Reflective Practice in Urban Design

The role of theory in the creative process of urban design

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Abstract. This paper presents part of a PhD that explores the ways in which theories in urban design influence the process of urban design, and the extent to which they may inform design decisions. The focus of the paper is the empirical stage of the research; the execution of a site evaluation, urban design framework and masterplan design for Croydon in London, a commentary recording that process, and the subsequent analysis of it. Reflection on that process and product appears to indicate that theory's influence in the creative process of urban design is distinctive but subservient to a variety of other influences. Apparently, the more conceptual and strategic the stage of design, the more extensive and explicit theory's influence is. Conversely, the more spatial and detailed the stage of design, the more tacit and fragmented theory's involvement seems to be. It is often implicit, embedded within the guiding principles that the individual designer exercises when generating and evaluating ideas, evidenced in the thought processes and decisions that are made.

Keywords. Reflection; urban; theory; design; analysis.

Introduction

This paper presents part of the research undertaken for a PhD by design, the interest of which is the role of urban design theory in the creative process of urban design. The focus of the paper is the empirical stage of the research; the process of design, commentary and analysis. In conclusion, some initial findings are considered.

Theory and urban design

Acting within the context of multiple constraints (site, budget, brief, clients, users, public policy and regulation) the urban designer is required to respond to various and sometimes conflicting interests in "...the symbolic attempt to express urban meaning in certain urban forms." (Castells, 1983). In this complex situation some design decisions are determined by the inherited context however, when a decision cannot be determined this way the designer must make a judgment. These decisions may be made arbitrarily but it is more likely that the individual uses some form of criteria. A variety of sources including experience, education, episodic knowledge, currently accepted paradigms of the field, or theories in urban design may form the bases for criteria, and subscription to them may be explicit or implicit.

This paper discusses research that seeks to explore the ways in which theories in urban design might influence the creative process of urban design. Its objectives are to study existing theory related to design, examine the process of design and urban design, and relate knowledge of urban design theory to the design process. Since the design process and its evaluation are specific to the author they cannot be assumed to be generally applicable however they may act as indicators of trends in the relationship between theory and practice in urban design.

The reflective approach

Under this philosophy of research by design, a strategy based upon Donald Schön's 'The Reflective Practitioner' (1983) has been developed. It consists of a literature review; appraisal of research by design

methodologies (Montague, 2012); generation of an urban design by the author and an accompanying commentary; analysis of the commentary; reflection on the findings in the context of the literature review.

Design

The design and reflection on it are used "...to gain new insights and understanding upon practice – as post rationalisation on 'ordinary' practice." (Niedderer, Roworth-Stokes, 2007). The design component of this research includes standard outputs of urban design - a socio-economic, cultural and physical site evaluation, an urban design framework (see fig.1) and a masterplan proposal. After considering a range of options against established criteria, Croydon in Greater London was selected as the site for design.

Commentary

A commentary of the design process is kept to build an evidence base of design activity and making implicit behaviour explicit. This merely records the actions undertaken as the design progresses and the reasons for those actions, and is not analytical. It is what might be termed 'descriptive reflection' – "...a factual account of an event." (Hatton and Smith, 1995, quoted in (Pedgley, 2007) or could viewed as an example of Schön's reflection-in-action as it documents the designer's reasoning when engaging directly with the design process (Schön, 1983).

This method of documenting design activity is thought by Pedgley (2007) to be a highly valuable and underused tool in the research work of individual designer/researchers. His review of approaches to documenting own design activity shows the keeping of a diary as a more suitable choice than action research or participant observation as these involve interaction with others which may not always be relevant or possible.

A commentary could be written concurrent with designing or retrospectively (Pedgley, 2007). The concurrent format is as close as possible to the act of designing as design is paused momentarily in order to make an entry. Pedgley's experience of this approach led him to conclude that it is disruptive to the act of designing and his experience of daily entries was preferable, deemed to be "...neither too close to the activity so as to intrude upon it and reduce authenticity, nor so distant to risk excessive post-event rationalisation and misremembered information" (2007). Based on this evidence, entries for the design diary of this research were intially made on a daily basis. Commentary activity also endeavoured to conform to the criteria for good practice in design diary keeping shown in Table 1, based on Pedgley's suggestions.

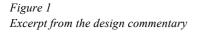| Chronology	Describe work in the same sequence that it occurred.
Clarity	Keep entries intelligible, insightful and honest.
Focus	Keep entries succinct, not crafted.
Record images	Record images of developing models.
Diary admin	Ensure that all diary sheets are numbered and ordered.
Drawing and modelling admin	Ensure that all drawing and modelling outputs are numbered and dated to aid cross-referencing.

Table 1

Criteria for good commentary practice

In line with these suggestions, and in order to document the practice in an archivable format which uses as little text as possible (Rust et al., 2000), the diary of design work for this research was kept in a tabular format, chronologically and cross referencing external material such as sketches (see fig.1) so that it can be conveniently archived and presented in full in an appendix to the thesis (Flavell, 2001).

	Action	Reason	Image Ref.
3.31.	Think in particular about the overground pedestrian crossings which permeate the Lisbon precedent.	To recognise an integrated aspect of the precedent which addresses one of the key objectives for the Wellesley Road including the council's desire to replace the pedestrian subways.	
3.32.	Think about what spacings might be reasonable to support the prioritisation of pedestrian movement over that of private vehicular movement.	To make sure that the application of the principle will achieve the improvement in permeability that is desired.	
3.33.	Sketch 50m-100m spacings on a generic model of the Wellesley Road layout.	To test and develop an abstract model with the exact placement of the crossings to be adapted later to the context either side of it.	M6
3.34.	Compare this to the spacing of crossings in the Grassmarket, Edinburgh.	To check what the proposed spacings are relative to a known example.	

Figure 1
Excerpt from the design commentary

Analysis

Having completed the commentary, it is important to assign attributes to each entry in order to process the large volume of raw data and start to understand what it showing (Pedgley, 2007, Gero, McNeill, 2006, Matthews, 2007). The following steps are taken to process the commentary in this work:

1. All sketches referenced in the diary are digitised so that they can be included in the research results.
2. The material is reviewed to see if any critical steps in the design have been erroneously omitted. Additionally, any off-topic entries are purged.
3. Individual entries are classified using codes informed by the findings of the literature review.
4. Shorthand, abbreviations and acronyms are expanded.
5. The activity is analysed chronologically and by category to find relevant phenomena and pick out any trends.

The classification of each commentary entry is done in several ways (see Table 2). Four categories are determined by the different aspects of the research objectives, in line with the literature review: the type of design activity; the type of influence acting upon it; whether this influence is explicit or implicit; and, where theory appears to have been an influence, what type of theory.

Categories	Type of design activity	Type of influence	Implicit/ explicit	Type of theory
Codes	Definition of the problem Setting of objectives Generation of alternatives Evaluation of alternatives Synthesis/selection of alternatives Communication of ideas	Site Policy Client Site evaluation Objectives Precedents Guiding principles Personal experience Theory	Implict Explicit	Procedural Substantive

		Land owndership		

Table 2
Analysis categories and codes

Within each of these categories, codes are established according to the findings of the literature review. For example, the review of literature pertaining to the design process showed that although a range of models and representations exist (generic as well as specific to urban design), and despite variations in terminology, essentially the underlying stages and activities which are defined remain the same (Moughtin, 1999; Punter, 1997; Cowan, 2003; Lawson, 2006; Lang, 2005). These are drawn out and used as the codes for describing what type of design activity is taking place in each commentary entry (see Table 3). These classifications are intended to show where and how theory may have been an influence, tacitly or otherwise.

Initial Findings

After applying these categories to the design commentary, some initial findings are beginning to emerge. At the current stage of research, reflection on the urban design undertaken by the author appears to indicate that urban design theory does not have a major impact on the design process and product, relative to other influences. Crucially, it is limited by and subservient to constraints such as site, brief, and policy. These appear to inform the design with greater frequency.

Seemingly, the more conceptual and strategic the stage of design, the more extensive and explicit theory's influence is. In the example shown in figures 2 and 3, theory, in the form of Peter Calthorpe's 'Transport Oriented Development' (1993) is consciously deployed as a device which provides clear strategic guidance which responds to the diagnosed problems as well as the designer and client's objectives.

	Action	Reason	Image Ref.	Type of design activity	Type of influence	Implicit/Explicit	Type of theory
2.13.	Decide that movement is a, or even the, major driver for this scheme and that a clear strategic approach is needed.	Appraisal of initial ideas and reflection on finding of site evaluation clarifies position.	-	Synthesis or selection of alternatives	Site evaluation	Explicit	-
2.14.	Refer to Calthorpe's 'Transport Oriented Development' (Calthorpe, 1993). Note points of relevance.	Looking for guidance on how this broad approach may be handled.	-	Generation of alternatives	Theory	Explicit	*Substantive theory (theory in)*
2.15.	Sketch Calthorpe's abstract ideas of TOD and associate the levels with the site in hand.	To clarify the context and find a strategic approach to guiding the concepts of the framework.	F03	Generation of alternatives	Theory	Explicit	*Substantive theory (theory in)*
2.16.	Sketch an intial idea of how this may broadly be applied to Croydon.	To reflect on what the implications of this theoretical approach might be for the specific site.	F04	Generation of alternatives Evaluation of alternatives	Theory	Explicit	*Substantive theory (theory in)*

Figure 2
Excerpt from the commentary analysis

Figure 3
Sketches relating to commentary entries 2.15 and 2.16

Conversely the more spatial and detailed the stage of design, the more tacit and fragmented theory's involvement appears to be (see fig.4). It is often implicit, embedded within the guiding principles that the individual designer exercises, evidenced in the thought processes and decisions that are made. Figure 4 shows an instance of this, in which the constraints of the site and its land ownership dominate the attemptsto increase permeability and organise built form to present public fronts to the street. Although not overtly subscribing to them, these aims seem to originate from the principles contained in publications such as 'The Death and Life of Great American Cities' (Jacobs, 1962), 'Responsive Environments' (Bentley, 1985) and 'Cities for People' (Gehl, 2010).
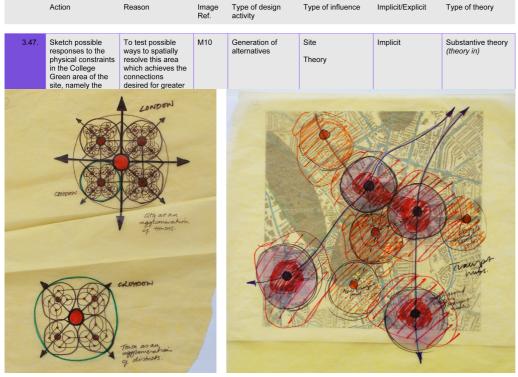

	Action	Reason	Image Ref.	Type of design activity	Type of influence	Implicit/Explicit	Type of theory
3.47.	Sketch possible responses to the physical constraints in the College Green area of the site, namely the	To test possible ways to spatially resolve this area which achieves the connections desired for greater	M10	Generation of alternatives	Site Theory	Implicit	Substantive theory *(theory in)*

Figure 4
Excerpt from the commentary analysis

Although in some instances theory appears to provide direct guidance, other occurrences appear to show the extrapolation of a theory's principles to inform decisions about specific situation in hand, as the evidence in figure 5 suggests. Here, the adopted strategy of Transport Oriented Development is interpreted when trying to make a decision about the level of car parking provision which should be incorporated.

	Action	Reason	Image Ref.	Type of design activity	Type of influence	Implicit/Explicit	Type of theory
2.75.	Decide that where density and transport options are greatest, private vehicular access will be limited most and that therefore parking should be located at the edge of the dense town centre, regarding the new Wellesley Road as a threshold and connection to public transport options.	To respond to objective one in line with TOD approach that has been adopted.	-	Synthesis or selection of alternatives	Objectives Theory	Explicit	Substantive theory (theory in)

Figure 5
Excerpt from the commentary analysis

Conclusion

There appear to be three initial, substantive findings, all of which might reasonably have been predicted prior to the research. In addition, at this stage, there is one main outcome in relation to the working process.

The findings in relation to the research question are: Theory's influence in the creative process of urban design is distinctive although it is subservient to a variety of other influences, particularly constraints such as site, brief and policy. At a strategic level it is used more extensively and explicitly while at a spatial level its contribution is more implicit. Initial analysis indicates that, in a conscious manner, a theory's principles can be employed directly or interpreted in a new scenario. Unconsciously, it can be seen to be embedded within guiding principles applied to the generation and evaluation of design ideas. Yet to be deciphered from the design, commentary and analysis is to what extent theory adopted at the strategic level of the urban design framework then affects design decisions made later at the spatial masterplan level or whether the two act independantly of one another.

The methodological approach appears to have provided sufficient and credible evidence of theory's role in urban design's creative process and product. As anticipated by Pedgley (2007), maintenance of the commentary was unvoidably disruptive to designing. The indended daily entries were sometimes made less frequently whilst at other times were made several times a day. However, provided the recording of material (sketches, models and commentary) is rigorously administered, it seems capable of making design activity, including tacit aspects, transparent and communicable.

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