his distinguishing point is that urban designers tend not to acknowledge scientific argument that can benefit the cities.

This interview stands out due to Smout's unique take on science and the importance of it for urban design. In this sense it could be said that studying future and type one theories are important for Smout.





Findings

From the interviews, it is evident that the practitioners address a bigger diversity of topics in less structured ways compared to theorists. This section aims to make sense of the interviews.

Practitioners and theorists of urban design conduct different projects. They also have different definitions, approaches, interests and values with regard to urban design. Nevertheless, in the interviews there are concepts that repeatedly appear with similar meanings. The list of the concepts with their brief explanations was discussed earlier in this chapter.

Understanding the relationship between concepts and individuals' stances provides a picture of the interaction between theory and practice of urban design. The following section elaborates on such a picture.

Before interpreting the findings, it is helpful to mention that the concepts appearing in the interviews are strongly connected to each other. But these concepts have different level of importance. Less important concepts are excluded from this research, for example the limited involvement of junior urban designers in the critical process of developing projects.

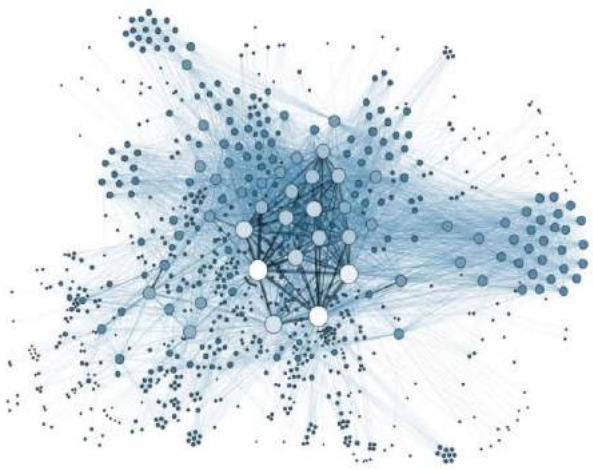


Image 3: A hierarchical network.

These concepts can be characterised in a hierarchy according to their importance, or determined by their level of influence. This can be represented in a form of a hierarchical network (Image 3). This research only reflects the set of concepts that appear in the interviews repeatedly as key concepts. Therefore it puts all of them at the same level. But according to their connections, concepts gain more central place. The network of concepts and people must be understood in a complex setting with secondary concepts that are not being represented in the diagrams yet they do exist. Accordingly, in this research the question of the interaction between theory and practice of urban design theory leads to an analysis (based on the image of a) complex network of concepts that represent their interaction.

Reflecting on the methodology of this research, the network could be explained as a *rhizome* (see Table 5). A rhizome is a dynamic (ever-changing) network without a fixed centre that can make or remove the connections and nodes in an unpredictable manner. Nodes may come to the centre of the rhizome but they are not *always* and *necessarily* central. Based on what is happening in the larger context, the rhizome constantly changes. In this respect, tree-like models or fixed models are not applicable here, because in tree-like models branches are derived from the central trunk, whereas here the model allows flexibility.

Assuming that professionals and concepts make (two different sets of) nodes in the rhizome, the network or the rhizome has different characteristics for two groups of the practitioners and academics. Analysing the characteristics of the ways in which professionals are connected to concepts show how practitioners and academics are different in relationship to the concepts they use.

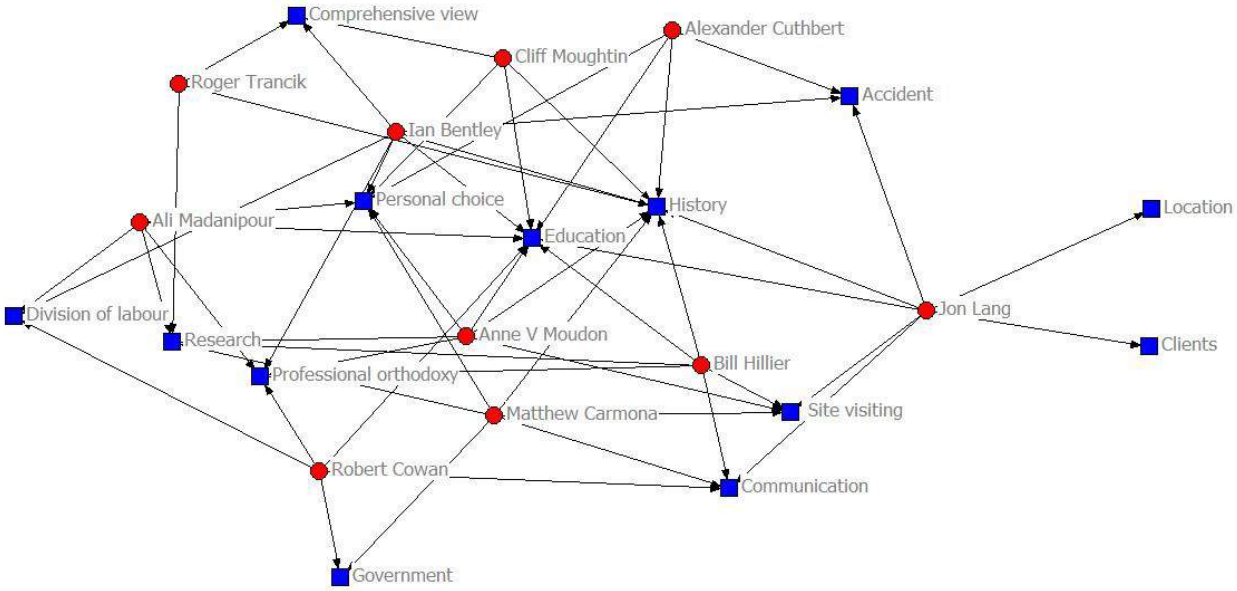


Figure 17: Concepts and their relation to academics.

Figure 17 shows how theorists are connected to the concepts. The visualization is done by UNICENT software which locates important (more connected) elements in the centre. This visualization confirms that *history*, *education* and *professional orthodoxy* are main influences for theorists. Professional orthodoxy, despite it being criticised by the majority of the interviewees, plays an important role. It could be argued that professionals define their own stance in regard to concepts they criticize as well as concepts they approve of. Accordingly, where each professional sits in this network reflects on their specific approach towards influence elements of urban design. This network has fairly equal importance for the red dots (theorists) even though some (i.e. Trancik) are less central compared to the others.

Figure 18 shows a similar representation of the network consisting of the practitioners and the concepts they use. The nodes in the network of practitioners and concepts are less concentrated compared to

Figure 17. This echoes the fact that urban design practitioners have less agreement on key concepts. It is necessary to highlight the fact that due to the methodology used for this dissertation; the practitioners chosen were those that have made significant contributions to urban design. Therefore, it is not surprising that many of them have ideas before establishing a client base. That is why *idea before client* concept is rather central. This finding in this regard cannot be generalised to a bigger body of practitioners.

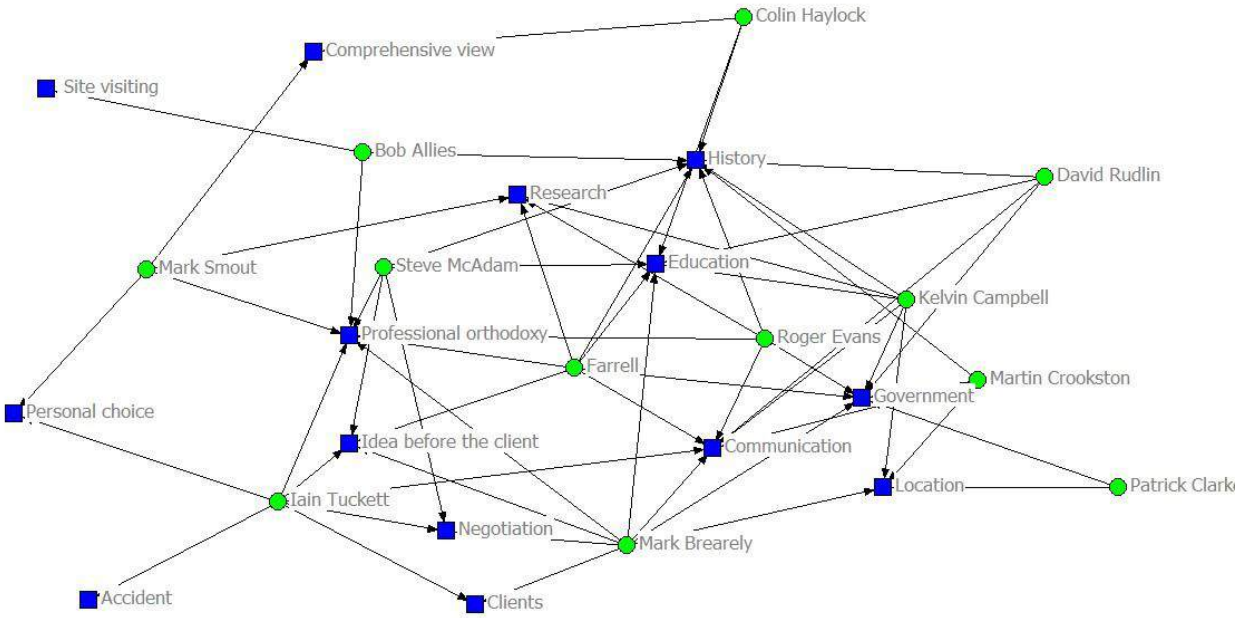


Figure 18: A visual representation of the concepts and practitioners.

Representing the professional society as a network (rhizome) has the advantage of being closer to the reality of societies (De Landa, 2006). Nevertheless it should not be taken as a mirror of social reality. These networks only reflect reality on selected criteria. Even with the same set of criteria and with the same method this network can be illustrated differently. In this regard the meaning of this network is not its form but its characteristics. When putting both practitioners' and academics' networks together a more complicated representation appears.

Figure 18 shows the network of both practitioners and theorists in relation to the concepts. The fact that concentrations are on concepts affirms that the identified concepts (as a whole) have a key role in linking professionals together. When joining two networks together, the same concepts appear in the centre. The only concept that achieves more importance is *communication*. In other words, communication is becoming more important when both practitioner and theories are considered. This in itself is an outstanding finding which implies that the groups of theorists and practitioners have less problems with communication within their groups. But when those groups constitute their network the concept of communication appears to be of more importance, whereas theorist-theorist and practitioner-practitioner interactions have less emphasis on communication as a distinguishable issue.

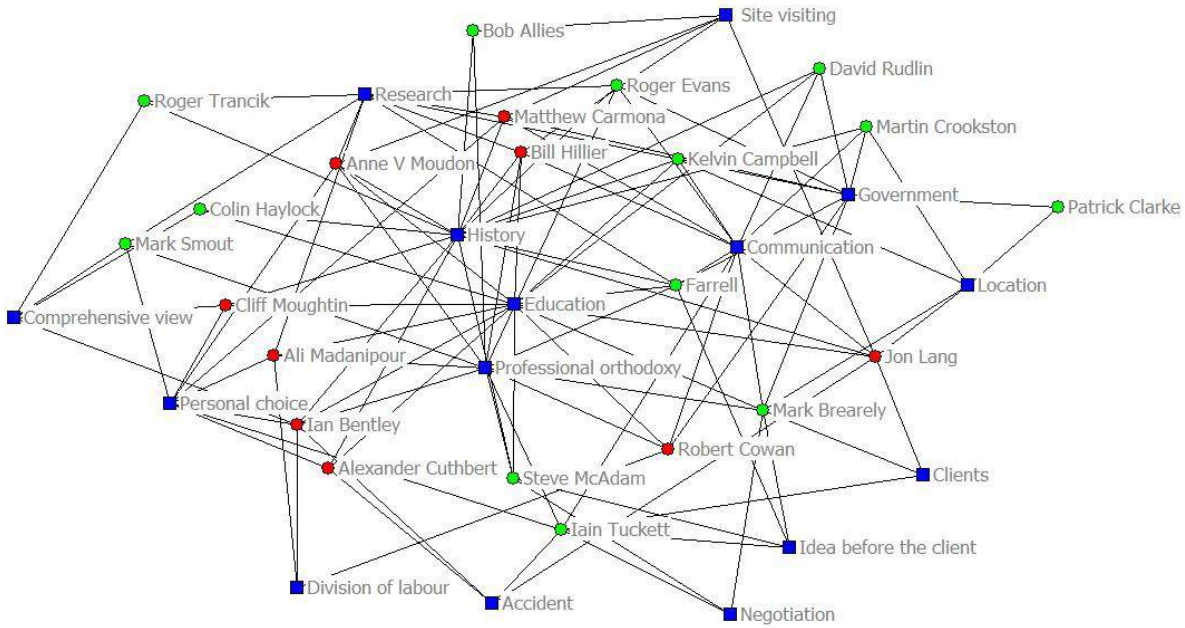


Figure 19: A visual representation of the concepts in relation to both theorists and practitioners.

It is vital to highlight that these networks are productions of their time and space therefore they will be constantly changing. Thus, if the same methodology is run in another context (i.e. university, city or country) or at a different time, the outcome of the research would be different. One obvious example of such change could be the concept of government that appears to be important, but when exploring the reason for its importance, the interviewees (more than 75% of those who mentioned it) refer to the change of the recent coalition government in the UK (2010-2015). This means that government as an important element of interaction between theory and practice of urban design gets its importance from this change in government. A similar point is valid about the people who appear to be central. Farrell's Design Review (date) is perhaps the reason for Farrell's centrality as he addresses the key existing concepts more thoroughly (or comprehensively) than the others. This would probably not have been the case a decade ago.

Nevertheless, one can assume that some concepts are changing in a slower way than the others, therefore they may be central for a longer time. *History* is potentially one of such concepts that appear to be central in the networks yet its importance does not come and go as fast as, for example, *governments*.

This presentation technique puts people and concepts with similar connections together. *Site visiting* plays a unique role in this regard as it makes a few of interviewees[1] be close together.

Additionally, this chapter employed two analytical frameworks derived from the literature review; one on the five sources of creativity for urban design and the other on the typology of urban design theories.

Figure 20 shows how the *five sources of urban design creativity* vary between theorists (on left) and practitioners (on right). Despite two groups of practitioners and theorists making different contributions to the discipline, they share the sources of creativity as it was hypothesised. They both refer to sources for inspiration and they legitimize their arguments through them. In this way, these five elements enable the individuals to connect to the mainstream urban design (legitimise their point) and

[1] Allies, Campbell, Hillier, Carmona, Evans.

to depart from it (by being creative). History seems to be an inspiring source for urban design creativity both in practice and theory. Practitioners and theorists have different emphasis on other sources of creativity. For practitioners, future and urban reality are more important sources for creativity, but amongst theorists there is more emphasis on history and dystopia.

Creativity has different roles in generating theory and practice. The difference between the two groups could be due to this. The difference might also be influenced by the different mindset of the two groups. Nevertheless, all aspects are covered amongst the two groups while many individuals are focused on one.

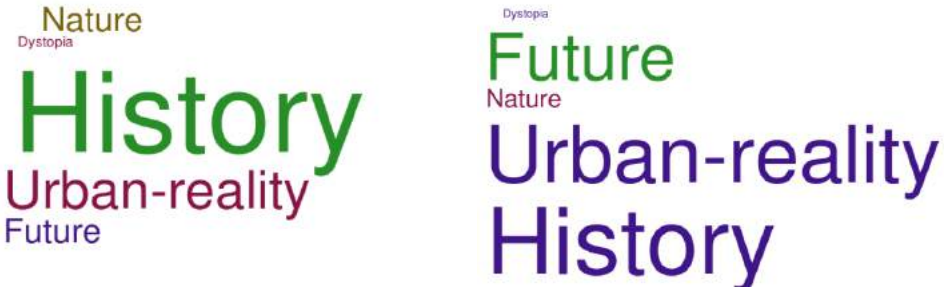


Figure 20: The importance of five sources of urban design creativity (theorists' on left, practitioners' on right).

It is interesting to see how the two analyses that have been done on the interviews are linked together. It could be said that some concepts (such as *site visiting*, *history* and *location)* are strongly linked to certain sources of creativity (*history* and *urban reality)*. *Urban reality* as a source of creativity is also strongly associated with *research*. Nevertheless, some concepts cannot be associated with certain sources of creativity: *education, communication* and *comprehensive view,* for example. This means that certain concepts are more important when certain sources of creativity are used by professionals, to an extent, regardless of whether the interviewee is a practitioner or theorist and what is their experience of the ways in which theory and practice of urban design are interacting.

The analyses help to make sense of the interviews in a systematic manner. The whole picture only will be achieved when all interviews are taken into account. In its totality, the interaction between theory and practice of urban design appears to be messy, complicated, and different in each case and to an extent unformulable. Nevertheless, concepts are helpful tools of understanding the bigger picture. Concepts help to identify influential mechanisms.

How the shared body of knowledge is being used

The shared body of knowledge pictured and discussed in the last chapter was the common language of professionals, as well as the main means to explore the interaction between theory and practice. The question here is how the interviewees use this shared body of the knowledge.

The interviews showed that the majority of the practitioners are familiar with the shared body of knowledge. Nevertheless, they often have critical views towards it. In this sense, the shared body of knowledge is working as a departure point for professionals who contributed to the generation of new theory and practices. What the interviewees know about urban design deeply depends on their position and work. Both theorists and practitioners develop their own knowledge and theory throughout their projects. They also refer to other disciplines in their own ways. For example, Campbell is interested in complexity and informal (bottom-up) urbanism. The sort of knowledge he is seeking and contributing to

is different from Allies who is interested in urban form produced by classic master plans. Surprisingly, the majority of the practitioners interviewed in this research have tried to disseminate their view. This is not usual amongst practitioners and might be seen as a reason for the success of the interviewees.

Academics are more directly involved with the shared body of knowledge. They also have critical attitudes towards it even though some of the interviewees were contributing to the shared body of knowledge. Academics' critical views towards mainstream urban design can be better understood in relation to their specific theoretical view. For example, Madanipour is seeking to explore urban design in the broader context of social theories and he criticises main texts of urban design to ignore such connections, whereas for Hillier, mainstream urban design is problematic because it does not serve the professionals with a technical language of space.

Using a Deleuzian framework, shared body of knowledge is what is conceptualised as the state science (see Table 5). State science is the formal type of knowledge that is supported by formal institutes. By contrast, individuals' personal views and knowledge is *nomadic*; it is directional, flexible and in formation. The professional society benefits from both sorts of knowledge, both of which can transfer to one another.

Mapping the time and location of the theories and practices

This research, in the beginning, aimed to produce data that could later be used to locate the practices and theories on timelines and geographical maps. The analysis below shows that there are locations that stimulate practitioners and theorists, for example many of them pointed to Edinburgh as a city that inspires them. Table 19 highlights the key connections in order to find patterns.

	Recognised as key theorists	**Inspiring practices**	**Influencing disciplines**	**People or approaches being criticised**
Mathew Carmona	No grounded theory but: Alexander, Lynch, Jacobs and Gehl are big thinkers	Historical towns		Theoretical arguments without any implementations
Ian Bentley	Rosso, Jacobs, Hillier		Urban Morphology	Attempts to understand all aspects of cities
Ali Madanipour	Not any particular one, Lefebvre for his earlier works		Sociology, Economy	
Robert Cowan	Jacobs, Bentley, Hall		Architecture, transport	Urban design as big architecture
Cliff Moughtin	Wilhelm Leibniz,	Historical environments, environment friendly projects	Renaissance art, philosophy	Top down planning
Alexander Cuthbert		Historical town	Political Economy	New towns, theories without link with social sciences

Anne V.Moudon	Lynch		Geography, Computer science	Those who take theories for granted
Jon Lang	Ellin			
Bill Hillier	Mainly refers to his previous works		Sociology	Positivism
Roger Trancik	Lynch, Alexander,		Science of sustainability, Novels,	
Mark Brearley		GLA with Richard Rogers		Marxist urban studies
Bob Allies	Jacobs, Gehl, Bentley, Hillier	Edinburgh	Morphology,	
Roger Evans	Alexander	Edinburgh	Urban morphology	
Ian Tucket		Coin Street	Participatory planning	
Steve McAdam	Jacobs	Projects by the Sounding	Complexity	Cullen
Max Farrell	Jacobs			Big architecture approach
Patrick Clarke		llewelyn Davies' projects	Economy	
Martin Crookston	Peter Hall, Richard Rogers	llewelyn Davies's projects	Economy	
Colin Haylock	Lynch, Jacobs			
David Rudlin	Jacobs	Manchester's urban development during 80's		
Mark Smout		Different competitions	Scientific studies (i.e. Climate change)	Those who expect from urban design to know cities comprehensively

Table 19 Links between the interviewees, theories and practices

Analysis of the interviews found that it was not possible to provide answers for all the cells in this table. Accordingly, those questions that did not receive any clear answer are left empty. It is clear that certain names appear in the interviews and table more frequently. Jacobs, Lynch, Gehl and Alexander seem to have key influences. Many interviewees (particularly practitioners) mentioned Hillier and Bentley's works as influential texts for them. However, during analysis it became clear that it would not be possible to locate the practices and theories on timelines and geographical maps. There are multiple reasons for this. For example, the question "*Which works in which ways have influenced you*" did not receive readily comparable answers as many interviewees had difficulties pinning down their influences. Some of them tried to see how the previous interviewees had answered the question, and it was clear that some responses were affected by what they think they should say in response to such

questions rather than what they actually feel. This in itself reflects the power of the professional orthodoxy amongst professionals as the key indicator of what is right and what is wrong. Additionally, what they understood from the word *influence* changed over time in accordance to what was in their mind. It also seems that the interviewees change their opinion very quickly when they are asked to mention the influences on their work. In this respect, putting what comes out of the interviews on a more precise map or diagram requires reducing the influences to simple lines of connection. Whereas in reality these connections have ever-changing natures and meanings. Thus, investigating how people are connected together and being inspired by one another was better presented in textual form as this chapter has attempted to do.

Conclusion: Messy, complex and dynamic interaction between theory and practice

This chapter analysed the interviews. The interviewees here are successful theorists and practitioners who have made significant contributions to the field of urban design. In the interviews, they portrayed how and where theory and practice are connected and dissociated from their perspectives.

Theory and practice are not entirely separate processes, nor are the practitioners and theorists. In reality they are connected in many ways when considering the broader context. This context can be best described by using a set of concepts. Earlier in the methodology chapter, it was argued that in Deleuze's philosophy, concepts can make sense from the chaotic world. Making sense of the world is a similar function that operates between concept and successful theory (discussed in the literature review). Concepts are basic elements of theories, thus many theories can share same concepts.

Nevertheless, there are processes in which theory and practice are not closely connected. From the interviews it is evident that the knowledge is not moving smoothly from one part to the other. Practitioners are busy developing their own knowledge. They are rarely interested in academic discussions, academic language and academic publications. Academics are often interested in achieving successes through means that are not necessarily linked to real projects and practice.

Theory and practice are generated through dynamic mechanisms. When professionals face a blockage that cannot be solved by existing theories, they reject theory or the practice at hand. Then they make new theory or develop new practices, and in doing so they would often draw on the theory if they are involved in practice and practice if they are involved in theory. The mechanisms that form the replacement for the rejected theory are non-systematic and highly flexible. In philosophy, science and history of knowledge, this process is considered (by some) to be anarchistic and opportunistic (Feyerabend, 2002). Nonetheless it seems that a meta-theory, or *sage* as Deleuze and Guattari put it (Deleuze & Guattari, 1994), is validating the replacement. This sage is a more basic rationality or acceptance of the new for the professionals.

Studying the key factors in interaction between theory and practice of urban design acknowledged the complexity and dynamic nature of the topic. This chapter also investigated the channels through which practitioners and theorists exchange knowledge. Universities, working environments, journals and conferences are amongst the key channels. Nevertheless, the communication is happening in a messy way, in the sense that it cannot be fully presented as a list of channels. In reality, professionals can make their own modes for communication. Key channels are ways of transferring knowledge they are more solidified and less dynamic, yet the content that is being transferred through them varies from one professional to another. This, again, highlights the importance of considering findings at both common level and individuals' level.

In dealing with these concepts, Deleuzian methodology's contribution here is twofold. First, it is in acknowledging the emergence of the concepts free from any pre (supposed) theory, any presupposed structure and any linear cause-effect assumption. If the research tackled the subject from a specific perspective, then part of these concepts would not be covered in the findings. Or if the research assumed simplified linear cause-effect relationship between any of the concepts then it would have concluded that, for example, the *change in government* caused the declined of *research*. Whereas now the dissertation acknowledges the influence of the changes in government, but it does not take it as the only cause of the changes in the research dynamics.

The second contribution of Deleuzian methodology in this chapter is the connection of the concepts and people as a network (rhizome), which represents multiplicity of cause and effect between people and concepts. These networks[1] provide a basic understanding of the mechanism through which theory and practice are interacting. Nevertheless, the networks cannot be seen as a new theory or final answer to the research question.

This research provided a reading of the ways in which theory and practice of urban design are connected and places where it is believed to have potential for better connections. From the interviews, it is evident that there is not a common agreement on any of the above questions, although there are some areas in which the majority of practitioners or theorists think similarly. For example, the interviewees have various thoughts with regards to the gap between theory and practice. Trancik and Smout believe that the gap is becoming smaller as time passes; Moudon and Crookston believe that this gap has become more serious in recent years; and Lang, Madanipour, Cowan and Campbell each had a different conception of the gap. Nevertheless, almost all of the interviewees believe that research is important for urban design.

A similar disparity of view exists with regards to what is theory of urban design. For some interviewees, theory must be scientific. For the majority, theory of urban design is a systematic mechanism that explains and predicts; for a few, urban design theory is a helpful guide for legitimizing their design (see Rudlin); and for others, urban design theory is an extension of social theory or philosophy. This shows a big disparity between what the interviewees think. In terms of their suggestions, again there is no shared agreement. This proves the importance of allocating space for each interview.

The gap between theory and practice can be seen in various experiences of different professionals. This research read this gap and aimed to provide a better understanding of the gap/connections between theory and practice. The final chapter reflects on this.

[1] Rhizome is a network in its shape; nevertheless this network is associated with a certain philosophy. Therefore, rhizome is a philosophical model for thinking that acknowledges the dynamic connection between people, things and concepts.

6. Conclusion

Urban design has various meanings. It may refer to the act of designing as a conscious endeavour of transforming cities. Alternatively, it may refer to the body of knowledge that legitimises and informs the design. This research focuses on the interaction between these two meanings of urban design. However, there are other meanings of urban design that are not taken into account in this dissertation. Certain scholars conceptualise urban design as everyday urban life or organic formation of cities; others use the term urban design when referring to successful historical spaces. Here, in this research, urban design is seen as a conscious design and body of knowledge. This research investigated the relationship between the conscious design (practice) and the body of knowledge (theory). The research scope was embodied in two questions. *How does theory inform the development of practice*? And *how does practice inform the development of theory*?

This dissertation is a representation of the research process addressing these two questions. This chapter concludes and evaluates the research findings, provides suggestions based on the findings, and reflects on the whole research process. The conclusion aims to unfold the findings about the interaction between what is understood as theory (urban design as body of knowledge) and what is understood as practice (urban design as the act of designing).

Addressing the ways in which theory and practice are functioning (how does theory inform the development of practice? And how does practice help the development of theory?) is rather a generic question. Nevertheless, the introduction sets the focus and defines the scope of this research by specifying the question, terms and objectives. Amongst terms that needed explanation were: urban design, theory and practice. This research avoids a rigid definition for urban design mostly due to the fact that the scope of this research is to study the existing condition and the ways in which theorists and practitioners understand urban design. Following the linguistic terminology used in dictionaries (American Heritage Dictionary, 2011), the approach of this research is *descriptive* (finding the existing definitions) opposing to *prescriptive* (offering a correct definition for words).

Studying the descriptions of urban design theory clarified a number of prerequisites of urban design. Urban design is necessarily concerned with enhancing the quality of public spaces and cities (designing); it considers both the society and the physical form of public spaces; it learns from existing cases and it is connected to the context. These conditions define the domain of urban design for this dissertation.

Theory is also a vague term. It could be said that theory is a set of statements that explains a set of phenomena. Because theory explains, it provides 'a sense of understanding', has the ability to predict, and make it possible to control future events in relation to the studied phenomena.

The link between theory and practice is explained using many models throughout the literature. Nevertheless, using theory in the development of practice and learning from practice in the development of theory happen in much more complicated ways than described by the available models. Professionals, including practitioners and theorists adopt their own methods for their work. Therefore, it is necessary to investigate individuals' experiences of making theory and practice, especially of those who have made distinguished contributions to the field.

Specifying the research question highlighted the need to study the real experience of the professionals who are representing (and producing the content for) the theory and practice. This lead to a list of objectives, including a) finding the key theories forming the core of urban design knowledge, b) finding the channels through which theorists and practitioners transfer knowledge, c) describing the

ways in which practitioners find, update and apply knowledge, and d) describing the process of generating new knowledge.

The purpose of the second chapter (the literature review) is to elaborate on the research questions from the perspective of urban design literature. Therefore, it explores the concept of theory and summarises the characteristics of good theory in order to apply them to urban design. The concept of urban design theory, as was argued, is a vague concept. Nevertheless, what is summarised as urban design follows the condition of successful theory.

The literature review also elaborates on what key urban design scholars mean by urban design and urban design theory, and how they picture it in relation to practice. Following these definitions, urban design includes various theories. In order to make sense of seemingly opposing debates under the title of urban design, the literature review suggested a typology of theories that categorises urban design theoretical arguments based on their topics. Three main types were distinguished as *theories of objects of urban design* (theories that are focused on enhancing one aspect of public cities), *theories of the subjects within urban design* (theories that picture urban design as a cohesive discipline aiming to enhance the public spaces) and *theories about urban design knowledge* (theories that have the knowledge of urban design as the topic of their study). This categorisation hypothesises that each type of theory has a different function. For example, type two and type three theories are supposedly working more in theoretical realms and type one theories are more applied in practice. In addition to providing a better understanding of urban design theory, this categorisation had two interconnected employments in this research: categorizing the shared body of knowledge (chapter 4) and interpreting the interviews (chapter 5).

The literature review drew on philosophy of science and sociology in order to highlight the role of the context (time and space) of theory and its fundamental connections with two forces: institutional forces and individual characteristics. The formation of theory and creative practices, in this respect, is manifested as the interface of these two forces.

In the end, the literature review suggests creativity as the key concept that connects practice and theory. Five generic recourses of urban design creativity are recognised from the literature as: history, future, urban reality, nature and dystopia. These five sources of creativity were noted when mentioned by the interviewees and it was concluded that these sources have twofold functions: they both legitimise the arguments (whether theoretical or practical) and also enable individuals to take distance from the orthodoxy of urban design through new inspirations.

In addition to presenting what the literature has to offer in relation to the research question, the literature review added further considerations, such as the nature of the different types of urban design theory and the need to gain an understanding of the complex processes involved in developing the theory and practice of urban design.

Theory and practice inform one another in a complex way that could be argued as being not researchable. However, many academic researches address such complexity and uncertainty. Such researches confirm that the messiness, fluidity, multiplicity and vagueness of reality can be tackled through more advanced methodologies. This research aimed to adapt such a methodology for different aspects of urban design.

The methodology chapter of this research reflects on the research questions (chapter one) after adjustments from the literature review (chapter two). In this way, what the literature does not answer would be systematically investigated in the research. The literature review's conclusion clarified the methodological requirements for this research. Because this research is examining the formation of theory/knowledge, it was necessary to have a platform to define the ways of achieving knowledge (epistemology) and its relation to the real world (ontology). Here this dissertation enters philosophical enquiry into the nature of urban design knowledge and how it is linked to the outside world. After assessing the existing urban design methodologies in respect to the epistemological and ontological

requirements of this research, a new methodology for urban design is suggested. The suggested methodology drew on Deleuzian philosophy. This particular philosophy enables this research to go beyond *structuralism* and any rigid/fixed conception of knowledge. This view is directly employed in the research design, research methods, the interpretation, and the suggestions of this dissertation. This methodology does not refute the existing methodologies; instead (following its *affirmative* approach) it opens up new ways of understanding the ever-changing nature of the regulations according to which urban design knowledge is produced and employed. As Deleuzian methodology does not reject other methodologies, this research could have been written without it, but it would lose the inspirations and philosophical understanding particularly in regard to epistemology and ontology.

Adopting Deleuzian methodology for an urban design research is one of the contributions of this dissertation. The methodology chapter presents the chosen methods that provide an overview of the ways in which theory and the practice of urban design interact.

One of the research objectives was to provide a reading of the shared body of knowledge or core of urban design. The shared body of knowledge is a departure point for individuals in the way that they *define* their view in regard to the key texts. Deleuze and Guattari's philosophy is helpful to explain this. They distinguish between two types of knowledge. First is state (or royal) science which is formally accepted and institutionally disseminated. Second is nomad science which is more creative, reflective, personal and directional (Young, 2013). Urban design as a profession is getting more towards state science (being established). Accordingly it was argued that within the existing domain of urban design, the shared body of knowledge can be associated with the state science and the individuals' attitude can be seen as nomad science. In this sense, what is being advocated by the body of the professionals is formal urban design. Nevertheless, individuals make their own informal knowledge which may or may not be absorbed by the professionals in due time.

But what is the shared body of knowledge and how can one be sure such a body of knowledge exists? Chapter 4 (the first chapter on empirical study) provides a reading of the shared body of knowledge. It is done through three investigations: studying what is being offered as urban design theory in English language universities, studying what is being understood as key urban design texts in readers, and studying the most-read articles in urban design journals. The combination of these three enquiries affirms that there is a distinguishable repetition of certain texts amongst the professionals that portrays the shared body of knowledge. The achieved picture of the core body of knowledge was interpreted in regard to the typology of urban design theories, as suggested in the literature review. It was concluded that type two theories emerged after type one theories referred to other type one theories. Type three theories emerged after type two theories became established. Histograms based on the typology provide a narration of theoretical developments of urban design theories.

The second chapter of the empirical studies looked into the individuals' understanding, conceptualisations and suggestions in relation to the interaction between theory and practice. Twenty-two in-depth interviews with influential practitioners and theorists of urban design were undertaken. The concepts that repeatedly appeared in the interviews were taken as the key vocabulary for understanding mechanisms of the interaction between theory and practice of urban design. The network of the professionals is explained as a *rhizome*[1] or an organic network where it is the connections which are most important. It was argued that these connections are productions of time and space. It could be assumed that if a similar research is conducted in a different place at a different time, a different set of concepts would appear. The second part of the empirical studies went on to critically reflect on each interview in order to provide different definitions and angles of the problem. Finally, the conclusive discussion provided an account for managing the concepts.

[1] The connections that occur between the most disparate and the most similar of objects, places and people; the strange chains of events that link people and things (Parr, 2010, p. 232). See Table 5

Revisiting the research question

What does this research offer in response to the research question? The gap between theory and practice exists, to an extent, as a result of the ways in which theory and practice are generated. Nevertheless, as theory and practice are both socially constructed concepts, the gap is also a constructed concept. Different professionals have different interfaces with theory and practice. This research begins with key texts and a shared body of knowledge. It carries on investigating individuals' experience of the generation of theory and practice. In doing so, it finds a set of common concepts amongst the individuals who are influential in the generation of both theory and practice.

The whole process provides a new understanding of mechanisms through which theory is produced and employed by practitioners. This understanding can benefit the professionals in encouraging them to start with the shared body of knowledge, employ their own *theory* and bring it back to the shared body of knowledge.

This research showed that theory and practice are interacting in complex ways. *Complexity* here means that there is no linear cause and effect relationship between theory and practice, nor can the interaction be fully grasped in any model (i.e. it is not predictable). The interviewees often take the literature and specific theories as a departure point for their own work, a means for communication and explanation. Practitioners often expect new theories to serve them with design directions, inspirations and evaluation that would legitimise their work.

Equally important were the ways in which applying theory was found counterproductive. It is very likely that theory blocks innovative research or design: when taken for granted, when presupposed solutions dominate over gaining an understanding of the problem, when theory limits observing the actual urban problem, and when theory is taken as the *reality*. Practice can also be detached from the ongoing process of producing knowledge. This would happen especially when practitioners are reluctant to be informed about new arguments, when they do not communicate their thoughts and projects, and when they take their project purely as art. In academia this is expected to happen less.

Theory and practice can easily fall into any of the above situations, making a blockage. The mentioned reasons for blockages are by no means a comprehensive list. These are only what have been mentioned in the interviews, thus they must be understood in their context.

In this circumstance, it is important to keep thinking openly about both theory and practice. When one faces a problem, the other can help. Such thinking could be characterised as critical thinking, and is highly advocated by Deleuzian philosophy. This point will be elaborated more in relation to the findings of this research. In what follows, findings and contributions of this research are discussed.

Contributions and findings

The main expected contribution of this dissertation is in response to the primarily research question; How are theory and practice interacting?

Theory is not the only influence in academia or practice. Through the interviews, it appears that all the interviewees are not bound to specific theories. In this sense, they do not entirely follow fixed standards of any given theory, rather they select parts of theories and standards in accordance with what is helpful for their work. Nevertheless, theory is valuable for both. For researchers, theory is necessary to form and inform the research; for practitioners, it is helpful to ground the design, assess it, communicate it and learn from it. Thus, theory is necessary for progress in both academic and practical activities even though it is not a fixed set of standards. This means that theory and practice are interacting in dynamic ways.

It is clear that breaking the rules that are indicated by a given theory can potentially benefit the professionals. Yet the questions here are: when do they decide to alter the principle of theory and what forms their replacement theory/hypotheses?

When professionals start to reject the theory or practice in hand, the mechanisms that form the replacement for the rejected parts seem to be non-systematic and highly flexible. In many examples, theory is being used in a complex and messy ways.

This dissertation has made contributions through the literature review, methodology and empirical studies. They can be rephrased here in relation to the bigger context in which they sit. The following sections reflect on the contributions of this research from different aspects.

What this research offers? Theory, concept or knowledge?

This dissertation represents the interaction and tensions between theory and practice through a network of influential concepts linked to interviewees. The discussion emphasised the nonlinear relation between people and concepts. It acknowledges the agency (the power to make influence) of both people and concepts, and it aims not to reduce the reality to simplified models. Here the research question necessitates the examination of the relationship between theory and concept.

Theories are systematic statements, there is less agreement on theories in comparison to concepts. One concept (public space, for example) can be modified in various ways. Nevertheless, concepts are fundamental elements for understanding the world.

Concepts are strong means with which to analyse the world. In urban design, as was illustrated in the interviews, concepts are more broadly understood amongst professionals. Concepts and theories are connected together. For making theories, concepts are fundamental ingredients, and for making concepts, a level of rationality is required. Urban design in its subject matter is affected by concepts such as globalization, sense of place, diversity, quality, public good, collaboration, and so forth, none of which is a theory yet they allow theory to emerge.

The interviews in this research examined the influential concepts underpinning the interaction between theory and practice. Concepts are ever-changing entities yet they are consciously made. Emergence of new theories can change and challenge existing concepts. Studying concepts therefore seems to be a suitable way of studying the flexible nature of the circumstances in which theory and practice are being generated.

How these concepts are understood is explained in chapter 6, but how they can change the field falls beyond the scope of this study.

This dissertation distinguishes between concept, theory and knowledge, nevertheless they are all interconnected. Knowledge is a broad sense of understanding; in this it is similar to theory, yet it does not necessarily provide explanation (one may *know* something but may not know *why*). Explanation is the difference between knowledge and theory. But it is theory that makes sense of knowledge and renders it applicable. Therefore, when knowledge is operationalised, it becomes closer to theory.

However, certain interviewees had different frameworks; for them, theory must necessarily be scientific theory. In order for this research to achieve a meaningful conversation with them, the term *knowledge* was loosely used rather than *theory*. This, yet again, shows that terminology is not watertight. In this situation, a more reflective methodology is supposed to be helpful, as was the case through this particular research. The contribution of this dissertation is a clearer definition of these concepts in relation to theoretical frameworks capable of explaining their relationships. Putting concepts in networks with people acknowledges the power of concepts to change or control processes. Locating some concepts in the centre of networks and closer to individual interviewees represents the different levels of power that different concepts have.

Showing connections in networks replicates the rhizomic thinking employed by this thesis. Theories are not presented in the networks (figure 18 & 19) due to the fact that concepts are able to present the findings more precisely.

What is the nature of urban design theory?

The process in which urban design theory is being formed and the ways in which it links to practice are both critical points for this research. One of the contributions of this research is its readings of the nature of urban design theory. Firstly, the basic characteristics of urban design theory were defined from the literature. But this research aimed to investigate the existing nature of theory and not to prescribe a *correct* definition of it. In this respect, what is pictured as urban design in this thesis is descriptive and not, like the work of many scholars, prescriptive (Cuthbert, 2007a; Gunder, 2011). A more value free description of the field can be used in various ways for future research. This implies that this research does not offer a final answer to what is the nature of urban design. This research instead asks whether such an answer is possible or helpful for urban design considering the multiplicity of views that existed amongst professionals, theories and projects.

Urban design theory is a functioning form of intellectual endeavour that inevitably reflects the feature of its time and place, or the political economy of the context in which it functions. Urban design theory operationalises knowledge about cities and public spaces. Like other forms of theory and knowledge, it embodies certain interests and power struggles, but unlike many other fields it is highly malleable in the hands of the professionals.

Rhizomic epistemology, discussed in the literature review, explains urban design theory as a network of concepts, interests, people, places and other entities. In this sense, urban design theory is part of bigger socio-political connections. However, urban design theory, as it is pictured here, has two levels: one is formal, that is being approved and endorsed by institutes such as universities, journals and collective agreements. And the other is personal or *nomadic*. Nomadic urban design theory falls into the definitions of theory and urban design, but it is not known beyond a small number of professionals. Nomadic theory has therefore not been legitimised and approved through the institutions. Nomadic urban design is the form of knowledge that is under formation. It can later be either accepted (routinized) or rejected.

This conception of urban design theory is not concerned with whether urban design theory is science (Marshall, 2012) or art (Marshall, 2016); whether it is inductive, deductive (Carmona, 2014a) or abductive (Dovey & Pafka, 2015). This research sees knowledge as an active social entity that takes its value mainly through society and professional circles, rather than being allocated to art or science. Taking Deleuzian methodology, science, art and philosophy share the fact that they are all functioning by using concepts. They are all mechanisms helping human beings deal with the outside world. In this philosophy, concepts are where these three areas of intellectual activity meet. Philosophical thinking creates concepts, scientific thinking evaluates statements in regard to concepts, and art makes affect (different kinds of feelings) by employing concepts (Deleuze & Guattari, 1994). Following on from this, as this study is concerned with the production and application of concepts, the questions of whether urban design is an art or science is not relevant here. According to the concept of urban design presented in this research, urban design theory can be either or both (science/art or deductive/inductive).

In this conception of urban design theory, the networks in which professionals and concepts are interacting cannot be simply controlled. There is an uncertainty in the effect of one concept upon others. In this sense, the network *reacts* to imposed changes; and the reaction is often in an uncertain manner. Such a complexity implies that there is not a simple set of laws in the network to be discovered; rather the system is developing its own *life* with its dynamic, unpredictable and ever-changing regulations/connections. Thereby, any suggested change without appreciation of the

characteristics of the interaction would be reductive. Reductive changes, however, might be very helpful for certain cases, but on a bigger scale one must keep in mind the complexity of the system urban design theory is dealing with. What is truly important is not to take one theory, one urban form, one understanding, as the final solution for all problems. This echoes principles of critical thinking. This conception of urban design implies that urban design knowledge, practice, and society are interwoven. The credibility of knowledge then is party coming through theoretical arguments. This means, unlike what Cuthbert suggests (2005), urban design's resistance to change is not just due to the inability of the professional to create substantial theory, but real forces also need to be taken into account. The interviews suggest that many practitioners believe that critical thinking cannot, by itself, underpin their practice.

Critical thinking the context of the interaction

In the interviews, it was repeatedly argued that background and education determine an individuals' attitude to urban design. After developing their attitude, professional thinking is mostly moderated in response to their experience and external changes. It appears evident that the ability to question the existing discourses is vital in developing better interaction between theory and practice. This ability has been described as critical thinking (Buchanan, 2010; Horkheimer, 1982). In this sense interaction between theory and practice happens using these critical thinking skills.

Critical thinking in this process is applied when individuals define their stance in relation to mainstream urban design, when they critically distance themselves from the formal knowledge. Nevertheless, the professional circles rarely criticise each other, particularly the academics. This characteristic of the professional domain weakens the generation of knowledge and assessment of the practice. Certain scholars argued that testing urban design theories is not happening systematically (see Moudon). It seems that criticising is needed prior to such a systematic testifying.

Nonetheless, critical thinking enables individuals to be reflective. It helps them to avoid taking one theory, one urban form and one understanding as the final solution.

Theorists with critical thinking[1] would constantly question the assumptions, theories, assessment criteria and other concepts but they would still implement their research. Practitioners with critical thinking would not be restricted to routinised solutions and orthodoxies; they would also be questioning the existing mechanisms even if they follow such mechanisms themselves. Critical thinking would make more reflective professionals. It lessens the gap between theory and practice.

Critical thinking helps to keep the interaction between theory and practice on a conscious level, otherwise any thinking soon becomes routinised. Considering the wicked nature of urban problems, routinised and fixed mechanisms are not fully able to deal with the problems. This argument necessitates critical thinking, putting it at the heart of both academic and practical endeavours.

Deleuze's philosophy is always critical about the existing processes as it calls them into question, otherwise taking them for granted would turn them into a belief system, to new forms of *micro fascism* (Buchanan, 2008; Deleuze & Guattari, 2012). Micro fascism happens when *right* and *wrong* are established before recognizing the situation. Reflecting on the Deleuzian methodology of this dissertation, critical thinking represents the *deterritorialisation* of the territorial processes. Deterritorialisation is about challenging, dismantling the components of the existing mechanisms, and

[1] This meaning of critical thinking is broader than what is being manifested as critical urban theory; As the left thinkers works on urban problem, a thinking that follows Lefebvre, Harvey and Marcuse (Brenner, 2009). Here, critical thinking is not following a certain political view, nor it is bound to certain questions. Critical thinking is closer to what had originally been defined in Frankfurt School (Wiggershaus & Robertson, 1995).

asking whether it is possible to reassemble them in a better way. Deterritorialisation paves the way for creativity, it is critical thinking in relation to existing processes.

Following the findings, this research advocates critical thinking as the necessary skill for both practitioners and theorists to generate new works. This is also supported by the fact that professionals do not entirely follow any given theory, therefore what enables them to go beyond one theory or marry two sets of theories, in successful examples, is critical thinking. Many interviewees, point to this fact. It can be explained by Deluzian thinking as critical thinking is the first stage of detteritorialisation, and creativity is reterritrialisation. In this regard, to change any process, it needs to be critically evaluated at first then creativity is required to make new processes.

Typology of urban design theories; a framework for understanding

One of the contributions of this research is the typology of urban design theories. This typology is a model that organises various theories in urban design. The typology is based on the distinction between theories about objects within urban design, theories about the subjects within urban design, and theories about urban design knowledge. The relation of this typology to the shared body of knowledge and the interviews showed the advantages and limitation of the typology. The typology seems to be a good model for organizing various debates within urban design.

In relation to the typology, the findings show that the interaction between theory and practice is mostly happening in type one theories (theories of objects within urban design). However, when interviewees attempt to make sense of what they are doing, an application of type two is recognizable. It seems that the typology is being helpful to categorise the ways in which the interaction between theory and practice is happening. Nevertheless, the typology is reductive if it is used as the only means of studying the connection between theory and practice.

From the typology's perspective, this research belongs to type three. The typology is helpful for describing future works as well as the existing literature.

Despite the importance of certain types of urban design theories in practice, the typology highlights the fact that all types and subcategories are needed for urban design. The typology can be seen to conceptualise knowledge; it also provides material for future critical thinking. This typology has advantages over Lang's typology of paradigm (Lang, 2005). It is better able to include the existing literature as it comes out of it instead of being imposed on it. It can also better explain how certain theories are more practical than others, although all theories are needed for urban design thinking.

Five sources of urban design creativity

Another framework derived from the literature review is the five key sources of creativity in urban design. This is also a contribution of the research. The five sources of creativity represents a structure that aims to investigate a place where theory/practice both are formed by similar thinking. This framework appeared to be limited when analysing the shared body of knowledge in chapter 4 as many texts borrow from more than one of the defined sources. Nevertheless, this structure helps to explain what individuals and groups of practitioners and theorists think.

Creativity is always associated with new thinking. Nevertheless, new thinking does not appear out of nowhere. It is related to broader issues, common understanding, schools of thought and many other issues. The five sources of urban design creativity are concluded from the literature. They ultimately pigeonhole the creativity. It is never possible to fully represent the sources of creativity in a few words. Nevertheless, this categorisation allows the understanding of ways in which different value-sets are contributing to urban design. Urban design in this regard is a place where these five sources are gathered together.

Like the typology, categorising urban design works in relation to the five sources of creativity is helpful in organizing the literature, but this categorisation has the advantage of being applicable for both practices and theories. In this respect, some urban design projects and theorists can share the source of creativity, for example they have both been inspired by nature, or history.

Each interview was represented in relation to the level that the interviewee was inspired by each of the sources. In addition to clarifying individual interviews, the contribution of the model was to identify the fact that for academics, dystopian thinking is more important than for practitioners, as an example. Future research can examine this model more thoroughly and adjust it based on the findings.

Deleuzian methodology, over intellectualising?

The suggested typology and the five sources of urban design creativity are results of structural thinking. But this research has the methodology that adds post-structuralist analysis to structural thinking. Adding structured and non-structured analyses together reflects Deleuzian thinking and aims to make a better picture of existing processes. The concepts and the networks of concepts are a result of this way of thinking, explained in the methodology chapter.

Deleuzian methodology can be assessed as successful for this research. The contributions of this methodology are evident; in providing a complex understanding of urban design knowledge; in acknowledging the agency of concepts, people and the body of professionals; and in structuring the research (particularly the second empirical chapter). Nevertheless, the methodology of this research cannot be taken to be exclusively based on Deleuze's philosophy. Deleuze's philosophy is calling for multiplicity. Hence, this research can be described as using other philosophies with minor changes.

The methodology, however, is capable of being employed in future researches. The prepositions, despite being general, can lead to further researches. This methodology would be best applied when a research looks at complexity and ever-changing concepts. In fact, many urban design researches would not need the capacities provided by this methodology. It also could be assumed that many researches can benefit from the same thinking without it being manifested under the Deleuzian philosophy. Future investigations are needed to demonstrate where and how this methodology can be either helpful or misleading. Thus the suggestion that this methodology works better in research that is dealing with complexity and changing mechanisms.

The question regarding the last three contributions of this research is whether these conceptions are over intellectualising the research question. In other words, are these frameworks beneficial to urban design or are they only additional explanations for existing mechanisms. This question would only archive its full answer when these frameworks are employed in future researches (see below the further questions). As far as this research found, these frameworks are helpful in order to *understand the question*, *research design* and *make sense of findings.*

The contribution of this research to Deleuzian studies is in its finding potential for implementation of the philosophy to a wide range of urban design issues (ontology, epistemology, normative direction and research strategy, see P 85). This is a starting point for revisiting the usage of the philosophy for urban design.

The reading of Deleuze's philosophy for this dissertation is considerably more comprehensive than that of other urban designers, who take inspirations from him. In particular, Dovey's reading of the philosophy never touched Deleuze and Guattari's psychological and political aspects (Dovey, 2016) reflected in Anti-Odious (Deleuze & Guattari, 2012) discussed in "Deleuze and Guattari; an urban design reading" on page 73. The key contributions of this particular reading of Deleuze and Guattari's philosophy to the mainstream works of assemblage urban theory is taking concepts and knowledge as key factors in studying human-nonhuman. This is the point that Deleuze suggested but Latour and DeLanda dismissed (Buchanan, 2015). This dissertation studies the actual influence of key concepts rather than looking into the reality from the inflexible framework of human-nonhuman theory.

Rhizomic theory is not supposed to be a loose terminology for saying everything is related to everything else. Instead it focuses on actual relations.

Another characteristic of the suggested (Deleuzian) urban design methodology is the fact that it can include the existing methodologies, what is being argued as the *affirmative* aspect of the philosophy (Braidotti, 2013). In fact, this methodology locates its predecessors in relation to one another instead of replacing one by another. This would raise the question of how this methodology is Deleuzian and not an amalgamation of existing knowledge? The answer to this question is that it systematically (according to the rhizomic model) connects the parts together. But the connections are actual influences and not "whatever goes". In this way the methodology is capable of acknowledging new mechanisms and processes.

However, this dissertation is not exclusively Deleuzian, as a large part of it could be understood without referring to the philosophy. This is due to the fact that this research was intended to remain in the urban design domain by using common language of urban design prior to borrowing inspirations and complimentary thinking concepts from the philosophy. This would well be suited by what Deleuze himself explained as the aim of the philosophy to plug into arguments in various fields and make new ways of thinking (Deleuze & Parnet, 2006) and not necessarily by replacing models.

A final reflection on the suggested methodology relates to its practical limitations. For this research, such limitations include not having software to analyse and present findings in a Deleuzian way and not having established methods. This is partly due to the fact that this methodology is new and advocates a multiplicity of methods. Another limitation was difficulty in the communication of ideas in a Deleuzian scope which is a theoretical limitation with practical consequences.

Education system

Teaching urban design is not directly the subject of this research but due to the fact that this research provides a new understanding of urban design, it inevitably has educational consequences. University level education is identified as one of the key concepts influencing the interaction between theory and practice. Following Figure 11, education is one of the influences that can be managed by the professionals. Nevertheless, as the system of interaction between concepts is complex, education and educational changes cannot be seen as a solution, rather the contributions here are suggestions to enhance the condition of knowledge.

Teaching urban design, as was suggested by many interviewees, may be of benefit in a number of ways (a) more comprehensive understanding of cities, (b) more complex models, (c) critical thinking, and (d) encouraging students to bridge the gap between theory and practice in order to find new inspirations. Educational implementation of this research would encourage the students to learn orthodoxies of urban design but also develop an ability to critically distance themselves later on in their career.

Urban design cannot be seen as a set of skills, rather it is a way of thinking. Thus students must be encouraged to learn necessary skills whenever needed, in particular negotiation and communication skills, which seem to be absent in the existing educational systems (see Tucket and Farrell). The current educational system also has been criticised for not taking into account the economy of urban design that could be revised according to this research.

Another contribution of this research for the educational system is its reading of the shared body of knowledge. The reading of the shared body of knowledge in this dissertation concludes the influential texts. In this it goes beyond those who suggest a list without clear methodologies (Moudon, 1992; Ellin, 1999; Cuthbert, 2007a). The main differences of the list found here are that it is more comprehensive and it is more international compared to the suggested lists by previous studies. However, the shared body of knowledge found here is taken as "what urban designers need to know"

rather it is a departure point for more radical understandings and sets of suggested texts in various educational programmes.

Reflecting the contributions back onto the literature

This section briefly reflects the findings and contribution of the work back onto the literature by comparing what the findings mean in relation to key references of the research. This could be seen as a way to assess the value of the research findings.

In comparison with Cuthbert's work, this research has a similar scope in that it addresses the knowledge of urban design in a critical manner. What this research potentially adds to Cuthbert's works is its normative directions from the methodology, it also pictures a better (more systematic) understanding of key urban design texts (this is also the case when comparing this research to Moudon and Ellin). This research also established a more flexible theoretical foundation for urban design texts as for him only political economy can validate urban design theories. Whereas for this research different types of knowledge can be validatory, and theories are fundamentally social products (see p. 57). However, what came here in this research does not refute or reject Cuthbert's main arguments. It, rather, opens scope for a more complex understanding.

Moudon's work has also been a starting point in addressing the problem between theory and practice of urban design. Moudon's categorisation is horizontal (none of them stand on top of another) compared to the typology offered in this thesis, which is more vertical. In this sense the typology suggested here could be seen as a continuation of her seminal article.

In comparison to Lang's work, this research is far less bound to structure and models. He seems to expect urban design theory to offer generic solutions for generic urban projects but urban design, as pictured in this research, is more flexible.

The content of this research and the methodology of this research, in many ways, resonates with Dovey's works. He is a dominant voice advocating Deleuze and Guattari's philosophy as helpful for urban design. However, he often does not take this as a methodology to study the knowledge (even when he argues about knowledge, his argumentation does not seem to be Deleuzian). Dovey often takes the philosophy as the departure point to make a type one theory, his recent book (2016) seems to be a set of such type one theories that are aiming to collectively create a type two theory. The contribution of this research to his works is; a) its comprehensive philosophical understanding; b) employing the philosophy to understand the knowledge. Despite Dovey's reference to Deleuze and Guattari's seminal book his methods are not in any way different from traditional urban design methods. It seems that he takes this philosophy as a way of analysing whereas for this research the philosophy is capable of revisiting basic concepts of urban design such as normative directions, and concepts of space (see chapter 3).

Despite the fact that employing the philosophy in this research was not intended to contribute to the ongoing Deleuzian arguments, the findings of this thesis have few insights to offer to the philosophy. First insight is that this research can be recognised as an implication of the philosophy to the new domain of urban design thinking; evaluating the existing methodologies in comparison to Deleuzian philosophy (chapter 3); analysing the condition of the knowledge (chapter 3, 5 and 6); and finding methods to investigate links between people and concepts (chapter 5). The second insight is that this research adapts the philosophical suggestions as a new *normative* for urban design (chapter 3).

Further questions

This research has a broad scope which was calibrated through the research methodology. Nevertheless, the findings could be taken as an introduction to future researches. Key research questions raised by this dissertation in regard to each chapter are as follows.

How is the shared body of urban design knowledge in non-English tradition and how could it be compared to the English version? A similar investigation on non-English language urban design traditions could benefit from this research. Such research would make it possible to compare English language tradition and other traditions, and reflect on connections and disconnections.

How is the shared body of knowledge changing and what is indicating the change? A similar study at a different time could elaborate on the ways in which teaching urban design and the shared body of knowledge has changed. This would help to associate such changes to socio-political changes.

Would similar concepts be concluded, at different times, locations and disciplines? In this research, it was assumed that certain key concepts (discussed in the previous chapter) change slower over time. A similar research in another time could identify which concepts are changing faster and which ones are changing slower. Then it could be assumed that those concepts that appear influential in different times and places are in fact central concepts.

Explorations into politics of urban design and urban design education. This research highlights the fact that knowledge is an embodiment of power. Nevertheless, whose power in which ways are embodied in urban design, and how the practice of urban design is reacting to this dimension of knowledge, fall out of the scope of this research. Future research could benefit from this dissertation.

Complexity versus simplicity – which way to go? This dissertation relied on a reading of complexity in urban design literature. Nevertheless, simplicity can also be beneficial. Simplified models, frameworks and methodologies are fast in implication and understanding. The question then is when and why to choose one over the other? This research provides a basic vocabulary for this question, through its methodology and empirical studies.

Generally, urban design theory and language are simplifying the reality of cities inasmuch as the language that urban design uses to describe space is unable to address what is happening in the cities. Considering advantages of simplicity in certain cases, it seems to be a trade-off between simplicity, complexity and their benefits. More appreciation of complexity is less applicable and may broaden the gap between theory and practice, but it is closer to the reality of the system.

Critical or normative thinking - which way to go? Normative theories prescribe but critical thinking continuously questions the norms. Normative statements are associated with doing whereas critical thinking is associated with questioning the existing processes. There is an inevitable gap between these two intellectual mechanisms. Nevertheless, they both can contribute in research and practice as long as neither of them dominates the process. Future research could benefit from this dissertation when studying the balance between normative and critical thinking in the generation of theory and practice of urban design.

What is the nature of urban design creativity and the role of professional orthodoxies? Being creative is associated with bringing about new designs or theories. It is impossible to formulise creativity, nevertheless creativity needs to be in line with its society in order to be understood and successful. This dissertation suggests a simple categorisation of the sources of creativity; this is a research framework that could be a starting point for studying the nature of creativity in urban design.

Interviewees of this research have all made significant contributions to urban design. Nevertheless, almost all of them connect themselves with the orthodoxy or the main body of urban design knowledge. However, they define their own stance in accordance to their own critique of urban design orthodoxies. This implies that a successful professional requires an in depth awareness of the orthodoxies as well as a capacity to critically go beyond them.

7. References

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Appendix 1: List of universities that have courses on urban design

Country	Institution	Course title
India	Centre for Environmental Planning and Technology, Ahmedabad	Master of Urban Design
	School of Planning and Architecture Delhi	Master of Urban Design
Singapore	National University of Singapore	Master of Arts (Urban Design)
New Zealand	University of Auckland	Masters of Urban Design (MUrbDes)
Australia	University of New South Wales (Sydney)	Master of Urban Development and Design (MUDD)
	University of Adelaide	Master of Urban Design
	University of Melbourne	Master/PGDip in Urban Design
	University of Sydney	Master of Urban Design
		Graduate Certificate in Urban Design
	Curtin University of Technology	Master of Urban Design
	The University of Western Australia	Master of Urban Design
South Africa	University of Cape Town	Master of Urban Design and City Planning
		Master of Architecture (Urban Design)
Canada	University of Toronto	Master of Urban Design Studies
US	Arizona State University	Master of Urban and Environmental Design
	City College of New York	Master of Urban Design
	Cleveland State University	Master of Urban Planning, Design and Development
	Harvard School of Design	Master of Architecture in Urban Design: MAUD
		Master of Landscape Architecture in Urban Design: MLAUD
	Kent State University	Graduate Certificate/Master in

		Urban Design
	New York Institute of Technology	Master of Architecture in Urban and Regional Design
	Pratt Institute	MSc in Architecture and Urban Design (Post-professional)
	Savannah College of Art and Design	Master of Urban Design
	University of California, Berkeley	Master of Urban Design Degree
	University of Michigan	Master of Urban Design
	University of Texas, Austin	Master in Urban Design
	Washington University in Saint Louis	Master of Urban Design
Sweden	Lund University	Master of Sustainable Urban Design
	Royal Institute of Technology, Stockholm	Master of Urban Planning and Design
China	Technische Universitaet Berlin and ong ji University Shanghai	Dual Master Program Urban Design (Berlin and Shanghai)
Italy	Politecnico di Milano	MSc in Urban Planning and Policy Design
Ireland	University College Dublin	MSc in Urban Design
UK	Anglia Ruskin University	MPhil/PhD in Urban Design
	Bartlett School of Planning, UCL	MSc in Urban Design
		MSc in Building & Urban Design in Development
	Birmingham City University	MA/PGDip/PGCert in Urban Design
	Cardiff University	MA in Urban Design
	Edinburgh College of Art	PGDip/MSc in Architecture and Urban Design
		PGDip/MSc in Landscape Architecture and Urban Design
	Heriot Watt University	MSc/PGDip in Urban Design
	Lincoln University	MSc/PGDip/PGCert in Urban Design
	Liverpool John Moores University	MA in Architecture and Urban Design
	London South Bank University	MA in Urban Design
	Newcastle University	MA/PGDip in Urban Design
	Oxford Brookes University	MA/PGDip/PGCert in Urban Design

	Queen's University, Belfast	MSc in Urban and Rural Design
	University of Birmingham	MA in Urban Design
	University of Dundee	MSc Spatial Planning with Sustainable Urban Design
	University of Greenwich	MA in Urban Design
	University of Liverpool	MA in Civic Design
	University of Nottingham	MA/PGDip in Architecture and Urban Design
	University of Sheffield	MA in Urban Design
	University of Strathclyde, Glasgow	MSc in Urban Design
	University of the West of England	MA/PGDip in Urban Design
	University of Westminster	MA/PGCert/PGDip in Urban Design

Appendix 2: examining urban design readers

Author	Year	Problem	Subject	Goal of theory/text	Title	From which practice the text learns/ from which field they borrow theory (F)ailure OR (S)uccess
Tibbals	1992	Losing good places after the modern architecture	Making good place	Making people-friendly environment	*Places Matter Most*	
Madanipour	1996	Ambiguities about the concept of urban design	Knowledge of urban design	Make the subject of urban design clear	*Ambiguities Of Urban Design*	
Jarvis	1980	Separation between formal and behavioural studies, and research and practice	Theory of the knowledge of urban design	To fill the gap between theory and practice	*Urban Environments As Visual Art Or As Social Setting*	
Strenberg	2000	Theories are cut from larger streams of thought	Theory of urban design	Integrative theory for urban design	*An Integrative Theory Of Urban Design*	
A. Loukaitou-Sideris and T. Banerjee	1998	Socioeconomic changes in Western (down)towns	The meaning of the built environment	Urban design as the tool of shaping postmodern culture/ideology	*Postmodern Urban Form*	/Postmodern sociologists-philosophers
Varkki Gorge	1997	Weak academic identity	Knowledge of urban design	Meaningful explanation for contemporary urban design	*A Procedural Explanation For Contemporary Urban Design*	
Trancik	1986	Wasting space, caused by rapid urbanization of the modern movement	Physical form of city (mass, void and roads)	To redefine lost spaces	*What Is Lost Space*	Washington (typical American cities during 1960s and 1970s)(F)/
Martin	1972	Lack of understanding of the effect of grids on public	Physical form of the city	Providing theoretical framework for designing grids	*The Grid As Generator*	Plot form changes in Manhattan/
Kelbaugh	2002	Atomic (incoherent) city shape	Form of city	Make typology for city structure	*Typology: An Architecture Of Limits*	
Relph	1976	Manipulating places and understanding man's involvement in the world	People's understanding (perceiving) of place	Finding the components that make sprit of a place	*On The Identity Of Places*	Heidegger's philosophy
Lynch	1984	Misunderstandings and misusing and strength and weakness of the image of city	Assessment of theory of image of city	Clarify misunderstandings and show potentials of the image of city	*Reconsidering The Image Of City*	
Knox	1987	Finding the role of architecture after urban changes	The role of architecture in the society	To redefine the mission of architecture	*The Social Production Of The Built Environment*	/ Sociologists on making place

Sircus	2001	Unmatched content and structure of a place	Meaning (story) and the body of a place	To manage meanings and elements of a place	*Invented Places*	
Zukin	1995	Potentially repeatable aspects of Disneyland	Disney World (meaning of places)	Extracting and using positive points of Disney World	*Learning From Disney World*	Disneyland (S)/
Gehl	1971	Lack of social activities	Enhancing social interactions	Enhance optional activities	*Three Types Of Outdoor Activities*	
J.Jacobs	1961	Unsafely of big cities	Feeling safe/secure	Clearly defining public-private spaces, eyes upon street and users of sidewalk	*The Uses Of Sidewalks: Safety*	New York city 1950s (F)/
Banerjee	2001	Threats of new trends for public places	Conviviality of public places	Explaining aspects that reduce the quality of public places	*The Future Of Public Space*	/Sociologists on public sphere and life
Oldenburg	1989	Little attention to benefits of public (third) place	Activities in relation to place	Understanding the third place	*The Character Of Third Places*	
Goldberger	1996	Replacing public places with private ones	Comparison between street-oriented and privatised spaces	Warning against privatization and sub-urbanization	*The Rise Of Private City*	
Cullen	1961	Composition of buildings	Townscape and peoples' sense	To define the art of relationship	*Townscape: Introduction*	
E. White	1999	Categorizing and figuring out the features of good public places	Characteristics of good public places	Better understanding of form and content of different public places	*Path-Portal-Place*	
Cantacuzino[1]	1994	Other aspects of good building than its appearance	Successful building (good architecture)	To find criteria that make a good building	*What Makes A Good Building*	
Buchanan	1988	The lack of discussion on facades	Urban facades	Making rich facades	*A Report From The Front*	
Lang	1994	Incomplete definition of function by Modernists	How public spaces response to human needs	To redefine functionalism more completely	*Functionalism*	/ Social theories of human needs
Whyte	1980	How people use plazas	Activities in urban spaces	To find out properties of social public places	*The Life Of Plazas*	New York's urban spaces (1970s) (F)/
Carr, et al.	1992	Users need in public places	Aspects of successful space	How public places can serve the human needs	*Needs In Public Space*	
MacCormac	1994	The modern movement had destroyed what was good instead of improving it	Changes of urban fabric forms	Change in old fabrics	*Understanding Transactions*	London (F)/
Hillier	1996	Ignorance about means (form) and end (function) of cities	Spaces and activities (visibility and movement)	A theory of cities as means-ends system	*Cities As Movement Economies*	Rome, London / Math (Graph theory)
Bosselmann	1998	Weak education of movement in cities	Perceiving cities	Measuring the sense of time in walking	*Images On Motion*	Venice (compared to others) (S)/
Lynch	1972	What and why to preserve	Managing the built environment's change	Find the preferable level of change	*The Presence Of The Past*	Various (S)/

[1] The Royal Fine Art Commision.

Brand	1994	Buildings behaviour (change)	Physical changes of buildings	To figure out different pace of change in buildings	*Shearing Layers*	
Konx & Ozolins	2000	Cities as the symbolic communication of different groups	Symbolic aspect of the built environment	Understand different actors involved in making cities	*The Built Environment*	
McGlynn & Murrain	1994	Political aspect of urban design	Social values and urban design	To demonstrate democratic value of urban design	*The Politics Of Urban Design*	
Bentley	1999	The role of actors (designer)	Actors involved in city building	To inform actors of their role	*Heroes And Servants, Markets And Battlefields*	
Rowley	1998	Role and influence of private-property developers on the quality of urban design	Process of urban design	How property developers involve in developments	*Private-Property Decision Makers And The Quality Of Urban Design*	Berkshire, west London, Buckinghamshire, Birmingham, Essex/ (S&F)
Scheer	1994	Design review are controversial	Process of urban design	Assessment of design review	*The Debate On Design Review*	
Dunay , et al.	2000	Suburban development features	Process of urban design	To learn from policies and plans on American suburban developments	*The Inner City*	

Table 20: Urban design readers, the main theoretical point of each piece (Carmona & Tiesdell, 2007).

Author	Year	Problem	Subject	Goal of theory/text	Title
Manuel Castells	1983	How to transform social reality to special structures	Social meanings and function of cities	How and why cities change	*The City And Grassroots*
Paul Walter Clarke	1989	How changes in economy become manifest in urban landscape	Meaning and forces behind (making) urban form	To argue that the shift in architectural philosophies reflects a transition in capitalism, production / controlling the space	*Restructuring Architectural Theory*
Sharon Zukin	1988	Trouble in moving postmodernism into debates about urban form	Meaning of urban form from postmodern view	To apply postmodern debates on urban form	*The Postmodern Debates Over Urban Form*
Manueal Castells	1983	Insufficiency of reducing the space and abstracting it from the society	Historical relationship between space and society	Developing a framework to see how special aspects of urban movements makes urban meanings	*The City And The Grassroots*
Dolores Hayden	1996	Losing public memories in urban projects	The meaning of urban form and the influence of the urban projects on collective memory	Considering different groups' memories of urban landscape to enhance the identity	*The Power Of Place*
Abraham Akkerman	2000	What is reflecting by urban form	Various meanings of urban form in different historical eras	Equilibrium between cosmetic view and urban form before postmodernism and disequilibrium afterwards	*Harmonies Of Urban Design And Discords Of City Form (Journal Of Urban Design)*
David Harvey	1992	Better understanding of cities is necessary	Justice, policy making and postmodernism	To show what is just planning and practising policy	*Social Justice, Postmodernism And The City (Journal Of Urban And Regional Research)*
Christian Norberg-Schulz	1976	Reducing place to abstract concept	What is phenomenological meaning of place and landscape	To show what is the place and how it gives meanings to life	*The Phenomenon Of Place*
Mark Gottdiener	1986	De-concentration of cities	To interpret malls	To show malls worsening	*The City And The Sign*

		makes the malls successful	based on semiology	the problem of consuming-direct life style	
Ali Madanipour	1999	Threats of polarization and segregation entices urban autonomies to pay attention to public spaces	The social significance of urban design	To show social importance of urban design to reintegrate the society	*Why Are The Design And Development Of Public Spaces Significant To Cities (Environmental And Planning B: Planning And Design)*
Peter Marcuse	1998	How power constructs meaning in the case of Berlin regeneration	The political aspects of design and construction	How a construction represents political powers and produces symbolic meaning	*Reflection On Berlin Journal Of Urban And Regional Research*
Rosalyn Deutsche	1996	Social reactions to a public art	Public art and the public	Distinguishing between the players dealing with public art	*In Eviction: Art And Special Politics*
Gwendolyn Wright	1988	The mutual interest of architecture and history in opposition to the Modernism	Meanings of urban form and its change during history	Historians and architects need to have multidisciplinary view to understand cities	*Urban Spaces And Cultural Settings, Journal Of Architectural Education*
Sharon Zukin	1991	Powers that transfer designing from place to market	Powers behind designing	The process that make various time-space in cities	*The Landscape Of Power*
Lawrence Knopp	1995	How sexuality forms and is formed by city	Groups (genders) and urban design	To illustrate a framework for the relationships between certain sexualities and spaces	*Sexuality And Urban Space In Mapping Desire*
Liz Bondi	1992	Versions of femininity and masculinity articulated in contemporary urban change	Genders in cities and symbolic meaning of city	Reading the gender symbols in urban landscape	*Gender Symbols And Urban Landscape Progress In Human Geography*
Dolores Hayden	1985	How environments restrict woman's activities	Social justice in urban form for women	Proposing a combination of agencies and built environments that equally treats women	*What Would A Non-Sexist City Be Like Ekistics*
Peter Newman &J Kenworthy	1999	Questions of sustainability for cities	Sustainability and urban design	Exploring sustainability in cities	*Sustainability And Cities*
G.J Ashworth	1997	Dichotomies between heritage and preservation	Controlling the urban change	Why and which parts of city to save from change	*Conservation As Preservation Or As Heritage, Built Environment*
Jennifer Wolch	1996	Ignoring animals in urban theories	Nature and urban design from political economy point of view	To foreground an urban theory that takes animals seriously (trans-species urban theory)	*Zoopolic Capitalism, Nature, Socialism*
Jon Lang	1987	What is the beauty in built environment	Behavioural study and aesthetic theory	Contribution of the behavioural sciences to the understanding of aesthetic	*Creating Architectural Theory*
Aldo Rossi	1984	What is the nature of urban artefacts	Cities as a work of art	To see urban forms as unconscious and collective artefacts	*The Architecture Of Cities*
Barbara Rubin	1979	Dichotomy between culture and function of urban commerce	Ideological impact of economy	How aesthetic is being merchandised	*Aesthetic Ideology And Urban Design Annals Of The Association Of American Geographers*
Rob Krier	1979	Losing the sight of the traditional understanding of urban space	Typology of urban spaces	Providing better understanding of the open spaces based on their form	*Urban Space*
Sarah Chaplin	2000	Space of Others	Different meanings and activities in cities	Interpretation of Las Vegas based on Foucault's idea of heterotopia	*Heterotopia Destra*
Paul Knox	1988	How professions responding the new set of socioeconomic forces	Theory of the process of urban design	Shift from manufacturing employment to service	*The Design Profession And The Built Environment*
Anne Vernez	1992	What is characteristic of	Theory about	Defining epistemology for	*A Catholic Approach To*

Moudon	urban design theory and what are its fields of study	(theories of) urban design	urban design		*Organizing What Urban Designers Should Know*

Table 21: Urban Design readers, the main theoretical point of each piece (Cuthbert, 2003).

Author	Year	Problem	Subject	Goal of theory/text	Title	From which practice the text learns/ from which field they borrow theory
Edmond Bacon	1963	Decisions that influence urban form	The designer role in response to the built environments	To show how to enhance the forms of cities	*Design Of Cities*	Rome, Florence during Renaissance/No
Marshall Berman	1982	How changes in cities affected the society	Social reaction to boulevards in literature	To find the understanding of modernization	*All That Is Solid Melts Into Air*	Paris after industrial revolution/
Fredrick Olmsted	1870	Industrial city life threatening wellbeing	Parks in cities	To show the importance of parks	*Public Life And The Elements Of Towns*	
Camillo Sitte	1898	Functional plans for cities	Artistic city planning	To show history has much to offer for artistic planning	*The City Planning According To Artistic Principles*	
Lewis Mumford	1946	Misunderstandings of Howard's idea	Introducing the Garden Cities	To support nature-friendly urbanism	*The Garden City Idea And Modern Planning*	
Clarence Perry	1929	City development	Shaping cities/regions	Suggesting a model for regional city development	*The Neighbourhood Unit*	
Le Corbusier	1929	Post-industrial city is beneath the man	Modern movement of planning	Tower-in-park model	*The City Of To-Morrow And Its Planning*	
Jane Jacobs	1961	Misunderstanding of cities by modernists	Critics of modern city planning	How cities work (role of sidewalks in social cohesion)	*The Death And Life Of Great American Cities*	New York in 50's/
Christopher Alexander	1979	To show the older tradition of designing	Core of all successful processes of growth	To introduce the generative process that shapes the urban patterns	*The Timeless Way Of Building*	
A Jacobs & D Appelyard	1987	Dehumanization of planning	Ideas for urban fabric to bring urban life	Larger social goals (social life)	*Toward An Urban Design Manifesto*	
Kevin Lynch	1981	Lack of theoretical view relating values to urban form	A normative theory of city form	Criteria that relates value to city form	*Good City Form*	
Edward Relph	1976	Endless similarity of the built environments	Directly experiencing the cities	To show the human's need of place	*Place And Placelessness*	
C Norberg-Schulz	1976	Reducing place to abstract concepts	What is the phenomenological meaning of place	To show what is place and how it gives meaning to life	*The Phenomenology Of Place*	
Ray Oldenberg	1989	Lack of community in suburbia	Third place	To show the importance of the third place for society	*The Great Good Place*	
Kevin Lynch	1969	How people perceive cities	Elements of the image of cities	How to make a pleasant city	*The Image Of The City*	
Gordon Cullen	1959	How to gather urban elements	Emotional impacts of city form	Connection elements and people	*The Concise Townscape*	

Michael Hough	1990	Losing the natural roots in cities	Nature and the cities	To connect cities to their region	*Out Of Place*	
Douglas Kelbaugh	2002	What kind of architecture is appropriate for regions	Nature, history and making place	Picturing the concept of critical regionalism	*Repairing The American Metropolis*	
Dolores Hayden	1995	Marginalised groups in planning	Memories of places	To uncover the forgotten urban history	*The Power Of Place*	
Nan Ellin	1996	What are responses to challenges of placelessness and need for community	Historical and theoretical contexts of urban design	To show the reactions to modernist architecture and planning	*Postmodern Urbanism*	
Rem Koolhaas	1994	Present-day needs of society	Meaning and history of urban form	To liberate cities from centre and historical form	*S M L Xl*	
Leon Krier	1984	The critiques of modern city	Traditional urban form compared to modern	To show the values of traditional urban form	*Houses, Places Cities*	
Anthony Vidler	1976	Fragmentation of cities caused by different approaches	Different Approaches in shaping cities	Empirically-based integration between history and urban form	*Opposition 7*	
Anne Vernez Moudon	1994	Ambiguities about typology	Schools of typology	Classification of buildings and open spaces	*Ordering Space*	
Oliver Gillham	2002	Urban developments (sprawl)	Forces of developing urban form	To show causes and characteristics of sprawl	*Limitless City*	
Congress of new urbanism	1996	Disinvestment in central city, placeless sprawl, separation by race and income, environmental deterioration	Strategies for achieving good city	Describe ways of delivering good city	*Charter Of New Urbanism*	
Eduardo Lozano	1990	What is good density	Density and urban form	To compare different densities of urban form	*Community Design And The Culture Of Cities*	
Hildebrand Frey	1999	Lack of criteria for sustainable urban form	Sustainable urban form	To add sustainability to urban form debates	*Designing The City*	
William H Whyte	1980	How people use space	Behaviour and in public spaces	To find reasons of successful and unsuccessful spaces	*The Social Logic Of Small Urban Spaces*	New York 1970s/failure and success
Jan Gehl	1987	Poor environments prevent social activities	Designing to encourage social behaviours	How to encourage life between buildings and social behaviours	*Life Between Buildings*	
Clare C Marcuss, Carolyn Francis	1998	What is urban plaza	Types of open space	To develop design guideline for plaza	*People Places: Design Guidelines For Urban Open Space*	
Randolph Hester	1975	What is neighbourhood	Urban form and behaviour	To enhance neighbourhoods spaces in urban renewal designs	*Neighbourhood Space*	
Allan Jacobs	1993	Why some streets are not good	Designing streets	To find what make a good street	*Great Streets*	
David Sucher	2003	Car movements in cities	Traffic and street design	How to calm automobile movements in streets	*City Comforts*	

METRO	2002	Exclusive traffic consideration in designing streets	Considering streets as a part of nature	Strategies for implementation of green streets	*Green Streets*	
Robert Cervero	1998	Transportation and the problems of city	Transportation and society	To show the condition of metropolis transit and demystifying transportation beliefs based on case studies	*The Transit Metropolis*	
Anne Vernez Moudon	1992	What are the characteristics of urban design theory and what are its fields of study	Theory about (theories of) urban design	Defining epistemology for urban design	*A Catholic Approach To Organizing What Urban Designers Should Know*	
Jon Lang	1994	Nature of urban design	Theory about urban design	Defining urban design and the role of urban designer	*Urban Design The American Experience*	
Matthew Carmona and others	2003	Communicational gap between different groups involved in urban design	Communication and presentation of urban design	Typical types of the communication of urban design	*Public Places Urban Spaces*	
Scheer C Brenda	1994	What 'a design review' should be	Design process	To show difficulties and necessities of design review	*Design Review: Challenging Urban Aesthetic Control*	
John Punter	1999	What are the characteristics of best urban design policies in practice?	Urban design policy (implementation process)	To encourage innovation in design guidelines and review in other contexts than USA	*Design Guidelines In American Cities*	

Table 22: Urban Design readers, the main theoretical point of each piece (Larice & MacDonald, 2007).

Author	Year	Problem	Subject	Goal of theory/text	Title	From which practice the text learns/ from which field they borrow theory
Janet Abu-Lughod	1987	Over-generalisation about Islamic cities	Forces shaping Islamic cities	To de-mythologise urbanism	*The Islamic City*	
William Wilson	1989	Understanding city beautiful movement	Theoretical movements that influence urban design	Socio-political aspect of the city beautiful movement	*The City Beautiful Movement*	
Richard Marshall	2008	How urban design emerged	History of urban design	Explaining the urban design conference in Harvard	*Josep Lius Sert: The Architect Of Urban Design*	
Christopher Alexander	1965	Problems caused by reducing cities to branched diagrams	What is a nature of cities (how designers should understand cities)	Cities as multi-layered and complex phenomenon	*A City Is Not A Tree*	
R Venturi and D Scott Brown	1972	Dissatisfactions of application of modern city	Meanings and lessons in existing landscape	Learning from and respecting the current urban landscapes	*Learning From Los Vegas*	Las Vegas

C Rowe & F Koetter	1975	Weak science used to support project justifications, retarded nature of architecture debates	What urban design theory should be	Urban designers should use both collage	*Collage City*
Brenda Case Scheer	2010	Why planners haven't been successful in making desirable landscape/ How to control urban design	Typo-morphology (typologies of urban form)	Achieving better landscapes by manipulating type changes/ Using typology and morphology in urban design	*The Evolution Of Urban Form*
Margaret Crawford	2008	Abstract principles of professional design discourse about cities	A theory of urban design (everyday urbanism)	Urban design should be informed by everyday activities	*Everyday Urbanism*
Lawrence Frank ect	2003	(The American) built environments exacerbate physical inactivity of citizens	Health and urban design	Suggestion about how make more walkable and cyclable cities	*Health And Community Design*
Ali Madanipour	2010	Changing nature of public spaces	How society and public spaces interact	How is the production and controlling of the public spaces	*Whose Public Place*
Ian Bentley	1999	The roles of actors in form-production	(Economic) Powers behind urban form	Declaring transformations of capital to the built environment	*Urban Transformation*
Yaser Elshestawy	2011	Uneven urbanization caused by globalization on Arab cities	Urbanism's problems in other contexts	Problems of the urban development in Arab countries	*Urban Dualities In The Arab World*
Thomas Campanella	2008	Rapid urbanisation in China	Urbanism in China	Characteristics of urban change in China	*The Concrete Dragon*
Ian McHarg	1967	Bridge between the natural science and planning / design professions	City and nature	Techniques of considering cities as a part of the nature in Planning	*An Ecological Method For Landscape Architecture*
Charles Waldheim	2006	Problems caused by planning	Nature and urban design	To see cities as a part of nature (landscape urbanism)	*Landscape Urbanism*
Alan Berger	2006	Deindustrialised waste lands	Nature and urban design (waste lands)	Strategies for designing with drosscape	*Drosscape: Wasting Land In Urban America*
Timothy Beatley	2008	How sustainability is being applied	Assessing the sustainable urban design	Surveying key sustainability ideas in European cities	*Planning For Sustainability In European Cities*
Peter Newman ect	2009	How cities react to climate change and carbon footprint	Nature and city	Finding characteristics of resilient cities	*Urban Resilience*
Alex Kriger	2008	Unsettledness of urban design, need for something called urban design	Theories about urban design, understanding of urban design	Mapping the territories (spheres of action) of urban design	*Where And How Urban Design Happens*

Elizabeth MacDonald	2013	Concentrations of urban design in planning programmes	Teaching urban design	Multiple learning objectives of urban design studios	*Designing The Urban Design Studio*	Original text
Michael Sorkin	2009	Inability of urban design to answer existing challenges	Theory about urban design, what urban design should be	Reconceptualisation of the field to meet the current cities need	*The End(s) Of Urban Design*	
Kenneth Greenberg	2009	Dichotomy between new urbanism and post urbanism	What urban design should be	Integrating the oppositions of academic discourse in practice	*A Third Way For Urban Design*	

Table 23: Urban Design readers, the main theoretical point of each piece (Larice & MacDonald, 2013).