



Urban design: requiem for an era – review and critique of the last 50 years

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From the time cities first evolved, they have been subject to human intervention at every level of activity – in other words they have been designed. The following paper argues that since this process was formalized at the beginning of the 20th century as *urban design*, its rationale as a discipline has been fraught with consequence. It has been continuously defined as *other* – half way between the two professions of architecture and urban planning. This unjustified otherness has been reflected in approaches to urban design theory. Even the middle ground which urban design is supposed to occupy is an amalgam of architectural and planning ideologies and practices. The following paper takes a hard look at the last 50 years, exposing the most serious attempts to synthesize or theorize significant urban design paradigms. While each attempt has much to commend it, variously exhibiting great insight, dedication, knowledge and scholarship, I feel that the collective result has been a generalized anarchy of creative ideas that bear little coherence, either internally or collectively. Whether this is ‘good’ or ‘bad’ is beside the point, it is where evolution has brought us. Nor does this situation signify any immunity on my part to the uses of disorder, chance and chaos, in the spirit that ‘there is no idea, however ancient and absurd, that is not capable of improving our knowledge’ (Feyerabend, 1975, p. 33). The hypothesis explored below proposes that the failure has an obvious cause – there has been no concerted attempt within the discipline to link the material creation or ‘designing’ of urban space and form to fundamental societal processes. More importantly, this linkage is desirable, and can be made. The fracture has many causes – historical, professional, ideological, academic, egocentric, as well as misplaced idealism. Rather than pursuing the quest for an integrated theory which has little possibility of success, I argue that a better outcome already exists in spatial political economy, itself a somewhat anarchistic pursuit, but one of better quality. The framework of ideas which it encompasses offers urban design both legitimation and theoretical coherence. In so doing, urban design can exit the nefarious middle ground allocated to it by architecture and planning. Instead, it can connect directly to the economic, political, social and cultural processes which structure social life.

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They wanted to know, they wanted to learn, they wanted to understand the strange world around them – did they not deserve better nourishment? (Feyerabend, 1975, p. 264)

Introduction: the problem

Traditional Urban Design ‘theory’ is anarchistic and insubstantial. This is a situation, which has

been ongoing for the best part of 50 years, offering unprecedented opportunity for debate and resurrection. Urban Design is a discipline where almost without exception its major proponents have failed to engage with any substantial theory in the cognate disciplines of economics, social and political science, psychology, geography, or the humanities. We can push this idea even further and say that it has not even embraced what today would be recognized as significant sub-disciplines, such as urban geography, urban economics, urban sociology, or cultural studies, the latter only recently emerging as a major force in design theory. Urban design practice is perilously close to

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a social technology without the grounding in social theory that would allow critical self-reflection to flourish. Problematically, this effectively locates urban design as being several realms removed from any substantial theory at all. At its weakest it could be seen as merely an extension of the architectural imagination or the physical consequence of state planning policies. Both of these are somewhat nihilistic attitudes that fail to accept, as I hope to demonstrate, that urban design can stand on its own as a legitimate theatre of activity with an acceptable theoretical signature. Nonetheless, the enduring dependency on architecture and planning remains, largely due to the historical relation of urban design to these two professions. The first position one could take on this situation, as indeed many practitioners and academics do, is to accept that:

Its power derives from the fact that, irrefutably, it is a deeply embedded social practice that societies have valued from time immemorial, and therein lies its value. As such it does not have to justify its existence through reference to a discrete set of home grown theory (Cuthbert, 2003, p. 10)

While at one level this is true, the question is not how the practice of urban design is to be understood, but how one is to determine its object; either real or theoretical, on which basis the discipline can establish its credibility. The next task is to generate some explanatory framework rooted in substantial theory that explains this object. In order to do this we must begin by defining what we mean by 'Urban Design', its relationship within a hierarchy of practices, from architecture through urban design into urban and regional planning, and the social function of each within a larger and more substantial social context. While the stress here is on a theory of urban design rather than theories for urban design, the reason is simply because the former has been ignored and the latter has suffered in consequence.

In pursuing this line of reasoning, significant propositions are suggested below which will probably expand rather than confine debate, and due to their nature will unlikely be answered. For example, is urban design an art or a science? If it is an art, this removes the discipline entirely from the realm of scientific enquiry. On the other hand, if it is a science, to which branch should it belong,

and how does it fit within the philosophy, logic and rationality of scientific endeavour? Such questions have no simple answers, and the mystery that surrounds them will remain. My approach is therefore to offer some propositions about the current state of urban design knowledge, emerging from our best efforts over the last 50 years, with the sole purpose of increasing its integrity and legitimacy. I see this first and foremost requiring a commitment by those who teach and practice the subject, to recognize that it needs a foundation which is presently lacking. At the moment, urban design is largely fragmented in its practices, theories and methodologies. Following Alfred North Whitehead's dictum that it is more important that a proposition be interesting than that it be true (although a true proposition is more apt to be interesting than a false one) – I suggest five propositions below that form the substrate of this paper. I maintain that these are central both to the legitimation of urban design and to its relevance as a social practice.

Proposition 1: *Urban design is self-referential and is neither informed by, nor committed to, any external authority in intellectual terms.*

As a result, the discipline is denied any autonomy. To quote Paul Feyerabend:

How can we discover the kind of world we presuppose when proceeding as we do? The answer is clear: we cannot discover it from the inside. We need an external standard of criticism, we need a set of alternative assumptions, or as these assumptions will be quite general, constituting an entire alternative world, we need a dream world in order to discover the features of the real world we think we inhabit... ..the first step in our criticism of familiar concepts and procedures, the first step in our criticism of 'facts' must be an attempt to break the circle (Feyerabend, 1975, p. 22)

As both theory and praxis, urban design is caught in such a circle, and this paper constitutes an attempt to find an appropriate way out. As it stands, urban design has no external standard of criticism that complements or addresses its internal fractures and inconsistencies. It is a real scientific anomaly, a region of knowledge with an inside but no outside. Whatever legitimation it does have is stitched together by imagination in academic life and regulation in practice. This

seems to me to be insufficient. Following from this,

Proposition 2: *Urban design must reorient itself to social science as its wellspring, specifically urban sociology, geography, and economics.*

The simple rationale for this position is that the organization of cities reflects the organization of society. Social space and form is our fundamental object of concern. Abstract exercises in spatial form must weld to the demands of social process.

In relating urban design to the social sciences, it is clear that the precepts of scientific enquiry apply, and I am aware of the difficulties involved in this position. Later we will see how the attempt to create a specifically *urban* sociology during the 1980s was fraught with conflict, the normal situation when any serious scientific or philosophical enquiry is undertaken. At least the concept was debated for some 10 years, whereas in *urban* design the term remains meaningless since most urban designers have been insulated from social theory by their education. Ask most urban design practitioners what *urban* means and one falls immediately into a morass of subjectivity and confusion. Borrowing from urban sociology, specifically Manuel Castells, we can suggest:

Proposition 3: *To be scientific, a discipline must have either a real or a theoretical object of enquiry.*

While this seems to be quite obvious, it is one problem seldom if ever debated within Schools of Architecture or Planning where most urban design programmes are located. Part of this is due to the fact that the intellectual environment within the social sciences and humanities does not exist in professional built environment faculties to anything like the same degree. Questions related to the third proposition above become irrelevant to urban design practice to the extent that ideologies are embedded in production, with whatever inherent logic or consequences they contain. In such a context this third proposition becomes an unnecessary indulgence. This definitely leads to a happier life. Nonetheless, the question of a real or theoretical object remains, and can be suggested as follows:

Proposition 4: *The theoretical object of urban design is civil society, and its real object is the public realm.*

If indeed this proposition constitutes the very essence of the discipline, then any urban design education should revolve around these two principles. It should begin by answering such questions as – What are the fundamental principles governing civil society? How did the concept of civil society arise? What types of civil society can be identified, what particular social forms does civil society engender and how is it constructed? What are the specific relationships that allow civil society to produce spatial forms, specifically those of the public realm? How does civil society project meanings into space through urban form? How is globalization affecting the organization and design of the public realm and social life? – and other such questions. Finally, it is clear that if the above ideas are acceptable, then logically there are some fairly substantial implications for education and practice alike. It demands for example a complete reassessment of urban design traditions as historically relevant, having emerged from the material circumstances of the time, yet potentially irrelevant to the globalization of capital in the digital world of the third millennium. Once again I want to be clear that this does not mean, as it might sound, that we must throw out everything we have been taught and start again, or that we are faced with an either/or proposition – that the notion of a theory of urban design stands in opposition to a theory for urban design. Quite the opposite is implied. I see this not as an ‘either or’ proposition, but ‘both and’. Emerging from this:

Proposition 5: *Our understanding of the production of design outcomes must change from a modernist, Beaux Arts obsession with form, the eureka principle, and the cult of master/disciple to one where the organic production of urban forms and spaces are homologous with the production of society.*

Devolving from this, several points need to be clarified in relation to the above propositions and observations, since they have certain wide-ranging implications. Nor am I suggesting that there are no social or economic consequences to specific types of spatial design practice. Of course, it would be nice to re-orient some research in urban design to discovering exactly what these are. Re-orienting our analytic lens to spatial political economy would not only allow a significant assessment of projects before they are ordained, it would also permit a more user-centred approach via an in-depth appreciation of culture,

as well as appropriate methods of predicting or assessing outcomes of large-scale urban redevelopment projects. Second, we must accept that the use of the term *theory* has a huge archaeology of levels from the astronomy of black holes to making the best cup of coffee. This is also true within urban design. I have suggested below some of the more powerful tools available to urban designers via theories *for* urban design, and the actors central to their use, for example, Hillier's analysis of crime levels in complex layouts, in deprived areas which exclude surveillance, Alexander's use of patterns as templates, etc (it is also instructive however that Hillier and Hanson (1984) refer to their 'space syntax' as a *A Configurational Theory of Architecture* not Urban Design).

While much urban design theory has considerable integrity, in other cases, it is clear that claims to 'theory' are merely *descriptions* of common urban features or processes. They are axiomatic and have no universal application, qualities which I feel pervades most of, for example, Kevin Lynch's work. Clearly there is a lot of theorizing that remains to be done at this level, and the very best of it makes some effort to engage with more substantial concepts in psychology, economics, and social theory. The important consideration here is that science demands a generally agreed rule system that rises above, for example, Alexander's pattern language yet relates to it. Both are necessary, both should exist, but both need significant integration if we are to succeed in specific and coordinated urban design knowledge.

In order to do this I will adopt the following process. To begin, I try to put to rest the endless problem of 'defining' urban design. This covers the entire range of so-called 'definitions' that have been ongoing for the best part of a century with no resolution. The suggestion is made that the task has been fruitless to date for several good reasons that are then explored in some depth. Such exploration leads directly to the inescapable question of appropriate theory, without which any definition is insubstantial and largely content free. It also gives a clue as to why prevailing definitions remain largely axiomatic and deprived of analytical rigour and interest. Discussion then ranges over pre-existing ideas of theory in urban design. I have selected the four most compelling efforts in two areas. First, that of attempts at synthesis, and second, individual positions which have in some manner attempted a unified theory

of urban design. More recently, several new theoretical positions have emerged which challenge knowledge to date with new ideas and hypotheses. Following Karl Popper's dictum that science advances through disproofs or falsification, the creation of new theory demands that the best of the old falls under the microscope.

Taken together the *status quo* in urban design may be seriously challenged by a generational position called political economy. This discipline emerged in the work of Adam Ferguson, Adam Smith and David Hume, part of an intellectual ferment originating in Scotland some 300 years ago, which at least one author has sourced as 'the wellsprings of the modern mind' (Herman, 2002, p. v11). Some of this history is traced and connected to the idea of a specifically *spatial* political economy, a discipline which up until now has been largely confined to aspatial phenomena, as was most social science until relatively recently. Taking this concept from aspatial phenomena into a sociology of space has been a daunting and worthwhile task, despite immense intellectual conflict. I then argue that in order to legitimize urban design as a discipline, we must escape from the shackles of personality cults and ideologies into a shared theoretical base, with all its warts and flaws. In conclusion, I suggest that if urban design theory is to progress, it must be by substantial interaction between spatial political economy and urban design, since space cannot be separated from its social production in specific urban forms.

Urban design – definitions

As in all disciplines, the most difficult problems arise over the simple question of definition – what is being defined? – an institution, a process, a theoretical construct, or an object of investigation? At the most elementary level, we have to consider the very fact of *naming* the discipline, and there are three related phrases that have had varying levels of use in signifying the design of cities, namely *Civic Design*, *Urban Design* and *City Design*. Civic Design was the terminology used in regard to modernist architecture, where large urban projects were carried out for the state and were therefore 'civic' in a very direct sense. The term was predominantly used in Britain, prior to Liverpool University establishing a foundation course in 'Civic Design' in 1909. This constituted the beginning of urban design as an academic

discipline, and the stimulus for all other programmes in the UK. By 1970 the concept had become outdated, since its close connotation to municipal government and functions such as 'Civic Centre', were seen to be too restrictive. Concurrently, Harvard University in the United States was the first to establish a programme in Urban Design in 1960, and the term was then imported into the UK. Hence the more general term *Urban Design* came into use. In some senses this neutralized the discipline by removing its inherent political significance – the new term did not have any necessary connotation to citizenship, the modern state and urban administration in general that were implied in the term 'civic'. In a major sense, the emergent discipline was mystified by apparently removing it from the social realm. One of the most applauded theorists in urban design, Kevin Lynch, had difficulty with both concepts. He preferred to use the term 'city design' which to him was a more encompassing term (Bannerjee and Southworth, 1990). He had this to say about city design:

City or environmental design deals with the spatial and temporal pattern of human activity and its physical setting, and considers both its economic-social and psychological effects (of which latter the sensuous aspect is one part). The concepts and techniques for manipulating this complex pattern, are as yet half formed. The ambiguity of our graphic notation system, its lack of inclusiveness, is one symptom of this inadequacy. The goals for which this pattern is manipulated are not clearly stated, and their relation to pattern is imperfectly known. Our vocabulary of city form is impoverished: the need for innovative ideas is correspondingly strong. Yet it is clear that city form is a critical aspect of the human environment, and design it we must (Bannerjee and Southworth, 1990, p. 483)

While this statement was written in 1968, Lynch remained true to this basic ideology throughout his entire life, and frequently conflated the term *urban design* to *city design*. Lynch had a significant influence over several generations of architects, planners and others involved in the design of cities, and his concept of urban design was one synonymous with project design or the design aspect of urban planning. There are, of course, a whole series of flaws with this kind of analysis, predominantly the question of defining any significant process merely in terms of its scale,

using concepts that now have little meaning such as *city*, and not having a concrete definition of what *urban* signifies, let alone when it is tied to the equally problematic concept of design. In addition, few people today would accord to Lynch's use of the term *city design* for other reasons. Lynch also correlated city design with *environmental design*, where the more commonly used phrase is now sustainable development, leading to additional confusion (see Cuthbert, 2006, Chapter 7).

Nonetheless, the term *urban* has had a much more significant intellectual history than the general descriptor *city* which has little residual value in communicating any meaningful functions, processes, forms or symbolic content. In contrast, the term *urban*, apart from the fact that it originates in the Latin word *urbs* meaning city, has had significant accrued meaning since Lewis Wirth first wrote his legendary paper *Urbanism As A Way of Life* in 1938. Interrogating the term 'Urban' also formed the basis for one of the most meaningful investigations into urban structure, that of Manuel Castell's now iconic book *The Urban Question*, first published in French in 1972. After its English debut in 1977, it set a debate in motion for the next 10 years over the idea of a conceptually valid *urban sociology*, one that still resonates today, although much of the territory has now been captured by urban geography. So I will continue to deploy the term *urban* since it remains a more relevant and conceptually challenging term than either civic or city when applied to design, one whose meaning will hopefully become clearer over the remainder of this monograph.

Therefore from its somewhat confused identity, the discipline of urban design is usually defined without reference to any meaningful theory – and by analogy in its relation to physical scale, to administrative matters, in regard to urban functions or to a skill-based process in support of urban planning. Definitions such as the following underwrite most of the literature in urban design, and one searches in vain for anything of real substance:

'Urban design is the art of three dimensional city design at a scale greater than that of a single building'; 'Urban Design links planning, architecture and landscape architecture together, to the extent that it fills whatever gaps may exist among them'; 'Urban design is

that part of city planning that deals with aesthetics, and which determines the order and form of the city'; 'Urban design is the design of the general spatial arrangement of the activities and objects over an extended area, where the client is multiple, the program is indeterminate, control is partial and there is no state of completion'; 'Urban design is primarily concerned with the quality of the urban public realm, both social and physical, and the making of places that people enjoy and respect'; 'Urban design is the art of making or shaping townscapes', and so on (Cuthbert, 2003, p. 12)

In Popper's terms, these sorts of statements are structured for extremely low levels of refutability, the mark of insignificant theory. The literature on urban design is swamped by axioms such as these, which are obvious even to the uninitiated. And so the search for an appropriate definition as the foundation for urban design theory has been ongoing over the last 50 years, a task doomed to failure in the absence of a substantial theoretical foundation. In spite of endless attempts at defining the discipline over the intervening period, progress towards developing a satisfactory hypothesis, a set of guiding constructs or principles, or a reasoned manifesto of ideological practices has been absolutely glacial. Virtually all definitions begin and end in dogma, and the so-called 'crisis in urban design', like the endless 'crisis in urban planning' continues, and nobody asks the obvious question as to why the crisis is seemingly continuous and endless, and what its source might be. So urban design theory continues to be impelled by a dearth of critical and dialectical thinking, an embassage of anarchistic practices, an obsession with skill-based learning, and a continuing belief in physical determinism.

Here two papers stand out simply because of their titles; David Gosling's 1984 paper *Definitions of Urban Design*, and Alistair Rowley's paper of the same name exactly 10 years later (an altogether superior work can be found in Punter, 1996). In his paper, Gosling has adopted a wholly architectural perspective, as if only architects had any right to define the discipline. While it may seem unfair to criticize this paper, now 20 years old, it remains significant precisely because it embodies one of the most powerful and enduring ideologies still dominating the field of urban design. While beautifully written and executed, the work is

nonetheless a self referential, ideologically biased and atheoretical rendition of the genre, alienating every major theorist concerned with urban development, structure, and form, to the bleachers. Similarly, potential 'models' of urban design, for example, defined through civil society or the public realm, as a socio-spatial matrix, as symbolic representation, etc, are wrapped and made accessible only in and through the work of architects and their critics.

So Gosling's paper presented a picture of urban design that could only be defined and understood in reference to the entire payroll of modern and postmodern architecture, beginning, as is the norm with Le Corbusier, and continuing through the work of Oscar Niemeyer, Rob and Leon Krier, Robert Venturi, Lucien Kroll, Bernard Tschumi, Emilio Ambasz, Miguel Angel Roca, Aldo Rossi, Matthias Ungers and a host of others. The paper closes with 'a new definition of urban design' which is not stated, but is inferred again with reference to architectural projects such as Cergy-Pontoise (Lucien Kroll), the Byker Wall in Newcastle (Ralph Erskine) Carlos Nelson Dos Santos (Bras de Pina Favella, Rio de Janeiro), all of it wrapped into having something to do with fair and equitable access to well designed state-sponsored housing. While most of the projects discussed are undeniably brilliant in formal terms, their collective outcomes are not evaluated, nor does any meaningful definition of urban design emerge from any association.

Similar criticisms can be applied to Alistair Rowley's paper, which exhausts the superficial to such an extent that only substantial theory remains to be addressed elsewhere. This is in itself a singular service, because in the 20 pages of the paper, Rowley condenses virtually every kind of definition of mainstream Urban Design since Spriergen's seminal work in 1965, and there is nothing left to say. Most definitions are axiomatic to the point of humour. Even on the first page, and 20 years after the huge debates on the term *urban* raged within urban sociology, involving some of the best social theorists of our time, we are still presented with a definition of 'urban' as something (we know not what) in contrast to 'rural' development, a relationship demolished in the postscript to *The Urban Question* by Manuel Castells in 1977. Quoting Ruth Knack, we are informed that 'Trying to define urban design is like playing a frustrating version of the old

parlour game, twenty questions' (Rowley, 1994, p. 181). In the section 'The substance of urban design' we are offered two insipid definitions that illustrate how notions of the subject have developed since the 1950s:

'The purpose of town design is to see that (the urban) composition not only functions properly, but is pleasing in appearance' and in contrast, 'Urban design is essentially about place-making where places are not just a specific place, but all the activities and events that make it possible' (Gibberd, 1953; Buchanan, 1988 in Rowley, 1994, p. 182)

Definitions of urban design in Rowley's paper are also seen to be dependent on the repetition of endless taxonomies of various kinds that exhaust the stock of available adjectives to describe urban form such as

'87 planning considerations grouped under 14 second tier headings which in turn were grouped under six broadly based first tier considerations....Cook has written about the four *qualities* that urban design, as process, seeks to achieve – *visual, functional, environmental and urban experience*' and the essence of cities – '*complexity, surprise, diversity, and activity* and.....Kevin Lynch's five performance dimensions, *habitability, sense, fit, access and control*, Bentley's seven qualities – *permeability, variety, legibility, robustness, visual appropriateness, richness and personalisation*.....the Prince of Wales ten principles, *the place, hierarchy, scale, harmony, enclosure materials, decoration, art, signs, lights and community*' (Rowley, 1994, p. 185)

In *Definitions of Urban Design*, Rowley concludes with 10 more characteristics (why not have 20), by which point it should be apparent to the intelligent lay reader that the discipline is in serious trouble. Once again another taxonomy replaces any critical thinking on the subject. The last of these notes that urban design education demands literacy in the social sciences, law, economics, public policy and business administration, none of which are deployed in the paper. The problem with all of these attempts to define urban design is that they are content-free, depthless and *incapable* of moving us forward, except perhaps into another set of the so-called basic values, functional qualities, descriptive properties, performance dimensions or other qualitative groupings, usually claimed to have universal significance which of course they don't. As a

collectivity, the result is akin to running on the surface of a sphere, at some point and on a random basis you have to arrive back where you started. It is not that these observations are untrue or uninteresting, simply that they are *trivially correct*, that is, so devoid of content that it is almost impossible to devise any empirical test which would prove them false.

In this sense they are also immune to Popper's concept of refutability, which would accord them some kind of theoretical justification (see Popper, 1959, 1974). As Thomas Kuhn has suggested, this does not even consist in its proof but of its probability in the light of evidence that is available to us. Hence definitions such as those above contain no propositions of any real content. Not only are they wholly isolated from significant theory, they also block the possibility that any will ever emerge by perpetuating this kind of thinking endlessly into the future, a process which has now been going on at least since 1945, and is still alive and well in the annals of the urban design literature (Schurch, 1999). One quote from Donald Appleyard however does stand out, that boundary definition in the case of urban design is a negative activity. It is indeed more enriching 'to identify, clarify and debate the central beliefs and activities of a field than to hide behind a simplistic mask' (in Rowley, 1994, p. 181). What these are have not yet been stated with any real conviction. Given that the least meaningful definition of urban design used by professionals is that it occupies the space between architecture and planning, it is worth pausing for a moment to consider John Punter's insightful paper of 1996, *Urban Design Theory in Planning Practice: The British Perspective* which traces its origins from the Garden City Movement and Raymond Unwin's classic text *Town Planning in Practice: an Introduction to the Art of Designing Cities and Suburbs* (1909).

Before considering the implications of the above situation which are clearly substantial, I will briefly amplify on the reasons why I feel that urban design is in such a moribund position. Rowley's explanation of urban design *vis-à-vis* the British planning system concentrates on two traditions. First, that of the *picturesque*, which had close ties to landscape painting. This in turn was closely related to the practice of English landscape gardening and such artists as Uvedale Price, George Repton, and Capability Brown.

Second, to the tradition that evolved from it called *the Townscape Tradition*, one that concentrated on the idea of serial vision as the organizing principle (Cullen, 1961, 1967 and Smith, 1974, 1976).

The definition that emerges from both of these is purely visual and experiential. There is a nostalgic fixation on appearances where the perfect model would seem to be the idealized English village located in a beautiful landscaped garden (of somewhat limited application in a globalized world). This vision dominated planner's definitions of urban design at least until 1973 when the Essex Design Guide synthesized prevailing attitudes into the first comprehensive attempt to embed urban design in the UK into planning practice. As with architectural definitions of urban design, the ideas that evolved from Raymond Unwin and Gordon Cullen also remain alive today. The principles of the British picturesque, visual, townscape tradition are enshrined in the highly publicized design interventions of His Royal Highness, the Prince of Wales, supported by various architects such as Francis Tibbalds, Quinlan Terry and Rob Krier (Hanson and Younes, 2001). This neo-traditional movement is now sweeping the globe in the form of *the New Urbanism*, a movement that seeks to construct the future based on nostalgic visions of the past.

Coming right up to the last 10 years, the fact that all of these definitions remain alive is well represented in the UK. In December 1999 the Department of the Environment, Transport and the Regions (DETR) commissioned two reports on urban design by Arup Economics and the University of Reading, respectively. These were combined in a final report in 2001. The completed document estimated that there were some 180,000 individuals in Britain who may be involved in some way in urban design activity. The fact that a large engineering practice was chosen to run the project says a lot in itself.

They include among the professions, architects, planners, surveyors, civil engineers, and landscape architects, who together with the Urban Design Group and Civic Trust, have formed the Urban Design Alliance. The combined membership of these five professions is 216,000 persons with about 5000 applicants commencing first degree courses at the universities and colleges each year, potentially leading to a

professional qualification in these disciplines (DETR, 2001, p. 1)

The final paper encapsulates all of the above descriptors and because of the arcane problems surrounding any reasonable definition, begins by saying that 'It is easier to say what urban design is not, – architecture, civil or highway engineering, landscape architecture, surveying, town planning, – than what it is: urban design is both more and less than any one of these long established professional activities'. This is a bit like saying that 'an elephant is definitely not a giraffe, a zebra, or a camel. It's much heavier than all of them but cannot run as fast'. Moving on into even deeper waters, many other definitions are given in the paper, for example, 'Urban Design is an interdisciplinary process and activity', 'Urban design should be taken to mean the relationship between different buildings; the relationship between buildings streets, squares, parks, waterways and other spaces which make up the public domain; the nature and quality of the public realm itself; the relationship of one part of a village, town or city, with other parts; and the patterns of movement and activity thereby established'; 'There are different styles or types of urban design. The variations between each type reflect a range of factors including the role of the urban designer in the urban design process; the objectives of those employing urban designers; the situation and issues that will be addressed; and the criteria used to measure success'. The paper concludes by paying a tribute to Jonathan Barnett's 'memorable description' of urban design as 'designing cities without designing buildings' (DETR, 2001, p. 1).

Forget any meaningful theory, in every case the above attempts to define urban design are seriously divorced from any theory at all. Various, they constitute radically empiricist, functional, technocratic, historicist, or practice and skill-based definitions. Many are deprived of any meaning whatsoever. Most are tautological or axiomatic, where no learning is possible. What we can assume from this, given that many highly intelligent minds have had a go over decades, is that seeking a definition exemplified by the many attempts given above is not only counterproductive but impossible, in the absence of a theoretical framework that would make them 'real'. Like any other social process, urban design does not remain a static phenomenon, and the need to hit a moving target is also omnipresent. However,

this is not all bad, and it is quite clear from the fairly extensive rubric above, that one can indeed get a glimpse of how urban design fits into the overall processes of urban development while simultaneously being deprived of any explanation at all as to how or why it occurs as it does.

With few exceptions, traditional definitions constitute *descriptions* of perceptible surface structures in administrative, professional, aesthetic or other arrangements, a bit like trying to define gravitation in terms of apples falling to the ground, by what colour the apples are, what type of apple, how they compare to apples falling off other trees etc, in the absence of a supporting hypothesis. Overall, the processes of science, critical thinking, and focused research are all held in suspense. Even the basic principle of formulating a significant hypothesis about the discipline, one to be tested as the foundation for theory, is ritually avoided. One may search in vain for any author who begins an article 'my hypothesis as to a satisfactory theory of urban design would be the following'. But as in all theory, we are not looking for some immutable or unchanging truth, just a *satisficing* summary of the object in question that can be debated and tested, so that another horizon in the development of knowledge can be established (Simon, 1969).

So the problem remains. In the absence of any rigorous theoretical framework that links urban design activity to the historical process, to social development and to other professions, the same basic positions and approaches outlined above will be recycled *ad finitum*. Conversely, explanation using the method described, demonstrating some theoretical coherence might begin by aligning urban design theory to the material production of the built environment as an ongoing historical continuum. On this basis the need to continually restate definitions would disappear, and the endless process of grinding out yet another taxonomy could terminate. But such an approach demands that we consider at least three basic ideas.

First, we should abandon any attempt to define urban design in any of the forms outlined above, and conflate the term urban design to *the production and reproduction of urban form*. In general, this is how I will use the term in this

paper. The central reason for such a distinction is to make it impossible to consider design *independent* to other processes (as exemplified in Gosling, and Rowley, above). Overall, the arguably superficial nature of urban design theory stems from this one fact, that is, the separation of form from content.

Second, we need to set aside the professionalization of knowledge/process for the simple reason that professions are by definition, territorial. They capture regions of intellectual capital supported by legislation, membership, and the arcane languages of practice (Cuthbert, 2006, Chapter 10). Any emergent theory or even any satisfactory explanation of the production of built form would have to incorporate a critique of professions *qua* ideological structures. Critical self-reflection is not about to emerge from this source since professions are knowledge monopolies linked to big capital. Hence, developing a substantial theory of urban design, might be experienced by the architectural and planning professions as a form of self-immolation.

Third, to a large degree the same is true of the academy and tertiary education in general. The ideological nature of tertiary education is on the one hand heavily penetrated by professional intervention via accreditation processes. On the other hand, neo-corporate interests intrude in the general definition, production and ownership of intellectual property. In this sense, the boundaries within tertiary education are no better than those within the professions themselves. Indeed, it can be easily argued that the professions play an active part in maintaining territorial imperatives in tertiary education via accreditation (legitimation) processes.

For the moment the thorny problem of what constitutes *science* and what does not, and whether urban design knowledge can be defined scientifically will be set to one side. What is required is some significant framework or structures of knowledge that satisfactorily account for the production of specific spatial arrangements, which result in identifiable urban forms and systems of representation. Since these will ultimately be proven false in the necessary development of knowledge, science requires that such a formulation should be highly resistant to empirical refutation. Fortunately, much of the required infrastructure has already been addressed in other

areas of knowledge as we shall see, but with few exceptions it remains invisible to urban design administrators, educators and professionals.

To paraphrase the words of Scott and Roweis in their seminal article *Urban Planning in Theory and Practice – A Reappraisal* (1977), ‘we should attempt to discover the sociohistorical meaning, rationality and limits of urban design, rejecting definitions of the type proposed above. Such definitions are counter-productive in that they all configure urban design theory as essentially normative. Using an analogy to urban planning, what is implied is that to date, urban design has presented itself as that reality, not so much one that is false, but one which is trivially correct or otherwise structured for a low level of refutability. In contradiction, it is not an independent and autonomous urban design theory that produces the various facts of actual urban design; it is rather the realities of contemporary urbanization that give rise to urban design as a necessary social activity, and hence its explanation as a social fact’. The only person to my knowledge that has actually tried to do this is Manuel Castells, and his propositions below bear comparison with the plethora of attempts to define urban design given above.

In relation to spatial political economy, Castells frames the fundamental question ‘on the basis of the fundamental concepts of historical materialism, how can we grasp the specificity of the forms of social space?’ (Castells, 1977, p. 235). In concert with this question he also offers by far the most encompassing and theoretically rigorous definition of urban design to date, one which informed both *The Design of Cities* and *The Form of Cities* (Cuthbert, 2003, 2006). In contrast to every other attempt documented earlier in this paper, he avoids the pitfall of any definition that is not situated within a hierarchy of socio-spatial concepts that allow context, relativity, and process to be included:

We define urban meaning as the structural performance assigned as a goal to cities in general (and to a particular city in the inter-urban division of labour) by the conflictive process between historical actors in a given society.

We define urban functions as the articulated system of organizational means aimed at

performing the goals assigned to each city by its historically defined urban meaning.

We therefore define urban form as the symbolic expression of urban meaning, and of the historical superimposition of urban meanings (and their forms), always determined by a conflictive process between historical actors.

We call urban social change the redefinition of urban meaning. We call urban planning the negotiated adaptation of urban functions to a shared urban meaning. We call Urban Design the symbolic attempt to express an accepted urban meaning in certain urban forms (Manuel Castells 1983, pp. 303–304)

Rather than resort to definitions of urban design such as those previously discussed above, where the various qualities, properties, dimensions, etc of cities are used to delineate urban design as *praxis*, Castells’ great contribution was to define it theoretically as an embedded part of other urban functions and processes (notwithstanding the fact that what exactly constituted ‘urban’ remained unresolved, and the fact that the concept of ‘urban meaning’ as a workable principle remained somewhat opaque). Importantly, Castells also assigns the term ‘meaning’ (not economy as one might expect) – as the ultimate measure of the performance of cities, and associates such meaning with the outcome or representation of conflict. While Castells can be criticized for not making explicit what he meant by *urban meaning*, that is, turning it into a formula, the term is made in the context of his own massive output of scholarly works. I take the term *meaning* here at its broadest compass to signify the actual material expression of the history of capitalist development, writ large in the built form of cities using the medium of urban design, or more succinctly, the accrued history of its symbolic capital. This would include first and foremost in Castells’ terms, the idea of class struggle, collective memory, and the expression of social distinctions. Inherent in this would be included war – oppression, liberation and reconstruction, representations in the realms of science, art and philosophy and other forms of semiosis. Physically we are dealing with the entire panoply of urban form, individual architectural elements, monuments, street sculpture, including spaces and places as well as their naming and associations. In this regard Allen Scott’s classic paper of 2001 ‘Capitalism, cities and the production of

symbolic forms' offers additional insights. Prime also is the concept of *the urban landscape*, the classic work in this last category being Dennis Cosgrove's *Social Formation and Symbolic Landscape* (1998). One may hazard that the urban designer's central activity is in the production and consumption of symbolic capital through the medium of fixed capital investment, reproduction and exchange (Harvey, 1989).

Concepts of symbolic capital and symbolic space and form, are closely related ideas (Bourdieu, 1977; Schusterman, 1999). Bourdieu advanced the idea of symbolic capital, which he describes more accurately as *the symbolic effects of capital* at great length in *Outline of a Theory of Practice* and the term remains in widespread use today. A crude way to look at symbolic capital would be say that it is the value of the added symbolic expression and associations of a product, in contrast to its material cost. In many cases this may outweigh its cash value which can become irrelevant over time. For example, the symbolic capital of the great pyramid of Cheops in Egypt is priceless but its material value is zero. Bourdieu also introduced the concept of *taste*, exhibited through the ownership of symbolic capital, Harvey points out that symbolic capital is both fetishistic and ideological since it conceals 'the real basis of economic distinctions'. Furthermore,

Conjoining the idea of symbolic capital with the search to market Krier's symbolic richness has much to tell us, therefore, about such phenomena as gentrification, the production of community (real, imagined or simply packaged for sale by producers), the rehabilitation of urban landscapes and the recuperation of history (again real imagined or simply reproduced as pastiche). It also helps us to comprehend the present fascination with embellishment, ornamentation and decoration as so many codes and symbols of social distinction (Harvey, 1989, pp. 80–82)

So concepts of urban meaning, symbolic capital, ideology, social reproduction and the actual design of the built environment are all integrated and lie at the heart of urban design practice. By relating function, form and meaning, Castells provides us with a complex of relationships where we can clearly see the interaction of associated elements in the urban process, rather than as the fixed properties of physical form.

Whereas most other definitions of urban design discussed above are static observations that go nowhere or are based on happy certainties that cannot be refuted, the complexity of Castells' insight automatically leads to other hypotheses or speculations rooted in substantial theory – 'What is urban meaning and how is it derived?', 'In what manner does the redefinition of urban meaning result in changes to the built environment?'; 'How does the symbolic expression of urban form relate to class and other societal conflicts?' Through which processes does such urban meaning materialize, using what kinds of content? Castells encompassing hypothesis therefore stands out as a singularly insightful attempt to connect the process of designing cities to the overall process of the production of space within capitalism, or to paraphrase Scott and Roweis once again:

We cannot assume that Urban Design emerges, acquires its observable qualities, and evolves, according to forces that reside solely within itself. Urban Design is not invented in a vacuum, but is structurally produced out of the basic contradiction between capitalist social and property relations (and their specifically urban manifestations) and the concomitant necessity for collective action (Castells, 1977, p. 1011)

In *The Urban Question*, Castells had already offered a rare analysis of urban spatial forms as products of basic economic processes – production, consumption, exchange and administration, and the reflection of ideological structures in symbolic configurations, elements and places. Castells' typology of urban space is extremely well structured and is solidly grounded in an extensive theoretical foundation. There is no doubt that it represents a qualitative advance on its predecessors by several levels of magnitude. This does not imply that it is ideal or cannot be improved, or that all of the epistemological problems have been solved. Nonetheless, it was the first serious attempt to incorporate urban design and urban planning within a unified and coherent definition, linked to a significant body of social theory based on the morphing of political economy into the dimension of urban space and form.

Before moving these ideas forward, we will now take a greater in-depth look at some of the more prominent mainstream 'theories' in urban design

in order to maintain a progressive historical perspective on the discipline. A more substantial approach to theory will then be engaged, following Scott and Rowe's lead into recent developments in spatial political economy.

Urban design – Theory?

It is not my intention here to write a normative history of urban design (one that is yet to be assembled), but to illustrate some of the more influential and prototypical discourses that traditional theory still clings to for support. All of these texts are classics in their own right, and constitute significant markers in the journey towards an improved understanding of urban design. Historically, each represented a significant attempt to correct what was seen to be a dominant problem at the time they were written. Much of what is contained between their covers will remain valid for years to come, for the simple reason that even the simple principles embodied in, for example, Gordon Cullen's *Townscape* (1961) remain widely ignored 40 years after the book was written. As we approached the end of the second millennium however, three things became very clear.

The first was that the ideologies represented in the collective corpus of work traditionally associated with modernist urban design had lost much of their explanatory power. Jon Lang's classic text *Urban Design, The American Experience* (1994), marked in a very real sense, the last significant breath of the modernist position.

Second, since that time, that is roughly over the last 10 years, a new era in urban design theory has surfaced, although this remains to be articulated in any empowering manner. Nan Ellin's book *Postmodern Urbanism* (1996) and Ross King's *Emancipating Space* (1996) represent two memorable texts written in the intervening period, the latter the only one that has a dialectical relationship to theory.

Third, the upsurge in things *urban* in disciplines that had previously been wholly disconnected to the design of cities began to produce a significant corpus of work. Urban sociology, economics and geography, cultural studies, art history, landscape architecture and other disciplines from anthropology to philosophy were all involved. Overall

Urban Sociology and Human Geography have been the two key players since the early 1980s. Leslie Sklair's recent articles *The Transnationalist Capitalist Class and Contemporary Architecture in Globalising Cities* and *Iconic Architecture and Capitalist Globalisation* (Sklair, 2005, 2006) demonstrate the extent to which significant explanations of urban design in the information age have been abstracted out of the hands of urban designers into urban economics and urban sociology. While the design process is not discussed in any of this work, what constituted the real content of the urban (design) process was being articulated in all kinds of ways and from many different sources. This progression has resulted in the undeniable observation that more significant theoretical paradigms about the shape and form of urban space were originating from outside the discipline of urban design than from the inside, and not before time either. It also offers a partial explanation as to why so few key texts on urban design have emerged over the last 20 years.

In *Designing Cities* (Cuthbert, 2003), I therefore made a clear distinction between what I consider to be normative theory *in* urban design over the 30 years period from 1960 to around 1990 or so, which I will summarize below, and other more significant theory *of* urban design and urban form that addresses urban spatial theory, has been elaborated in significant detail in *The Form of Cities* (Cuthbert, 2006). In order to contextualize the knowledge represented in mainstream urban design theory, I also suggested an elementary taxonomy of 40 scholars whose work had significant influence over mainstream urban design which I have slightly modified and upgraded to 40 on the basis of feedback from colleagues over the last few years (see Table 1).

In addressing mainstream theory, we must briefly look at the functional relationships between architecture, urban design and urban planning that configure much traditional thinking about the significance of each. To facilitate this comparison, a systems view of the three related disciplines, couched in terms of Herbert Simon's irreducible elements of systems referred to in his book *The Sciences of the Artificial* (1969) is given in Table 2. Like all attempts to create a simple taxonomy or table of relationships one has to resort to some fairly pragmatic statements. Nonetheless, clarifying the purpose of each in

Table 1 Forty classic texts in urban design

1	Chermayeff and Alexander (1960)	Community and Privacy
2	Lynch (1960)	Image of the City
3	Mumford (1961)	The City in History
4	Jacobs (1961)	The Death and Life of Great American Cities
5	Cullen (1961)	Townscape
6	Halprin (1963)	Cities
7	Buchanan (1963)	Traffic in Towns
8	Webber (1964)	The urban place and the nonplace urban realm
9	Rudofsky (1964)	Architecture without Architects
10	Spriergen (1965)	Urban Design; Architecture of Towns and Cities.
11	Bacon (1967)	The Design of Cities
12	McHarg (1969)	Design with Nature
13	Rudofsky (1969)	Streets for People
14	Sommer (1969)	Personal Space
15	Halprin (1969)	The RSVP Cycles
16	Proshansky <i>et al</i> (1970)	Environmental Psychology
17	Lynch (1971)	Site Planning
18	Newman (1973)	Defensible Space
19	Banham (1973)	The Architecture of Four Ecologies
20	March and Steadman (1971)	The Geometry of Environment
21	Rapoport (1977)	Human aspects of Urban Form
22	Venturi <i>et al</i> (1977)	Learning from Las Vegas
23	Alexander (1977)	The Pattern Language
24	Rowe and Koetter (1979)	Collage City
25	Norberg-Schultz (1979)	Genius Loci
26	Krier (1979)	Urban Space
27	Lynch (1981)	A Theory of Good City Form
28	Barnett (1982)	An Introduction to Urban Design.
29	Hillier and Hanson (1984)	The Social Logic of Space
30	Trancik (1986)	Finding Lost Space
31	Alexander (1987)	A New Theory of Urban Design
32	Broadbent (1990)	Emerging Concepts in Urban Space Design
33	Katz (1994)	The New Urbanism
34	Lang (1994)	Urban Design : The American Experience
35	Hillier (1996)	Space is the Machine.
36	Ellin (1996)	Postmodern Urbanism
37	Gehl (1987)	Life Between Buildings
38	Madanipour (1996)	Design of Urban Space
39	Dovey (1999)	Framing Places
40	Gosling (2002)	The Evolution of American Urban Design

Table 2 A systems view of professional boundaries

Discipline	Architecture	Urban design	Urban planning
<i>Element</i>			
1 Structure	Statics+human activity	Morphology of space and form (history+human activity)	Government bureaucracy
2 Environment	3 dimensional (closed system)	4 dimensional (open system)	The political economy of the state
3 Resources	Materials+energy+design theory	Architecture+Ambient space+Social theory	Systems of legitimation and communication
4 Objectives	Social closure/physical protection	Social communication and interaction	To implement the prevailing ideology of power
5 Behaviour	Design parameters: Artificially controlled environments	Dynamics of urban land markets	Dynamics of advanced capitalist societies

relationship to its social function allows a transparency of meaning denied to definitions that conflate each to the other. On this basis it is fairly

clear that some significant distinctions between the three disciplines can be made even at this fairly rudimentary level of analysis.

Within this arrangement, Architecture is limited to the design of individual buildings, which are conceived primarily in terms of the design parameters of artificially controlled environments. Importantly, the term 'artificial' used in this context does not connote false, but man-made. Despite the endless claims by architects that their buildings integrate with nature and interact with their environment, and whatever aesthetic is adopted, buildings, for all practical purposes are closed boxes. The essential function of architectural components is private and defensive, predominantly from the weather and from other people; hence buildings generally operate as closed systems with human, electronic or physical means of surveillance used to mediate external relations. Urban design on the other hand is represented as an open system that uses individual architectural elements and ambient space as its basic vocabulary. Whereas architecture is predominantly concerned with social closure and protection, urban design is by its very nature, focused on social interaction and communication in the public realm. Urban planning may then be conceived as something fundamentally different again, as the agent of the state in controlling the production of land for the purposes of capital accumulation and social reproduction, in allocating sites for the collective consumption of social goods such as hospitals, schools, religious buildings, and in providing space for the production, circulation and eventual consumption of commodities.

While Architecture represents the locus of exchange values locked into fixed capital assets, Urban Design *qua* the public realm appears as use values representing the space of civil society. Urban Planning is unique in the sense that it exists only in the degree to which it is represented as an ideological structure focused on two things, social control and profit. It relies solely on the state for its existence and is legitimated through a complex system of planning law that consolidates capitalist social relations in regard to space. As symbolic art forms and containers of history, none of this infers that architecture and urban design do not rise above these functional criteria, nor that urban planning cannot focus on the greater social good. Clearly it has played a significant role in improving the general well being of labour while simultaneously guaranteeing superprofits from land development in return for minimal regulation. There are however significant philosophical,

technical and functional differences among and between them, and neither architecture nor urban planning can make facile assumptions about their own ability to expedite urban design strategies as praxis. Within this general paradigm, we can make three kinds of distinction about urban design theory for the purposes of the ensuing discussion.

First, there have been several courageous attempts to synthesize the entire field of urban design: the most notable epitomized in the following four examples:

- Rowe and Koetter's *Collage City* (1979)
- Gosling and Maitland's *Concepts of Urban Design* (1984)
- Roger Trancik's *Finding Lost Space-Theories of Urban Design* (1986)
- Geoffrey Broadbent's *Emerging Concepts in Urban Space Design* (1990).

Second, there are claims to primacy, by which I mean some claim to a theory of urban design by individuals

- Kevin Lynch's *A Theory of Good City Form*, (1981)
- Rob Krier's *Urban Space* (1979)
- Bill Hillier and Julienne Hanson's *The Social Logic of Space* (1984)
- Christopher Alexander's *A New Theory of Urban Design* (1987).

Third, there has been a significant movement in approaches to urban design over the last 10 years. Overall there have been two major trajectories, both practice led. The first is the overall trend towards sustainability, largely considered the arena of architecture until relatively recently. As sustainability is by now generic to most professional environmental disciplines, its implications are not directly related to any specific theory of urban form, its principles being incorporated as praxis into engineering, architecture, planning, building, landscape and related disciplines. Second, the movement called *The New Urbanism* is a fast maturing ideology with wide-ranging implications with specific theoretical implications for urban design. As a movement, it may be argued that the assumptions and practices of the New Urbanism have the potential to overshadow most of the paradigms under consideration (Clarke, 2006).

Attempts at synthesis

The four major attempts at synthesis tried in various ways to generate typologies, even if the idea of *collage* does not readily fit the category. Taken together they offer an interesting summary of theory in urban design since the Second World War. Each book is beautifully produced with a multitude of illustrations, collectively encompassing most of the significant major urban projects up until 1990. It is also telling however, that without exception, the authors are architects. Each is rampantly modernist in his approach. Unsurprisingly architectural ideologies dominate. Because of this there is endless referencing of the rationalist and contextualist schools of thought (as well as neo-rationalist and neo-contextualist) – and a continual recycling of the work of major architects such as Walter Gropius, Le Corbusier, Frank Lloyd Wright, Aldo Rossi, Rob Krier and others. In two cases (Rowe and Koetter, 1979 and Broadbent, 1990) there is at least the acknowledgement of some theory that exists outside the aesthetic and formal aspects of architectural design.

Collage City by Rowe and Koetter (1979) is an incredibly erudite piece of prose that derives much of its creative impulse from associations with literature, poetry, painting, and philosophy, as well as architecture. While *Collage City* is on the one hand, totally committed to architecture as an original reference point, there is also an ingrained pessimism and a deeply held sense of failure about its accomplishments, an observation which can nonetheless be welcomed as a positive contribution. This paradox of celebration and failure that exists throughout the work is clearly expressed at the outset:

The city of modern architecture (it may also be called the modern city) has not yet been built. In spite of all the goodwill and the good intentions of its protagonists, it has remained either a project or an abortion; and, more and more, there no longer appears to be any convincing reason to suppose that matters will ever be otherwise. For the constellation of attitudes and emotions which are gathered together under the general notion of modern architecture and which then overflow, in one form or another, into the inseparably related field of planning, begin – in the end – to seem altogether too contradictory, too confused and

feebly unsophisticated to allow for any but the most minor productive results (Rowe and Koetter, 1979)

Collage City is fundamentally a critique of urbanism defined as the relationship between architecture and planning. But the sense of failure that permeates the text is both unnecessary and misplaced. The reason for this is manifest – that architects are not responsible for the failure of the modern city (if indeed it is failing) and any perceived failure emerges from the modernist arrogance that places architects at the centre of the world. Clearly architects are not responsible for the production of urban space, which is essentially an economic and political process. Even their overall role in manufacturing built form is minimal, given that architects are only involved in some 15% of all construction processes. The idea that cities are composed of fragments as in the French concept of *bricolage* has exalted claims – ‘together these fragments create a conceptual framework for our experience of the city as a form of phenomenological cubist collage, in our individual and collective consciousness. Each fragment was a lived world, the product of history, which could be inhabited. The differences between fragments and their inhabitants made for the diversity and vibrancy of city life’ (Shane, 2000). Whether one could ever examine a phenomenological cubist collage sufficiently to render even a bit of it operational is open to question. In addition, *Collage City* presents no manifestos, theories, methods or taxonomies that would actually assist in building some encompassing vision of architecture or urban design, nor is there any material presented that might support the concepts. Its central thesis that the building of cities occurs in fragments that assemble into a collage of parts, each with its own identity, flies in the face of most urban geography as to how cities grow and change. Also the book has no outcome, even the title *Collage City* and what to do with it remains a mystery. Ultimately the work is both a eulogy on modern architecture and a sermon on its demise, conflating in the process, architecture with urban design.

Given the free-floating nature of *Collage City*, Gosling and Maitland’s *Concepts of Urban Design* (1984) is much more highly structured. In contrast to Gosling’s article discussed above, the book has much greater intellectual scope and depth. Nonetheless, it maintains the same basic relationship to

modern architecture as the source of all inspiration for urban design, and in the very first chapter there is an immediate reference to urban design being a question of physical scale and of the imperialist assumptions of architecture beyond that of the individual building

We have suggested that urban design is concerned with the physical form of the public realm over a limited physical area of the city, and that it therefore lies between two well established design scales of architecture, which is concerned with the physical form of the private realm of the individual building, and town and regional planning, which is concerned with the organisation of the public realm in its wider context (Gosling and Maitland, 1984, p. 9)

The book proposes a tripartite division of theory in chapter two into:

- Natural Models
- Utopian models
- Models from the Arts and Sciences.

By *natural models* the authors basically mean feudal or pre-feudal settlement forms that have grown organically on the basis of location, geography, defence, religion, ownership, natural disasters, wars, etc, either *in toto* or in various combinations. Utopian models translate into several different forms, but in essence refer to places that can exist only in the imagination:

So also Campanella, Bacon, Fourier, Le Corbusier, Wright and Howard all devised their utopian models during periods of either enforced or voluntary obscurity and isolationwe could add the profound philosophical objections of Karl Popper to utopianism, namely that it is historicist in nature, unscientific, oppressive, unable to learn from its mistakes, and based upon a number of doubtful propositions, such as 'the colossal assumption that we need not question the fundamental benevolence of the planning Utopian engineer' (Gosling and Maitland, 1984, p. 32)

Many of the utopias discussed are also included in an entire book on the subject by C.A. Doxiadis (1966), who felt compelled to add a few more *topias* (places) of his own (dystopia, eptopia, entopia).

The third category of models from the arts and sciences is really a catch all for everything left over from the other two categories. The authors

suggest that two predominant processes are at work, namely analogy and translation. Hence we find a disparate collection of influences from architecture, mathematics, semiotics, psychology, anthropology, ecology and other disciplines. These are rapidly set aside in favour of a retreat to the Bauhaus at Dessau – (Siegfried Giedion, Paul Klee, Gyorgy Kepes, Laslo Moholy-Nagy and others) – as the initiator of the whole trend towards serial vision. This was to become one of the most dominant forces in picturesque urban design exemplified in the work of, for example, Philip Thiel, Donald Appleyard, Kevin Lynch, and Gordon Cullen. Later in chapter four, Gosling and Maitland give eight potential directions for the future (which is now with us twenty years later) as follows:

- Urban Design as Political Statement
- Urban Design as Technique
- Urban Design as Mediation
- Urban Design as Private Display
- Urban Design as Public Presence
- Urban Design as Theatre
- Urban design as the Guardianship of Urban Standards
- Urban Design as Collage.

Despite the popularity of *Concepts in Urban Design*, based upon a singular contribution to the field, the analytical position sketched out in the appendix is somewhat more enlightening (Javier Cenicacelaya Marijuan, 1978). Marijuan suggests a series of approaches to urban design consolidated into three broad groups:

- Dependent on a particular politico-cultural system
 - Marxist
 - Utopian
 - Capitalist
- Related to a variable politico-cultural system
 - Mathematical, economic
 - Descriptive, functionalist
 - Morphological
 - Historical
- Not dependent on any politico-cultural system
 - Perceptual

While *Concepts of Urban Design* constituted an heroic attempt to consolidate the diversity of urban design practices, it remained seriously confused as to how the design of urban form fitted into any larger paradigm in economics,

politics, social science, or even a reasonably coherent social theory of architecture. Many of the examples given in the eight potential directions for the future are themselves utopian, but many of the projects illustrated, both fantasy and reality, are nonetheless brilliantly conceived and ingenious in their synthesis of complex physical design problems. The central hiatus is that no matter how ingenious the examples, they do not add up to a satisfactory explanation of how urban form comes about. Despite the avalanche of creativity displayed in the chosen examples, the work as a whole remains deeply empiricist and historicist in its message. This is most clearly demonstrated in the relationship between the proposed *Theories of Urban Design* in chapter one, and the *Directions for the Future* in chapter four, where the designated theories bear no relation to where urban design may be heading. Somehow the future became totally unplugged from development as a continuum, and the seeming detachment of the production of urban form from the reproduction of society remained intact.

Roger Trancik's *Finding Lost Space* (1986) comes two years after *Concepts of Urban Design* (1984). He begins with the five causes that he says have contributed to the lost space of our cities, spaces that have basically disappeared from the drawing board because of urban dereliction in some form or another. He denotes these as our failure to deal with the automobile; the Modern movement in design; zoning and urban renewal practices of urban planning; the denial of responsibility for the public realm, and the problem of abandoned land in and adjacent to central business districts in American cities. While this is no doubt true, the arbitrary collection of problems, no matter how accurate, does not constitute theory in any meaningful sense. Despite this, Trancik's book makes an invaluable contribution to the process of documenting in some coherent manner, the physical manifestation of space in the 20th century and the designers concern with what he refers to as *Three Theories of Urban Spatial Design*. He denotes the three theories as:

- Figure Ground Theory
 - Grid
 - Radial concentric
 - Angular
 - Axial
 - Curvilinear
 - Organic

- Linkage Theory

- Group form
 - Megaform
 - Compositional form

- Place Theory

Figure ground theory is basically a two-dimensional concept allied to the idea of *Gestalt* where black and white, positive and negative, solid and void or in Taoist terminology, Yin and Yang, are formed by opposites that define the other. The Gestalt concept has had many applications, and is probably best known in relation to the psychotherapeutic method developed by Fritz Perls and his wife Laura in the 1940s, and the Gestalt theoretical psychology of Hans-Juergen Walter. In urban design the figure-ground concept constitutes the fabric of the city where a harmonious ground plan may be arrived at through a balancing of spatial relationships and contexts in order to generate requisite variety within a larger whole. The classic application of this idea (and also the epitome of contextualist principles) was Gian Battista Nolli's 1748 map of Rome. Rowe and Koetter resort to the use of this idea throughout *Collage City* (see, eg, pp.74, 75, 82, 131, 168-171), and a special issue of the *Architectural Design* was devoted to Nolli's plan in 1979.

So architects have used the concept of *Gestalt* for centuries as a method of seeing their designs more clearly. In essence, what it does is reverse the impact of the visual image which usually delineates buildings over spaces, akin to producing a negative image of this page, whereby the letters appear as white shapes, but in fact are defined by the black background. In the figure-ground relationship, the spaces tend to predominate, thus heightening the impact of the public realm. Trancik defines this situation well in regard to Nolli where he says 'In Nolli's map the outdoor civic space is a positive void and is more figural than the solids that define it. Space is conceived as a positive entity in an integrated relationship with surrounding solids. This is the opposite of the modern concept of space where the buildings are figural, freestanding objects, and space is an uncontained void. In Nolli the void is figural' (Trancik, 1986, p. 98). He then enunciates six typological patterns of solids and voids (grid, angular, curvilinear, radial concentric, axial and organic as a method whereby some more analytical rigour

can be obtained. Much of this is a restatement of Camillo Sitté's writing of 1889 (see also Collins and Collins, 1986).

The second element in his equation is what he terms *linkage theory* or:

the organization of lines that connect the parts of the city and the design of a spatial *datum* from these lines that relate buildings to spaces. The concept of datum in spatial design is analogous to the staff in music, upon which notes are composed in an infinite number of ways. The musical staff is a constant datum, providing the composer with continuous lines of reference. In urban spatial design, the determinant lines of force on a site provide a similar kind of datum from which a design is created (Trancik, 1986, p. 106)

The subgroups identified here are what are termed *Groupform* – arising from an incremental and historical accumulation of urban fabric, usually organically structured on the basis of roads, pathways or open space armatures. *Megaform* is the artificial version of groupform, where hierarchic linear frameworks are consciously designed and imposed on the landscape. The classic version of this design idiom is Candilis, Josic and Woods famous project for Toulouse-Mirail in France, or Kenzo Tange's unrealized project for Tokyo Bay. *Compositional Form* is derived from functionalist planning methods such as those advanced by Ludwig Hilberseimer, Le Corbusier and other modernist architect-planners, whereby the actual two dimensional graphic organization of space is implied rather than overt, in other words it plays a secondary role to the architects' chosen building blocks.

The third category is what Trancik calls *Place Theory* (undefined, not to be confused with Walter Christaller) where he proposes a theory of place derived from its cultural or geographic context; 'For designers to create truly unique contextual places, they must more than superficially explore the local history, the feelings and needs of the populace, the traditions of craftsmanship and indigenous materials and the political and economic realities of the community' (Trancik, 1986, p. 114). There are no subgroups in this section and meanings must be inferred in reference to an eclectic grouping of various theorists and practicing architects, for example, the work of Alison and Peter Smithson, Herman Herzberger, Kevin

Lynch, Leon Krier, Hans Hollein, Lucien Kroll, and Donald Appleyard. The book concludes with four urban case studies that serve as laboratories for the spatial design theories enunciated above (Boston, Washington D.C., Gothenburg, Sweden, and Byker in Newcastle, England).

Overall Trancik's book is interesting and useful with a clear exposition of the ideas through which he configures his approach to urban design. However, it sustains the normal practice of recycling the concepts and practices of Modernism, all of which embraced the philosophy of physical determinism while paying lip service now and then to 'social and other factors'. Despite Trancik's promotion of three theories of Urban Design in figure ground, linkage, and space theory, each fails to rise above a fairly rudimentary attempt to justify urban design theory solely in terms of its spatial arrangements. Nor do they constitute theory in any meaningful sense, being largely detached from any larger picture of society, explanations as to how such forms come about, or indeed to any substantial theory within the related disciplines of architecture or urban planning. Figure-ground is not so much a theory as an interesting graphic *volte-face* which allows a more accessible analysis of the public realm in terms of its spatial organization. There are no assumptions of any significance that can be made from figure-ground relationships apart from throwing geometry, form, and structure into higher relief, none of which means anything without some supporting concepts.

Questions also need to be asked about how particular forms of space are more functionally suited to specific uses, what psychological or physiological assumptions can be formed on the basis of specific two-dimensional shapes on a plan, or how social meanings might be transmitted and recognized on the basis of Gestalt relationships. The same is true of linkage theory and hierarchic structures, which demand similar levels of explanation as to efficiency in use and flexibility in organization. Taken together, the first two theories, figure ground and linkage, are useful devices used by designers that have some interesting historical and contemporary referents. But in no sense do they constitute 'theory' in any meaningful way. The last category *place theory*, is almost wholly detached from the first two, and tentatively suggests that 'cultural and human characteristics' might have some relevance, with-

out actually defining what these might be. Modernist architects apart, a few sentences are devoted to Phenomenology (Martin Heidegger and Christian Norberg-Schulz), followed by references to Ian McHarg, Kevin Lynch, Donald Appleyard and Gordon Cullen. While the first two theories stand as good expositions of design techniques, there is no coherence to 'place theory', despite the fact that quite a lot could have been deduced even at that time, from the work of Amos Rapoport (1969, 1977, 1981), Jane Jacobs (1961), Oscar Newman (1971, 1973, 1976, 1980), Herbert Gans (1962), E.T. Hall (1959, 1969, 1976) and others.

Geoffrey Broadbent's book *Emerging Concepts in Urban Space Design* (1990) follows the general pattern established above, allocating primacy to architectural rather than social or other concepts. So the text is a fairly straightforward rendition of ideas, which had already been well expressed, for example in the three previous syntheses discussed above, and in significantly greater detail by individual scholars who have specialized knowledge of the selected material. In a very real sense, this was probably the last book on urban design that could perform this task, for two main reasons. First, because Broadbent's book is the best of its kind and does not leave much left to be said within its chosen paradigm. Second, because the entire deterministic construct of modernist urbanism has finally been exhausted of its ideological and aesthetic content. The great planning disasters of modernist architecture recounted in P. Hall (1982) and Dunleavy (1981) which came to a catastrophic and symbolic finale in the dynamiting of the Pruitt-Igoe housing estate in St Louis Missouri, have slowly given rise to a new consciousness. In essence, the architectural imagination has had to realize its significant limitations, which were impacted by new knowledge emerging from other disciplines such as environmental psychology, urban geography and urban sociology. Beyond the design of individual buildings, it started to dawn on many architects that a wholly different kind of knowledge is required to understand the modern city and the production of urban form, and that the vocabulary of architecture was seriously lacking in this respect.

Urban Space Design is therefore symbolic of the end of an era, and it is unlikely that another book of this kind would require to be written. It reflects

the functionalist philosophy of modernism, ritually emptying the production of urban form of its economic, social, political and symbolic content. This is also reflected in the curious fact that 18 years after the emergence of *postmodernism*, there is no mention of it in the index to Broadbent's book, although the distinction is made between *rationalists* and *empiricists*, and *neo-rationalists* and *neo-empiricists*. Despite this criticism, there was a kernel of awareness that something important was being ignored. Part one is a fairly straightforward enunciation of the historical evolution of urban form emphasizing the 20th century city. Part three is almost completely dedicated to an exhaustive presentation of architectural projects up until the time the book was written. While both parts recycle the same historical and contemporary examples, at the conclusion of part two, which carries over eight pages into chapter three, there is a brief and belated recognition that designers might just require some additional theoretical assistance.

Under 'Urban Realities' Broadbent discusses the work of a few scholars not directly connected to modernist orthodoxy – Jane Jacobs, Christopher Alexander, Nicholas Taylor, March and Trace, Peter Cowan, Oscar Newman and Alice Coleman. This collection is a pot-pourri of the scholarship of the time, a mixture of architects and non-architects that were concerned variously with social cohesion, system theory, mathematical modelling, environmental psychology, social housing and other factors. Their work was not connected in any meaningful way to mainstream architectural design, but overall it reflected a concern with the production of humane environments on the basis of at least *some* scientific knowledge grounded in substantial theory. Similarly, section three begins with a discussion of ideologies. Broadbent offers an extremely brief summary of the work of Marx and Engels, Charles Baudelaire, and George Simmel, whom he considers were instrumental to the intellectual foundation of *La Tendenza*, probably one of the most theoretically informed of all movements in modern architecture. Its name derived from its *tendency* towards an emerging neo-rationalism, later manifested most powerfully in the work of Aldo Rossi, although the intellectual powerhouse behind the movement was Manfredo Tafuri, a historian who became Chairman of the Institute of History at the School of Architecture in Venice in 1968. Broadbent is dismissive of what he calls

'Lamborghini Marxists' and 'bourgeois Marxism', due to a demonstrable ignorance of the development of Marxist thought since 1887.

As this is not the place to debate his position in this respect, reference can be made to a more sympathetic critique of *La Tendenza* by Massimo Scolari (in Hays, 2000, p. 124). From *La Tendenza*, Broadbent then progresses to a detailed study of Aldo Rossi and Carlo Aymonino whose work is representative of that school of thought. Apart from these brief excursions into paradigms not directly related to architecture, *Urban Space Design* remains firmly rooted to an architectural definition of urban space and form, one that is largely impervious to any external influences. Its basic philosophy is encapsulated in an insightful quotation from Massimo Scolari about modern architecture in general and the debates held within *Tendenza* in particular

What clearly emerges from this is first of all, an overall critical vision. One realizes that in the university architecture departments – because of, on the one hand, the objective marginality of their institutional and economic role and the subsequent lack of development of an explicit demand for research aimed in this direction, and on the other, the cultural backwardness of professional arrangements within the discipline – no comprehensively organized and systematic work of research has ever been developed that might fit into the whole as a way of advancing the dispositions of the discipline (Scolari in Hays, 2000, p. 135)

This statement could equally apply to urban design today. Overall, what emerges from an assessment of the four major attempts at synthesizing urban design theory up until 1990, either wholly or partially, is a stunning insistence that architecture as art, technology or science represent the only potential pathways. While each author attempts to broaden his position in regard to the problem with occasional reference to a favourite philosopher, to associated disciplines such as landscape architecture or urban planning, or to some enlightened critics such as Jane Jacobs or Alice Coleman, there is an unshakeable commitment to modern architecture and its adopted ideologies. It is also notable that every work was written *after* postmodernism had been officially christened, and that there is a singular refusal to recognize that epochal changes in the world economy were affecting society and space

in ways wholly unrecognized by any synthesis. In addition, research in other areas such as proxemics, environmental psychology, architectural anthropology, and social theory, is nowhere mentioned. Here we would have to include many authors who had a singular focus on the organization and design of urban space such as Sommer (1969), Hall (1969, 1976), Proshansky *et al* (1970), Perrin (1970), Rapoport (1981), Jameson (1988).

Not only this, but the revolution that was taking place in urban social theory throughout the 1980s that we will discuss later, goes wholly unrecognized. The problem here however, is the danger of throwing the baby out with the bathwater, and unwittingly consigning modernist architectural urban theory to the scrap heap in its entirety, insofar as it provides any substantial explanation of the urban dimension. This is not my intention. The aesthetics of architecture have an unparalleled place in all societies, and there is nothing so uplifting to the human spirit as direct contact with an architectural masterpiece such as King's College Chapel, Cambridge, the chapel at Ronchamp or Frank Gehry's Guggenheim museum in Bilbao. Indeed, there are many astounding insights in the four texts just discussed, and each has been selected because at the time it was the best available attempt at presenting some coherent synthesis of the urban prospect in terms of its formal arrangements.

In the last instance however, not only have these ideas failed to produce a synthesis, there remains a general reluctance to accept that modernist ideology was on many fronts, a wholesale disaster zone. Not only did it generate an astounding array of bad buildings and planning disasters, it exhibited a serious incapacity to accommodate the explosion of highly relevant theoretical debates and discoveries in related fields. Within the same period that the above attempts at synthesis were being set out, four individuals were to stake claims to unified theories of urban design in various areas. Their work in many ways still represents the core of mainstream urban design theory for many academics and practitioners over the last half century, and it is to this contribution we now turn.

Unified theories

Through the analysis of the work of many scholars and practitioners, the above texts all



attempt some synthesis of urban design theory with almost exclusive reference to architecture. In addition, there have also been four quite clear attempts by individuals to propose theories of their own – unified theories. The four theories that I refer to are Kevin Lynch's *A Theory of Good City Form*, (1981), Rob Krier's *Urban Space* (1979), Christopher Alexander's *A New Theory of Urban Design* (1987), and Bill Hillier and Julienne Hanson's *Social Logic of Space* (1984). Each is fascinating and unique, proposing altogether different theoretical paradigms for understanding urban design. In addition and without exception, each text that embodies the basic argument is both preceded and succeeded by other important contributions in the form of books, articles and/or empirical research of some kind. We now turn to the first of these, a person who has an enormous following in the professions and whose work is frequently taken as being synonymous with the field of urban design.

Kevin Lynch

Kevin Lynch probably shares the laurels with Christopher Alexander as the most cited scholar in the field of urban design. Lynch died in 1984 and his life work has been edited by Tribid Bannerjee and Michael Southworth (1990) into a massive collection containing his writings and projects called *City Sense and City Design*. The collection is arranged in seven thematic groupings dealing with city design – form, experience, analysis, theory, etc and covers the 30 years of his professional life from 1954. On the cover credits Philip Langdon states that 'Lynch has made the greatest personal impact of any *planning* teacher in the past thirty years; he established the ways in which urban designers examine a city's physical form, and he stimulated two decades of productive research in a variety of disciplines' (my italics). Ignoring the fact that Langdon conflates planning and urban design, the editors, both former students of Lynch (who in turn was a student of the great American architect Frank Lloyd Wright) – state in the introduction that Lynch 'was the leading environmental design theorist of our time'. Lynch wrote seven books and some 25 articles over the course of his life, and indeed there is no doubt that he had a profound influence over several generations of environmentalists, architects, planners, urban designers and landscape architects.

Notwithstanding his last book *A Theory of Good City Form* (1981) it is arguable that his first two books *The Image of the City* (1960) and *Site Planning* (1971) had by far the greatest impact of all his writing. Despite this significant influence, his work is extremely difficult to categorize. There appears to be two main reasons for this. Firstly, he chose to discuss a huge range of topics, making any overall categorization difficult, covering everything from horticulture to nuclear war. Secondly, most of his writing is eclectic and self-referential, with homage paid to few other individuals. Even after 30 years of writing, the bibliography to *A Theory of Good City Form*, lists authors using their first names, rendering the entire book somewhat inaccessible. His eclecticism is no doubt an outcome of his education. After leaving high school he went to study architecture at Yale, which he gave up after his sophomore year to work with the world famous Frank Lloyd Wright at Taliesin. After 18 months he became disenchanted with Wright, then studied engineering at Rensselaer Polytechnic Institute for a short time, and soon switched to studying biology at the same institute, prior to being drafted into the army in 1944. By this time Lynch had studied architecture, engineering and biology over a 4-year period without completing a degree. These interests however continued to influence his writing. For example, the biological analogy is evident in his two 1958 papers *Environmental Adaptability* and *A Theory of Urban Form* (with Lloyd Rodwin), two of the best papers he ever wrote. Even his experience in the military is reflected in an article published in the year of his death entitled *Coming Home: The Urban Environment after Nuclear War*, where he places himself in the existential position of a survivor of a nuclear holocaust (Bannerjee and Southworth, 1990). Lynch eventually graduated with a Bachelor of City Planning from MIT in 1947.

In referencing *City Sense and City Design* it is extremely difficult to classify his work due to the fact that in the 850 pages of the book there is no chronological statement of what he wrote, or the projects he was involved with. There is no Lynch bibliography that allows the reader to track the changes in his interests or indeed the development of his intellect. Similarly, and probably more telling, is the fact that one can range hundreds of pages through the book without finding a single bibliographic reference or serious discussion of any substantial theory or theorist. This creates the

impression that much of the writing is intuitive and anecdotal, pieced together from a variety of interests and experiences, but largely deprived of any significant theoretical foundation. Little homage is paid to anyone. This basic *weltanschauung* permeates his opus magnum regarding urban design, namely *A Theory of Good City Form*, published in 1981. In enunciating his own approach, Lynch offers what he calls 'three normative theories' which he says have structured city form since time immemorial, namely the cosmic, the mechanical and the organic:

The form of any permanent settlement should be a magical model of the universe and of the gods. It is a means of linking human beings to those vast forces and a way of stabilizing the order and harmony of the cosmos. Human life is thereby given a secure and permanent place; the universe continues its proper sacred motions. The gods are upheld, chaos is kept off, and, not incidentally, the structure of human power – of kings and priests and nobility – is maintained (Lynch, 1981, p. 73)

Lynch cites India (Madurai) and China (Beijing) as the two best-developed branches of 'cosmic theory' (curiously, Beijing had become singularly non-cosmic and atheist with a large museum at its core). Lynch describes his mechanical model (a favourite of many architects from Saint' Elia and Le Corbusier to Archigram and beyond) as follows:

Thinking of the city as a practical machine, on the other hand is an entirely different conception. A machine also has permanent parts, but those parts move and move each other. The whole machine can change, although it does so in some clearly predictable way, as by moving along some predetermined track. The stability is inherent in the parts, but not in the whole....The machine model is not simply the application of a grid layout, but rather a characteristic view about parts and wholes and their function (Lynch, 1981, pp. 81–83)

Despite this qualification, most of the examples given have gridiron frameworks (Greek Colonial towns, Roman military camps, towns created under The Law of the Indies, New York City, etc).

Finally, Lynch offers the biological model, where human life, consciousness and action, is conflated to that of the plant and animal kingdoms. This

had already been accomplished in The Chicago School of human ecology, beginning with Robert Park's seminal statements in 1916, thereafter developed by Louis Wirth and Roderick Mackenzie. But by 1950, Park's ecological approach to the city had almost completely expired (Saunders, 1986). The problem was that Lynch was writing in 1981:

The third normative model is much more recent, even if it is already two centuries old. This is the notion that a city may be thought of as an organism, a notion that came with the rise of biology in the eighteenth and nineteenth centuries. It was one expression of the nineteenth century reaction to the stress of industrialization, gigantic new cities, and the unprecedented leaps in technology. The force of this current persists, as evidenced in the spreading political influence of the idea of ecology, or in the academic struggles over subsuming human culture into the new field of sociobiology (Lynch, 1981, p. 89)

He cites few examples of this model, but refers to Tapiola (Finland), Hampstead Garden Suburb, and Greenbelt, Maryland as prototypical (all the product of artifice and as far from the organic as one can get).

A catalogue of models of settlement form in Appendix D reinforces these three basic normative theories. All three theories suffer to a greater or lesser degree from a combination of essentialist thinking with modelling. Any form of modelling is a negotiation between the model and reality (in Sayer, 1976), the relevance of urban modelling is systematically demolished). The flaw throughout is that rather than starting with how cities actually grow and function, some dominant feature of cities is adopted, suppressing all other features to this single concept. The idea that any contemporary settlement should correspond to a 'magical model of the universe' is quite absurd and does not warrant discussion. Similarly the concept of the city as a molar machine is also ridiculous. The mechanical model has more currency but still collapses round the analogy that cities are machines and can therefore be treated functionally, objectively and in accordance with simple and predictable laws. People do not enter into the equation. Definitive urban processes such as urban politics are simply ignored. The organic model probably arose from Frank Lloyd Wright's influence over Lynch when he was a student, Wright being the father of 'Organic Architecture'.

Here Lynch falls into the standard trap of many architects, planners and urban designers in two ways. First, in adopting the idea that a city is merely a somewhat larger building, and second, in assuming that buildings and cities can be compared by analogy in some significant manner to the natural world, as in the architecture of Wright, the writing of Lewis Mumford, and the research of The Chicago School of Human Ecology. Somehow Lynch missed out on the most overwhelming model of all, that cities are the stage where the class struggles of capitalism are played out.

Origins apart, Lynch's 'theory' is founded at two levels. First, there are the characteristics on which the performance dimensions of any city should be established – 'The characteristics should be as general as possible, while retaining their explicit connection to particular features of form' (Lynch, 1981, p. 113). Second, he states the six basic elements of his system as follows:

1. Vitality
2. Sense
3. Fit
4. Access
5. Control
6. Efficiency and Justice.

Each of these dimensions has some secondary breakdown or subsidiary classification, for example of 'Control' into five subgroups – the right of presence, the right of use and action, the right of appropriation, the right of modification and the right of disposition. Each of these is explained in detail both relationally and how they would be applied in practice. There is probably no single grouping of elements in urban design that has had a greater impact on the consciousness of urban designers than these six.

Lynch's theory of urban form then unfolds on the basis of an extended explanation of what he means by each of these terms and how they are deployed in analysis. For example, he says of 'Fit' that 'Simple quantitative adequacy is the elementary aspect of fit. Is there enough housing of standard quality? A sufficiency of playgrounds? Room enough for the factories that will be built?' (Lynch, 1981, p. 153). The limitations of the theory are anticipated by Lynch himself when he notes the lack of a complementary theory on how cities came to be and how they function, and perhaps

also in his comment that 'It is a peculiar fact that much of the literature on the theory of city form is outstanding for its stupefying dullness'. It is also quite possible that the dullness that Lynch refers to, just might result from a theory of good city form being normatively generated in the absence of some profound links to 'how cities came to be and how they function' (Lynch, 1981, p. 342).

Rob Krier: Urban space

Rob and Leon Krier, both brothers and architects alike, are two of the most popular of the European Avant-Garde in contemporary architectural theory. While they share a similar intellectual focus, Rob Krier is older and more utopian than his brother Leon. Also his written work is more prolific and politically left of centre (Krier, 1978; Krier and Culot, 1979). But here we are concerned with a single work by Rob Krier first published in the original German under the title of *Stadtraum* in 1975, followed by the English version in 1979. While Krier makes no claim to a new theory of urban design, his book was quite revolutionary when it appeared, offering urban designers a complete interpretation of urban form in actual graphic examples. The book's subtitle *Typological and Morphological Elements of the Concept of Urban Space* indicates his contained approach to urban design theory, and this is laudable. Krier's hypothesis is that all forms of urban space are already in existence and therefore no new forms can be created. Over the passage of historical time, every physical relationship between form and space has been worked out, possibly thousands of times over in some cases. The assumption we can glean from this statement is that we must pay our respects to history for providing us with the essential vocabularies we need to construct meaningful urban spaces for the foreseeable future. Krier states his intention simply and directly 'It is not my intention here to generate a new definition (of urban space), but rather to bring its original meaning back into currency' (Krier, 1979, p. 2).

Stadtraum constitutes the most complete statement of urban space typology that we have to date, and it simultaneously offers a theory of urban form that is more both limited and unified than that of Lynch and Alexander, but without the claims to prominence. Despite Krier's politics, his approach is highly functional, trying to clarify the

concept of urban space *independent to aesthetic criteria*, and therefore arguably from all applied meaning. One might question why this seems a reasonable thing to do, since depriving anything of meaning would appear to render it catatonic – incapable of expressing anything at all. Krier makes his case as follows:

If we wish to clarify the concept of urban space without imposing aesthetic criteria, we are compelled to designate all types of space between buildings in towns and other localities as urban space....Every aesthetic analysis runs the risk of foundering on subjective questions of taste. As I have been able to observe from numerous discussions on this topic, visual and sensory habits, which vary from one individual to the next, are augmented by a vast number of socio-political and cultural attitudes, which are taken to represent aesthetic truths....However my observations indicate that they are almost always identified with the social structure prevailing at the time in question (Krier, 1979, pp. 2–3).

Krier's argument is that we must *ab initio* seek a social foundation for urban form, for the simple reason that while historically derived urban forms may be defined and used rationally as a vocabulary, their meanings are wholly contextual. The implication behind this is that meanings are not given to buildings and spaces by designers, but are semanticized by populations. Since meanings are historically and socially reproduced, one would have to think in significant depth as to the correctness of borrowing any urban form along with its historically designated meanings. This situation was brought home to me quite vividly in 1984 on a visit to Shanghai while walking with a Chinese friend on the Bundt. On the other side of the road I saw an exquisite building designed in the Classical Greek style, and asked what the banner meant that was hanging outside it – the banner read 'The Headquarters of the Communist Party of the People's Republic of China'. After a long analysis of the symbolism of the façade and the functions that were going on behind it, I decided rather reluctantly that they were not altogether inappropriate.

But in separating form from meaning in Stadtraum, Rob Krier emphasizes that the real task of the urban designer, having been handed the vocabulary of form, is to select the most appro-

priate urban forms to fit any specific site, without agonizing over symbolism. Despite his fundamentalist approach, it is difficult to be so absolute about the designer's role. After all, the designer is a social product as well, and embodies a constellation of meanings that drive their actions. Krier is clearly ambiguous about this when he says – 'It is certainly worth trying to establish why certain kinds of urban space were created in the 17th century which we now identify with that period. And it would be even more interesting to examine the real reasons why 20th century town planning has been impoverished and reduced to the lowest common denominator' (Krier, 1979, p. 10, see also Shane, 1976).

As an urban design theorist, Krier therefore denies the simple classification of rational/contextual by simultaneously occupying both camps at once. On the one hand he argues for a historical and contextual urbanism, criticizing Le Corbusier's 'confused historical sense', yet at the same time he adopts a wholly functionalist stance to his analysis of urban form. The advantage that Krier has over both Lynch and Alexander is that he is a practicing architect of significant international reputation and has managed to apply his own theoretical concepts in major projects across Europe (Amiens, Luxembourg, Berlin, Amsterdam, The Hague, etc). Curiously, and on the one hand, while his theory of urban form is much more limited than that of Lynch or Alexander, on the other, it is founded on a much deeper understanding of how society actually functions using many of the concepts of political economy as intellectual sources. To this extent his ideas, like those of Rem Koolhaas, are seriously driven by concepts which lie outside his immediate focus of attention, and represent one of the most sophisticated attempts to combine the social with the physical.

Bill Hillier and Julienne Hanson

Bill Hillier, former Professor of Architecture at the Bartlett College, London University, is probably the least known and cited of the four individuals theorists under discussion, for the simple reason that his work is extremely difficult to understand, much of it buried in mathematical concepts and formulae. On the other hand, it constitutes one of the most erudite and scholarly expositions of urban spatial theory. In his first major book *Space*

Syntax (with A. Leaman, 1976), a basic framework of ideas is sketched out. The concepts are further elaborated with Julienne Hanson in *The Social Logic of Space* (1984), which concludes with notes towards a general theory of social space. These ideas are also condensed in a fine article called *The Architecture of the Urban Object* (1989), and are pursued in significantly greater depth in *Space is the Machine – A Configurational Theory of Architecture* (1996). It is also notable that in the massive 800 page *Architecture Theory Since 1968* (Hays, 2000), Hillier's work goes unmentioned, indicating that at least one editor does not consider his work part of the last thirty five years of theory in architecture, despite his three books and numerous articles on the subject. This is unsurprising, since the word *social* is anathema to most architects. Hillier's work is in many respects remote from specific disciplinary boundaries, and is not easily confined to academically or professionally defined territories.

However, as Hillier and Hansen state in the preface to *The Social Logic of Space*, 'The book is thus a statement of a new theory, and a sketch of new methods of spatial analysis' pointing out that further case studies are necessary which would include 'the social logic of settlements, the social logic of housing, and the social logic of complex buildings' (Hillier and Hanson, 1984, p. xi). In greater detail, they suggest that what might appear to be associated fields of research such as Alexander's *Pattern Language* (above) actually have limited relevance to their notion of fundamental syntactic generators.

Alexander's notion of a pattern is too bound to the contingent properties of the configurations to be useful for us; while at a more abstract level, his preoccupation with hierarchic forms of spatial arrangements (surprising in view of his earlier attack on hierarchical thinking in *a City is not a tree* (1965) – would hinder the formation of non-hierarchical, abstract notions of spatial relations, which in our view, are essential to giving a proper account of spatial organization (Hillier and Hanson, 1984, p. xi)

Curiously, Hillier does not mention Alexander's analysis of an Indian village in the last chapter of *A Synthesis of Form*, which appears to bear a singular resemblance to Hillier's analysis of the Tallensi people of Northern Ghana and the Ndembu of Northern Zambia (Hillier and Hanson, 1984, Chapter 8). In spite of the denial,

there is a definite link between Hillier and Alexander, and also to the idea of urban patterns as fractals (Batty and Longley, 1994; Batty and Xie, 1996), and to *the Theory of the Urban Web* (Salingaros, 1998).

Hillier's concerns begin and end with architecture, which he views as the only discipline that has the capacity to take account of the underlying morphological structures in the relationship between society and space. Hillier and Hanson maintain that the reason why the socio-spatial integration remains problematic is because of the missing link between the domain of society and the purely physical nature of urban space, between the social element in the physical and the physical element in the social. The objectives of the syntax model are noted as follows:

- To find the irreducible objects and relations or 'elementary structures' of the system of interest – in this case, human spatial organization in all of its variability.
- To represent these elementary structures in some kind of notion or ideography, in order to escape from the difficulty of always having to use cumbersome verbal constructs for sets of ideas which are used repeatedly.
- To show how elementary structures are related to each other to make a coherent system.
- To show how they may be combined together to form more complex structures (Hillier and Hanson, 1984, p. 52).

The proposed theory is purely descriptive (as opposed to analytical, methodological, predictive, etc), and builds a relational conceptual model of pattern types, thereafter.

'The argument then turns to society, and extends the same morphological argument into the domain of social relations, by considering them as restrictions to random encounter patterns. From this naïve spatial view of society, a theory is developed of how and why different forms of social reproduction require and find embodiment in a different type of social order' (Hillier and Hanson, 1984, p. xi). Hillier and Hanson's approach to urban space is heavily influenced overall by general systems theory and mathematics. Mathematical models result in computer-generated images, many of which are art works in themselves.

The concept of syntactic structures which is heavily accessed, is derived from Noam Chomsky's book of the same name (Chomsky, 1957, 1975), and despite their criticism of Alexander's obsession with hierarchic systems, there is a similar concern running throughout the text. The book is riddled with highly complex mathematical, computer and other jargon such as genotypes, phenotypes, morphic languages, cluster syntax, clump processes, bi-polar systems, gamma analysis, etc, where 'the principle axiom for the whole syntax theory of space is that spatial organization is a function of the form of social solidarity, and different forms of social solidarity are themselves built on the foundations of a society as both a spatial and a transpatial system' (Hillier and Hanson, 1984, p. 142). Also Hillier and Hanson's approach is unavowedly structuralist, making it in principle, singularly indifferent to any human qualities at all (Boudon, 1968; Piaget, 1971; Robey, 1973; Levi-Strauss, 1978).

Overall, across the three books in which he has been involved, Hillier has made a unique contribution to our understanding of urban space based on substantial theory (mathematics) and in generating his own unique vocabulary to support his ideas. Within the limits he has set himself, his project is a *tour de force* in logical thinking. The parameters he sets out are so clear that in many ways the 'social logic of space' presented, is a perfect match for the established criteria. Nonetheless, the kind of thinking necessary to the model is rooted to a specific paradigm that is asocial, apolitical, and devoid of any basis in economics or ideology. It is an exercise in abstraction based on a model of human relations that are so removed from the social that its usefulness in any sphere of human development must be seriously questioned. Despite the extensive content of much of his work, people are reduced to atoms moving about in urban space, and with about as much character. Space syntax becomes a social technology with potentially Benthamite and Orwellian implications for surveillance and social control. Not only this, but the heavy emphasis on structuralism, general systems theory, computer modelling and mathematics leaves the model wide open to many levels of quite serious criticism. For example, the structuralist model assigns primacy to structures, without an appropriate consideration of what Anthony Giddens refers to as *agency* in his *Central Problems in Social Theory* (Giddens, 1979, Chapter 2). While

Giddens notes that he does not wish to adopt the odd mixture of nominalism and rationalism advocated by Levi-Strauss, he argues that although structure has a virtual existence as instantiations or moments, that 'this is not the same as identifying structure merely with models invented by sociologists or anthropological observers' (Giddens, 1979, p. 63).

The models are in effect, the perfect counterpart to those in neo-classical economics, where models work because all of the parameters which might otherwise impinge on the purity of the abstraction are left out of the equation, and socialized production does not take place. While Hillier and Hanson accord great significance to philosophy and social science, the adopted models are sanitized of any social content, where their mechanical and functionalist nature reduces individuals to the atoms of Newtonian mechanics. In addition, structuralism as a basic philosophical platform went out of fashion at least 30 years ago, and the kind of modelling of human behaviour based on mathematical and other formulae has been subject to considerable and extended criticism over decades.

the discovery that a model is free from mathematical errors says nothing about whether it is applicable in the real world..... A further example of this kind of resonance is evident in the tendency of users of mathematical models of social phenomena to reify human practice by interpreting it as mechanical and regular, rather than always contingent and liable to transformation (Sayer, 1984, pp. 158, 181)

In addition, all of the studies are confined to patterns, that is, to two dimensions, whereas urban design is always modulated in the third and fourth dimensions, where transformation over time is highly significant. The models are also deprived of *meaning*, which Castells has indicated should be the central concern of urban design.

Christopher Alexander

Arguably, Christopher Alexander and Kevin Lynch share the laurels for the most influential and popular urban design theorists since the early 1960s, and both have had a huge impact on mainstream urban design theory. Interestingly,

neither has a first degree in architecture. Alexander and Lynch graduated in mathematics (MA Cambridge), and Urban Planning respectively, with Alexander currently Professor Emeritus at the University of California at Berkeley (Faculty of Architecture). Alexander's (2003a–d) publications have been prolific, from *Notes on a Synthesis of Form*, his first book published in 1964, to his current four-volume opus magnum 40 years later in 2003, *The Nature of Order*, a work of 2150 pages which few can afford to purchase.

The reviews for this work (published on his own website) are quite extraordinary and wholly unbelievable on the basis of his past performances, for example 'It may prove to be one of the most consequential works Oxford has published in all of its 500 years' and 'having produced the first credible proof of the existence of God' or 'I don't expect that many of the people I talk to in these pages will be known in the year 2500. Christopher Alexander may be an exception'. Such accolades are quite surreal. Rather than encourage the book's purchase, they tend to make one question the sanity of the reviewers, and by association the content of the work in question. The remainder of Alexander's work has usually been published in cooperation with other participants, arguably the most important of these being *The Pattern Language* published in 1977 with co-authors Sara Ishikawa and Murray Silverstein, volume two in a sequence of publications dealing with Alexander's position *vis-à-vis* the production of urban form. The text I will focus on here, called *A New Theory of Urban Design* (1987) is volume six in the same sequence. Since Alexander has concerned himself throughout his life with a few key themes, it is impossible to discuss *A New Theory* in isolation, so a very brief statement of these ideas is necessary. For those wishing to pursue his entire lifework in greater depth, he has his own website at www.patternlanguage.com.

Originally, Alexander's approach to design was significantly influenced by the discipline of mathematics, particularly hierarchy and set theory. His *Notes on the Synthesis of Form* (1964) remains to many scholars, one of the classic statements of design principles, culminating in the analysis of an Indian village of six hundred people. Even at this time, Alexander's concern with patterns, relationships and structure as the basis for design is quite apparent. The frontispiece to *Notes* is also instructive, a quotation from

Plato's *Phaedrus*; 'First, the taking in of scattered particulars under one idea, so that everyone understands what is being talked about.... Second, the separation of the idea into parts, by dividing it at the joints, as nature directs, not breaking any limb in half as a bad carver might'. Alexander notes the reluctance of designers in general to recognize the limitations of their own intuition and the fetishization that occurs when they refuse to recognize the need to qualify intuition with rationality, an attitude that imbues most mainstream theory. He draws the important distinction, one upon which he has built his reputation, between what he terms the *self-conscious* and the *unselfconscious* design process. The former is the product of the individual artist or designer, while the latter is tied to the traditional relationship between nature and culture. Despite his comment on rationality, he says of the self-conscious process that:

'There is no legitimate sense in which deductive logic can prescribe physical form for us', and in greater detail; 'A man who sets out to achieve this adaptation in a single leap is not unlike the child who shakes his glass-topped puzzle fretfully, expecting at one shake to arrange the bits inside correctly. The designer's attempt is hardly random as the child's is; but the difficulties are the same. *His chances of success are small because the number of factors which must fall simultaneously into place is so enormous*' (Alexander, 1964, pp. 8, 59, my italics)

Alexander argues that whereas the self-conscious process is inherently fallible, the unselfconscious process is homeostatic. Not only is it capable of generating the correct form but also of adaptation to future change. This basic idea has been at the heart of Alexander's work since 1964 – the tendency of the unselfconscious process towards homeostasis and equilibrium in the course of evolutionary development, and therefore the correct basis upon which to design the component elements of our environment. Intellectually, this position is quite courageous, since it places Alexander fairly and squarely against architectural design, not merely in terms of a single style or tradition, but modern architecture in its entirety, the total package; 'with the invention of a teachable discipline called "Architecture", the old process of making form was adulterated and its chances of success destroyed' (1964, p. 58). Not only this but Alexander also rejects modern

planning methods on the same basis, since self-conscious master plans are no less self-conscious than individual architectural designs, and therefore equally prone to failure. While these remarks were written 39 years ago, they may not be representative of his position today. On the other hand, this seems unlikely, since a single glance at his entire *oeuvre* indicates that it is infused with the same basic philosophy, minus the heavy reliance on mathematical modelling that was exhibited in his early work.

This basic principle of unselfconscious design first expressed in 1964 has been elaborated in a series of works up until the present time. It was next developed in what is arguably his most influential work, an article called *A City is Not a Tree* (1965: republished in *Bell and Tyrannhitt*, 1972), in an interesting unpublished article with Barry Poyner called *The Atoms of Environmental Structure* (1965), and in one published the following year – *The City as a Mechanism for Sustaining Human Contact* (1966). By 1977 Alexander had fully developed his concept of designing from patterns in *A Pattern Language – Towns, Buildings Construction*, a text described by Tony Ward as ‘The most important book on architectural design published this century’ (1979, p. 17). Whether one agrees with this assessment or not, I would speculate that *A Pattern Language* must accept the laurels for being the largest selling book on urban design ever written. Another of his books *The Timeless Way of Building* that was supposed to have been published before *A Pattern Language* and establish the context, was actually published 2 years later in 1979. By 1987 Alexander and three associates (Hajo Neis, Artemis Anninou and Ingrid King), were able to state; ‘We realized that what we had was, quite simply, a new theory of urban design’ (Alexander, 1987). Whether this was true or not remains to be explored.

This claim to theory was built in three steps. *The Timeless Way of Building* established the basic ideology of planning and building that was in essence a formalization of pre-capitalist, pre-commodified (unselfconscious) architecture that reflected age-old traditions across the planet. *The Pattern Language* (a tome of some 1200 pages) – then established a language for planning and building in 253 templates or *patterns* from independent regions (pattern 1), to how to select pictures for your bedroom wall (pattern 253).

In between, the remaining 251 patterns specify a myriad of activities and situations from agricultural valleys to density rings, night life, birth places, grave sites, parking lots, hierarchy of open space, six foot balcony, tree places, dressing rooms and a myriad of building details. Each pattern is set out in the same manner, first, a picture or diagram of the pattern, second, a brief account of the problem with the rationale for the pattern, and third, a statement of what is required with suggested links to other patterns. All patterns are interrelated. Patterns can begin anywhere, at any time, are seen to be dynamic and evolving, and ‘if you like, each pattern may be looked upon as a hypothesis like one of the hypotheses of science. In this sense, each pattern represents our current best guess as to what arrangement of the physical environment will work to solve the problem presented...and are therefore all tentative, all free to evolve under the impact of new experience and observation’ (Alexander, 1977). The patterns are a maturing of Alexander’s original terminology *The Atoms of Environmental Structure*. In essence, the patterns remain precisely that, a conception of elementary particles outside of any governing theory.

What *A New Theory of Urban Design* does, is move one or two steps beyond the pattern language by synthesizing seven basic rules and a single principle that underwrite the theory in its entirety. However, the idea that each pattern is analogous to a hypothesis of science requires a singular leap of the imagination. Somewhat paradoxically, *A New Theory* reverts back to two basic principles of General Systems Theory (GST), that of wholeness and self-regulation (Bertalanffy, 1968; McLoughlin, 1970). During the evolution of the Pattern Language, Alexander states that he became aware of a deeper level of structure lying behind the patterns:

At this level of structure it was possible to define a small number of geometric properties which seemed to be responsible for wholeness in space. Even more remarkable, it was possible to define a single process, loosely then called ‘the centering process’, which was capable of producing this wholeness (with its fifteen or so geometric properties), at any scale at all, irrespective of the particular functional order required by the particularities of a given scale (Alexander, 1987, pp. 4–5)

Unfortunately, the statement of the new theory was somewhat premature, and in the introduction there is an additional comment that 'so far the theory of these spatial properties and of the centring process remains unpublished (it will appear in a later volume in this series, *The Nature of Order*' (Alexander, 1987, p. 5)). Twenty years later we await the revelation of the centring process, although reading between the lines, it must directly impinge or otherwise define the concept of wholeness. This is indicated by the statement of a single overriding rule 'Every increment of construction must be made in such a way as to heal the city...most simply put, every new act of construction has just one basic obligation: it must create a continuous structure of wholes around itself' (1987, p. 22). The 'healing' depends on the construction method. While this missing element remains absent, at least the seven basic rules, which delineate wholeness, were stated from pages 32 to 99 in the text as follows:

1. This rule establishes the piecemeal character of growth as a necessary precondition of wholeness.... and furthermore, that the idea of piecemeal growth be specified exactly enough so that we can guarantee a mixed flow of small, medium and large projects in equal quantities.
2. Every building increment must help to form at least one larger whole in the city, which is both larger and more significant than itself. Every-one managing a project must clearly identify which of the larger emerging wholes this project is trying to help, and how it will help to generate them.
3. Every project must first be experienced, and then expressed, as a vision, which can be seen in the inner eye (literally). It must have this quality so strongly that it can also be communicated to others, and felt by others, as a vision.
4. Every building must create coherent and well-shaped public space next to it.
5. The entrances, the main circulation, the main division of the building into parts, its interior open spaces, its daylight and the movement within the building, are all coherent and consistent with the position of the building in the street and in the neighbourhood.
6. The structure of every building must generate smaller wholes in the physical fabric of the building, in its structural bays, columns, walls, windows, building base, etc – in short, in its entire physical construction and appearance.

7. Every whole must be a 'centre' in itself, and must also produce a system of wholes around it.

The new theory was tested in relation to a site of 30 hectares on the San Francisco waterfront through a simulation process of gaming or growing the site over a 5-year period. A graduate class of 18 students played the game from UC Berkeley, and on this basis the authors declared that the experiment was a success and that the theory was therefore vindicated (a far more sophisticated simulation was carried out by Frank Hendricks at Cal Poly, San Luis Obispo for many years without any claims to new theory). Those interested will have to undertake a detailed reading of the book to assess the author's claims to 'A New Theory', but certain observations need to be made here in order to place this theory alongside the other three, and to come to some general conclusions.

As a qualification of Alexander's work in advance of some fairly serious criticism of this 'theory', let me say at the outset that there is no question as to Alexander's brilliance and the contributions he has made to urban design. Considering only one of his books, *A Synthesis of Form* was a revelation, an exercise in clarity and logical thinking, and on this first book alone, Alexander staked a claim to originality and leadership. His writing to date has an elegance and simplicity that is rare, and his scholarship is grounded in considerable theoretical knowledge in mathematics, philosophy, social science, psychology and related disciplines, much of this muted and hidden in his writing, but more apparent in some of his unpublished papers. Not only this but he has always had the courage to challenge orthodoxy in all of its forms, and examples of this have been given above in relationship to the architectural and planning professions. Challenging prevailing norms is a required part of critical thinking in any arena, and Alexander has done more than his share in this regard. However it is tragic that such a challenge to prevailing authority was not based on something other than a general return to a medieval past, and an unnecessary revisiting of the biological analogy and the 'healing' process.

Beginning with *The Pattern Language* however, Alexander's projects have become increasingly utopian where the process of *centering* not only

implies certain assumptions about physical space, it demands that society should be reinvented as well, so that the correct moral attitude will prevail for building the new age. This attitude was pointed out at length in three reviews of *The Pattern Language*, which were written for the *Journal of Architectural Design* (Buchanan, 1979; Rabeneck, 1979; Ward, 1979). Ward comments on the fact that anyone with Alexander's views cannot remain a professional and simultaneously act as a medium for social change because professions *de facto* are in the business of preventing such change from occurring. He goes on to point out the dilemma in Alexander's thinking that 'if the changes implied in the book were to be realized, it would imply nothing short of a total *inversion* of the current power structure over the environment' (Ward, 1979, p. 17). One of the major problems with the patterns is their claims to be archetypes, and of having cross-cultural application, which is clearly not the case. I myself have lived in many places round the world and it is an arrogance that the concept of Jungian archetypes can be applied universally to support his thesis. Nothing is further from the truth. Like much of the logic in the books from that point, ideologies, principles and practices are presented as true, yet constantly in a state of flux, modifications being the responsibility of the users. On the basis that everything in this *Weltanschauung* is adaptable, much substantial criticism can be evaded – its all up to environment and evolution.

Andrew Rabeneck disagrees strongly with Alexander and his colleagues entire approach, that is, one which more or less writes off the design process as we know it, since it does not generate the desired medieval qualities in urban form. He points out that the traditional design process has developed many strategies over the years to minimize risk and reduce uncertainty. He cites three basic methods. First, *mimesis* or imitating past forms, second, the idea of rule systems such as those used to generate requisite variety in classical buildings, and third, the strategy of explicit prediction in regard to the generation of urban form. He argues that as a consequence of rapid social and technological change, three major changes have happened to the act of designing (Rabeneck, 1979, p. 19).

- Analysis of needs replaces accepted conventions of need.

- Invention of forms replaces conventions of form.
- Instruction of the builder in how to build replaces dependence on craft conventions.

Rabeneck points out that in the process of trying to humanize and de-brutalize our urban environments, and to obviate some of the worst consequences of this process of social change; 'Alexander and his colleagues have created a totalitarian moral framework into which their prescriptions slot so neatly.....But today with close regulation of the economy and freedom of individual morality, a positive initiative like the pattern language stands little chance...it is a treasure trove of esoteric evidence brought to the support of firmly held personal prejudices' (Rabeneck, 1979, p. 20). Although Ward and Rabeneck are critical of *The Pattern Language* as a total package, Buchanan goes even further when he says:

The reasons for the neglect of Alexander's pattern language are obvious. Though it purports to be a working tool outlining a process to a better environment, it is hopelessly impractical. It ignores and cannot even accommodate such basic constraints as planning controls and building regulations. There is no word on finance; and modern tools, materials and conveniences are shunned. The world it implies is paradoxically both too primitive and too utopian. It smacks of a shaggy; idealistic and unsustainable hippiedom (Buchanan, 1979, p. 21)

Because there has been a pursuit of the same basic ideals and principles in Alexander's work since *A Timeless Way of Building* the same kinds of criticism apply to *A New Theory of Urban Design*. Indeed, much of the criticism contained in the above comments is freely admitted in the self-evaluation by the participants 'All in all then, the unity of the project is not quite as deep as we had hoped. There is a partial unity. But the profound simplicity and unity which was often achieved in old towns has not yet been achieved here...for example in our experiment, there was a tacit agreement among students and teachers, that we were trying to get a large scale order out of nothing' (Alexander, 1987, p. 235). The denial of reality noted by Ward and Rabeneck, which permeated the *Pattern Language*, also underwrites the claimed success of the new theory which 'depends on the fact that we intentionally

ignored present rules of urban planning, zoning, urban administration, financing and economicsBut of course, in order for the theory to succeed, these problems must ultimately be dealt with' (Alexander, 1987, p. 240).

A New Theory of Urban Design can therefore safely be written out of the history books and nothing can really come of it. In fact, it does not advance much beyond the idealistic and utopian student project that set the groundwork. Unlike *A Synthesis of Form*, which was scientific, sourced substantial theory and was significantly referenced, *A New Theory* has exalted claims to fame. Based upon a single simulation exercise, a technique popular in planning schools in the mid-1970s – the results are commensurate with that technique. The book has neither footnotes, endnotes, an index nor a bibliography and is totally self-referential. So most of its claims have to be accepted on the basis of an evangelistic and undiluted faith that its authors have got it right. They may argue that all of the theoretical arguments had already been expressed in previous work (which of course they had not), but this would be escapist in the extreme, since it is reasonable to expect *A New Theory* of any kind to be self contained, and not, as noted above, to be even missing its key hypothesis of 'centring'. As in most utopian schemes, current realities such as the information age, globalization, neo-corporatist ideologies, fiscal crises, the commodification of culture and traditions, etc are all ignored, not to mention more grounded facts such as prevailing legislation, land ownership, existing environments, political interests and aspirations, urban planning practice, building economics and the myriad of factors that constitute daily life in the modern world. The project is a well meaning but unfortunate fantasy that inverts the historical process and locks urban design into medieval logic, traditions, processes and morality. In the last instance, *A New Theory of Urban Design* has no relation to the world we live in, other than the collective and no doubt well-meaning aspirations of the participants.

New theoretical positions

Recent theory

Over the last 10 years there has been a growing awareness that all is not right with the state of

urban design theory. In a paper with major implications for urban design education, Anne Vernez-Moudon has made the most comprehensive statement to date about the relationship between Urban Design theory and the education of urban designers. Her paper *A Catholic Approach to Organizing What Urban Designers Should Know* (1992) is a classic of its kind, and remains mandatory reading for anyone wishing to understand the foundation for mainstream Urban Design theory. At the time it was published, it provided a precise summary of the end of an era, and the commencement of significant confusion as to where urban design was heading. While no new texts have emerged that either attempt a synthesis or propose a new theory, there have been several articles that question mainstream concepts. Most have been either published or discussed in the *Journal of Urban Design* that focuses specifically on extended articles about key urban design issues. In order to get some perspective on current trends in the field, I analysed all of the published works since the inception of the journal in February 1996. Excluding editorials and reviews, etc, this amounted to some 160 articles up until 2004. Overall, I derived eight simple categories which accommodated the predominant concern of the article, despite the fact that some could have qualified for three categories at once:

- Case Studies: Locations
- Case Studies: Typologies
- Methodological Typologies
- Theoretical investigation
- Theoretically driven case studies
- Qualitatively driven case studies
- Practice
- Education.

Ten articles focused on specific places, for example, Rome, Auckland, Magnitogorsk, Sydney, and Tehran, etc. Sixteen dealt with physical typologies such as city centre blocks, new towns, pavement cafes, linear parks, neighbourhoods, English hill towns and other areas of interest. Some took a small cut at a large subject *Emerging Form Types in a City of the American Middle West* (Maller, 1998). Others took a very big cut at a whole country *Implementing Urban Design in America: Project Types and Methodological Implications* (Lang, 1996). Seven articles concentrated on what I could only term 'methodological typologies' because of the focus on applying a particular

methodology to urban design problems, for example, *Using Conjoint Analysis to Formulate User Centered Guidelines for Urban Design, The Example of New Residential Development in Israel* (Katoshevski and Timmermans, 2001), or *Help for Urban Planning: The Transect Strategy* (Talen, 2002). Out of the total, only 13 articles were directly focused on theory, for example, *Back to Phenomenological Placemaking* (Aravot, 2002), *Theory of the Urban Web* (Salingaros, 1998, 1999, 2000), *From Abstract to Concrete – Subjective Reading of Urban Space* (Kallus, 2001), although this category expanded into 11 theoretically driven case studies such as *Memory, Democracy and Urban Space: Bangkok's Path to Democracy* (Dovey, 2001). I used the term 'qualitatively driven' in order to distinguish those articles which focused on *qualities* of urban space as distinct from *quantitatively driven research* much of which relies on empirically based, interviews or surveys. The 12 works in this category were largely confined to the Townscape tradition where keywords such as townscape, identity, decoration, character, aesthetic, authenticity, privacy, experience, etc loomed large in articles such as *Authenticity and the Sense of Place in Urban Design* (Salah Ouf, 2001), and *The Urban Picturesque, An Aesthetic Experience of Urban Pedestrian Places* (Isaacs, 2000). As one might expect, the largest category, practice, included 23 articles that directly addressed professional activity of some kind, with issues such as design control (more than half), policy, the appeal process, stakeholder interests, etc. Only two articles dealt directly with education (Cuthbert, 2001; Hanson and Younes, 2001).

As in most classifications, some articles could easily have occupied three categories at once, for example in *Structuring a Landscape, Structuring a Sense of Place: The Enduring Complexity of Olmsted and Vaux's Brooklyn Parkways* (Macdonald, 2002). This is simultaneously qualitative (sense of place), a case study (Brooklyn) and a typology (Parkways). So while there are some overlaps, nonetheless the picture that emerges is one where only 10% of the articles were directly concerned with theory of some kind. Three of these, roughly 25%, were written by one person, Nikos Salingaros who is a mathematician in the Division of Mathematics at the University of Texas at San Antonio. Salingaros' paper *Complexity and Urban Coherence* acknowledges that Christopher Alexander's ideas have influenced his work 'to an enormous extent' (Salingaros, 2000, p. 315). The

problem we face here is a return to mathematical modelling of the kind Alexander himself rejected 30 years ago, and no new ground is explored. More interesting is some consideration of post-modern themes such as gender (Day, 1999), phenomenology (Aravot, 2002; Jiven and Larkham, 2003), authenticity (Salah Ouf, 2001), power and resistance (Dovey, 2001), globalization and 'locale' (Gospodini, 2002), and memory and collective identity (Neill, 1997). Overall however, the picture has become even more fragmented than previously.

If these articles are any guide to interests, one significant event seems to have taken place, namely the loss of a wholesale dependency upon orthodox architectural theory and practice, manifested in virtually all of the writing discussed to this point. This appears to have been replaced with a dominant theme of regulation, both development and design control, and so the move seems to have been one from architecture to development and policy planning. This has materialized in a universally incipient movement called 'The New Urbanism', the only practice having a special issue since the inception of *The Journal of Urban Design* 7 (3) October 2002. Overall, I view this as a significant development, since it is the perfect physical instrument for a new direction in urban design, one which concentrates on increased instrumental command over urban form. Whether this constitutes a positive strategy for urban design remains to be seen, since there has been singular criticism of its dark side – social segregation, class and racial distinctions, constraints on creativity, a misplaced historicism and other considerations. While one could argue that the new urbanism is architectural determinism in a different form yet again, the whole foundation upon which the new urbanism stands represents a rejection of modernist and postmodernist architectural design. It relies heavily on locally derived, historically dependent, unified architectural styles that lend themselves precisely to the highly developed controls epitomized in the work of Carmona (1996).

What concerns us here however is theory, and taking the theoretical content of the journal to date, very few authors have even broached the idea of a new theoretical position, let alone some overall synthesis. Alone among these is the New Urbanism which claims to be based on the theoretical principle of *the Transect*. This in turn owes its

heritage to Patrick Geddes' Valley Section (1915) and Ian McHarg's sieve mapping principles (1969), adopting a 'natural' urban section based upon the morphology of traditional towns and cities:

Beyond being a system of classification, the Transect has the potential to become an instrument of design. The correlation of the various specialized components by a common rural-to-urban continuum provides the basis for a new system of zoning, one that creates complex, contextually resonant natural and human environments.....There are benefits to such an integrated system of zoning. First, it would eradicate the self referential standards of specialists. Second, each transect zone would be an immersive environment, a place where all the component elements reinforce each other to create and intensify a specific character (Duany, 2002, p. 253)

While some may argue that the New Urbanism is a *post hoc* rationalization of the work of a single American architectural practice (Duany and Plater-Zyberk, 1992), it is undeniable that the movement now has a huge international following. However, the New Urbanism does not constitute theory in any meaningful sense, and remains a methodologically based practice with some rather dubious assumptions about the growth of cities and the generation of urban form (eg the parallel with fractals for example). It can be seen as a continuation of the types of 'theory' discussed above. It derives from the work of a single collaboration; is not the outcome of any primate theory; is a product of inductive reasoning; and is practice and methodologically based. In the last instance the New Urbanism is a successful marketing strategy coupled with a conservative ideology, which provided the architectural profession with yet another charismatic leader, or more accurately, leaders in Andres Duany and Elizabeth Plater-Zyberk (currently Dean of the School of Architecture at the University of Miami). While the New Urbanism has been singularly successful in this, no explanation of how urban design comes about can possibly emerge from it. Overall it is a template for practice, not a theory, although Patrick Geddes Valley section is used as a justification for zoning practices. The valley section first appeared in Geddes' book 'Cities in Evolution' in 1915, but was also rooted to the work of Elisee Reclus, Paul Vidal de la Blache and Frederic Le Play.

Outside this single unified strategy, the remaining concerns with theory focus on mathematical modelling, the picturesque, and one or two aspects of postmodern thinking. Having reviewed 160 articles in *The Journal of Urban Design*, one could be forgiven for thinking that urban design consisted in practice-based methodological thinking and case studies, with a minimal emphasis on theory and education. One or two articles flirt with some kind of theory, most of which is insubstantial, with few if any lateral connections. As a general principle, there continues to be no concerted attempt within urban design to connect with the reality of social life in any of its major dimensions. The entire arena of politics, economics, social development, culture or psychology in an age of globalization, the information age, symbolic economies and neo-corporatism would appear to have had little impact on most urban design theorists. While there are a few minimal incursions into new theories *in* urban design, any theory or theories *of* urban design appear to be largely absent from the literature as a whole, not merely from *The Journal* itself. I could only find three articles that started to question this phenomenon, that is of the general disconnection of social life and urban form, each being significant for its basic rejection of a generalized conformity to several well worn themes (Aravot, 2002; Gospodini, 2002; Inam, 2002).

Each of these authors sense that all is not right in regard to urban design theory. Inam suggests that we need to move away from a 50-year obsession with aesthetics and the picturesque, and focus more on 'the urban' than on the 'design', requiring 'a more profound interdisciplinary approach that addresses fundamental causes. urban design should be driven by purposes rather than defined by conventional disciplines; being catalytic (i.e. generating or contributing to long term socio-economic development processes) and being relevant (i.e. grounded in first causes and pertinent human values' (Inam, 2002, p. 37). Supporting this position, Inam goes on to specify three critical aspects of a teleologically based urban design approach, and it is appropriate to quote extensively from this paper:

the relationship between the city and the economy considers the economic functioning of the city, including the city as a point in the production landscape as well as a site for investment, the changing international division

of labour, and the consequent effects on the specific urban economies. The relationship between the city and society focuses on the city as an arena for social interaction, the distribution of social groups, residential segregation, the construction of gender and ethnic identities, and patterns of class formation. The relationship between the city and power is the representation of urban structure and political power, and considers the city to be a system of communication, a recorder of the distribution of power and an arena for social struggles over the meaning and substance of the urban experience (Inam, 2002, p. 39)

Without doubt, urban design theory needs a lot more of this kind of thinking, one that tries to bridge the gap between power, politics and urban form. Gospodini amplifies this need with the simple but powerful view that 'throughout the history of urban forms, major urban design schemes and avant-garde design of space have been mostly an outcome of economic growth of cities. Marking the era of globalization, a reverse procedure has taken place in the last decade or so; urban design appears to be consciously used as a means of economic development of cities in the new competitive milieu' (Gospodini, 2002, p. 59). Gospodini then goes on to present an explanation of the contemporary production of urban design as an economic phenomenon that is embedded in global processes. The argument is situated within the context of European urbanization as a whole, where classes and groups of cities have 'fitted' new uses of urban design. Furthermore, this process is deterministic of urban form through the overall volatility of capital, where urban design schemes are dictated by specific financial mechanisms, and are capable of both servicing and manipulating market requirements through a well-chosen vocabulary of symbolic and other referents. Finally, although Aravot supports a phenomenological approach to 'place-making', she is aware that the traditional urban design discourse has all but excluded the concept that recycling the city is not due to any intrinsic values, but is dependent on the various thresholds of investment in what Harvey calls 'the second circuit of capital'.

Recalling Boyer, Aravot suggests that the outcome is 'localities have a surprising resemblance to each other, arousing the suspicion that they are commodifications of history, just the decor of

consumption and entertainment' (Aravot, 2002, p. 204). While this kind of critique is both rare and welcome, it is not new. Aravot hints at this in the context of several theorists that have post-Marxist sympathies, for example, Manfredo Tafuri, Aldo Rossi, Rob and Leon Krier, to which we could add Colin Rowe, Mario Gandelsonas, Kenneth Frampton, Christine Boyer, Sharon Zukin, Anthony Ward and many others. It has a long, if sparse tradition within urban design, as well as a powerful external theoretical base in urban studies encompassed by spatial political economy.

The need at this point is to move from an intellectual position which discriminates *inside* from *outside* as suggested by the various positions described above, towards a more unified logic. This does not mean that everything previously written about the subject needs to be forgotten, quite the contrary. Nor does it propose a return to reliance on a single dominant paradigm. What is suggested is that most of the traditional areas of mainstream urban design have been exhaustively mined of significant content, and we need to move forward into more fruitful and rewarding areas of research. As in many other regions of urban studies, I suggest that urban design should also adopt the theoretical content of spatial political economy as a rhizomatic conceptual grid. It represents a powerful and enduring intellectual framework, which allows us to integrate the ideas and principles discussed above by writers such as Inam, Gospodini and Aravot, incorporate historical referents, and is capable of continuous transformation over time. I will therefore continue with a brief assessment of this 'sparse tradition' to date.

Reprise

So far we have considered mainstream urban design theory in some depth. While there is much to learn from it, overall significant problems remain. The main criticisms would appear to be the following:

1. Urban Design theory is not formulated scientifically. To do this would require either a theoretical object or a real object, round which discussion revolved (Table 3). Architecture for example has a real object – the building, that forms the core of its investigations. Urban planning I would maintain has neither a real

Table 3 The theoretical constraints on the Environmental disciplines

	Architecture	Urban design	Urban Planning
Theoretical object	?	Civil society	?
Real object	The building	The Public Realm	?

nor a theoretical object. Urban design has both a real object (the public realm) and a theoretical object (civil society). If this is indeed true, it is possible to argue that urban design has a greater claim to science than either of the disciplines that have traditionally claimed the territory. This is probably better expressed as follows.

2. Mainstream theory in urban design is anarchistic in the sense that there is no cement binding the pieces together. For example, there is nothing significant held in common between its major theorists. Key players discussed above – Kevin Lynch, Rob Krier, Christopher Alexander and Bill Hillier define urban problems in their own manner and share almost nothing in common. The same is true of attempts at synthesis. In no case does the synthesis address the same basic object, either real or theoretical. This is not a plea to discard difference, remove intellectual conflict or adopt a totalitarian position on ideology. The need here is to recognize where we are and to work towards an overall framework that has the capacity both to contextualize and to rationalize urban design theory.
3. Claims to primacy as well as attempts at synthesis do not address the material and symbolic organization of civilized life. Urban design tends to be viewed overall as an independent factor in urbanization, subject to whatever laws of form, aesthetics, proportion and function that individuals chose to impress upon it at any historical moment. Hence almost all explanations of urban design are detached from the laws through which society is constructed – ideologies, class structure, forms of consciousness, urban politics, the material distribution of wealth, relationships between fixed and fluid capital, etc.
4. In consequence, it seems reasonable overall that the discipline of urban design should not seek to justify its existence through any of the normal channels adopted by mainstream theory. It should avoid the vain attempt to generate an internally coherent theory and instead reorient its efforts to making connec-

tions with social science through the mechanism of political economy, a synthesis discipline which already has a history of two and a half centuries. The more recent form – *spatial* political economy offers promise in that its fundamental concern with the *processes* through which social space is produced, reproduced, transformed and exchanged, intersects neatly with how specific *forms* of social space arise.

But to take this argument forward we have to begin with discoveries in philosophy in the middle of the 17th century.

Political economy

Political economy can be defined as the study of aggregate economic activity and the political aspects of government, particularly in regard to resource allocation. The addition of the term ‘spatial’ refines and directs this endeavour to address urban space, place, and the production of form – how and why land and fixed capital in the form of the built environment are located, regulated, exchanged, transformed, and reproduced. Remaining within political economy at the moment, the tradition can be traced back to its origins in French socialism (Voltaire, Rousseau, Diderot), German philosophy (Hegel and Feuerbach), to British Political economy (John Locke, Adam Smith and David Hume), and to the 18th century Enlightenment in Scotland (Herman, 2002), where

A group of Scottish Philosophers, carrying on a teacher-student succession through the century, created a body of work constituting the origins of social science, which they called political economy. They produced collectively and cumulatively the idea of human history going through stages of growth, with the key to each stage, as well as the transition from one stage to another, the mode of obtaining subsistence in any society (Bottomore, 1983, p. 376)

This was the tradition that Marx borrowed heavily from in framing his three volumes of *Capital* more than a century later, specifically Adam Smith, while at the same time refuting his ideas. In addition, it represented a serious break with the positivist position that the method of the natural sciences and the social were alike. The rationale behind this was that 'it is impossible to make legitimate generalizations because human actions are not subject to the regularities that govern the world of nature' (Cosser, 1977, p. 219). So here we have framed for the first time in a concerted body of knowledge, the concept of historical materialism, an idea that was to shake the 20th century to its foundations. A historical materialist interpretation of social life begins with the assumption that human consciousness and all forms of human relations emerge from the mode of production of any society, the means by which its material life is reproduced. This includes the production of space, architecture and the specific formal arrangement of places. Economic laws and physical structures do not exist in a vacuum and must be seen as congruent with a historically determined and evolving complex of contingent social relations.

Formative of this concept were the philosophers David Hume, Adam Smith, John Stuart Mill, Adam Ferguson, Frances Hutcheson, John Millar and others. Significantly, it was from Adam Smith that Hegel drew the concept of civil society, possibly also Adam Ferguson's *Essay on the History of Civil Society* (1767). Hegel's subsequent *Philosophy of the state* argued that the fundamental cause of social conflict was the separation between civil and political society and the respective interests of each. Hegel suggested that 'supra-class' institutions, or the state, were required to mitigate ensuing class struggles. Marx's great contribution to knowledge was in the collective synthesis and development of these traditions in the three volumes of *Capital* which were subtitled 'A Critique of Political Economy' (1887). In volume two Marx devotes chapter 10 and much of chapter 11, to regale against Adam Smith and the Scottish philosophers in general, holding that the former had 'the inexpressibly narrow-minded point of view of a bank clerk' (Marx, 1956, p. 231).

In choosing political economy and its extension into spatial political economy as a guiding intellectual framework for understanding the

relationship between society and space, we deliberately make a choice between two contradictory views of society, represented in the differences between Classical economic theory (Marx and Ricardo) and Neo-Classical Theory (Jevons, Smith, Keynes). The differences between each ideology are so great that they define an individual's existential position in relation to their fellow human beings. Neo-Classical theory may best be described as an individualistic and subjectivist view of the world. According to this formulation, society is composed of individuals whose nature is predetermined. Social structure may therefore be explained in terms of the individual, their personal psychology and the choices they make. The best known dictum of the Neo Classicist is 'a dollar is a dollar to whomever the dollar accrues'. In many ways society is split around the acceptance or rejection of this idea.

This is what Marx scathingly termed 'vulgar economy' – the systematization of what is immediately visible in the sphere of market relations, individual preferences, prices and exchange. In such a society, only two sectors are recognized, namely households and firms. Households maximize their utility *vis-à-vis* their choice of particular goods and services. Firms on the other hand supply goods, which require three basic factors in the production process, land, labour and capital. Firms attempt to maximize profits and maintain efficiency by exploiting the relative interchangeability of one factor with another, and through technological advance. Equilibrium is maintained by paying each factor according to its contribution to output. The total system is therefore viewed as being both homeostatic and democratic, and 'as a consequence of this framework and the particular emphasis on equilibrium conditions, features such as unemployment, excess profits and inflexibility of production are relegated to the position of deviations from the norm, or as phenomena of only secondary importance' (Bassett and Short, 1980, p. 26). The most common criticisms levelled at the neo-classical paradigm may be reduced to the following 10 general observations:

1. Neo-classical theory is a partial view of man and society. It is not a social science and is therefore incapable of explaining social process.

2. Whereas neo-classical models may accurately replicate economic activity within Western society, such processes are not traced to their origin within the underlying social and political structure. Moreover, the models exclude all qualitative and subjective criteria which do not fit the construct, therefore distorting the true nature of the social.
3. Extending from this is the myth of a self-regulating market mechanism, which if true would deny the existence of the state, among whose central functions is to support private capital (the sub-prime mortgage crisis and the support of the United States Central Bank for failing corporations is but one example among many).
4. In particular, class conflicts emerging from the social and property relations of capitalism are either completely ignored or relegated to a temporary digression from the basic equilibrium of the system.
5. When property relations are considered, they relate to the distribution process and not to the *labour* process. Production is viewed as asocial and divorced from the fact of human relations.
6. It may be argued that markets do not allocate resources according to relative *efficiency* but according to relative *power*.
7. The concept of 'personal freedom' ignores the considerable influence of the ideological apparatuses of the state and the private sector to influence individual 'preferences' via the legal system, mass media, education, etc.
8. The only social relation that bonds such a society together is the purchase and sale of commodities.
9. The considerable mathematical vocabulary developed in this field in no way validates its pretensions (or in fact its ideological project). After all, the conceptual framework remains static.
10. The institution of the state is tolerated only insofar as it is necessary to undertake tasks unprofitable to the private sector and to mitigate conflicts between the various capitals.

All of these observations have been precisely condensed in the following statement by Rowthorn when he says 'Although useful as a system of thought serving to justify the capitalist mode of production and inhibit fundamental enquiry into its functioning, Neo-Classical economics is incapable of handling the problematic of social control

and organization confronting capitalist enterprises or the state' (1974, p. 63). The same general criticisms may be extended into neo-classical models of the urban land market, originating in the work of Alonso (1964), Muth (1969) or Mills (1972), in particular the observation that simulation and understanding are *not* the same thing. Whereas the logic of the models is virtually flawless in their own terms, they ascribe to consumer behaviour an effectivity that consumers do not actually possess. In the final analysis, it is the overall system that dictates the available matrix of choice and not the pattern of individual decision-making. This is not to argue that personal choice does not exist within the urban system, or that individuals do not trade off for example, personal space against travel time, to rent and other factors. This is indeed the case. The error lies in the assumption that an efficient and virtually watertight description of the functioning of the urban land market somehow substantiates the political economy of space upon which the model is based. As Frank Stilwell says in his recent book, *Political Economy: The Contest of Economic Ideas*

A frequently recurring charge against this economic orthodoxy is that it is 'unrealistic'. Models of market exchange under competitive conditions fail to illuminate the world in which we live. Such models, it is commonly said, prioritise elegance over relevance. There is much in that criticism. However the theoretical models have a strong influence on economic policies in practice; and they therefore have an awesome relevance – for better or for worse. This has been particularly evident in the last two decades, which have seen the ascendancy of neo-liberalism. Orthodox economic reasoning has given rise to particular policy prescriptions such as the liberalization of trade, the deregulation of capital and labour markets, the privatisation of public enterprises and the extension of 'user pays' principles to the public services that have not been privatized. The proponents of these policies seem relatively untroubled by the failure of the real world to exhibit the features assumed in the abstract theories. It is as if the real world is being reconstructed in the image of a particular theory. Either way, – as a rarified theoretical exercise, or as a vulgarized version used for political purposes – conventional economics has deep problems (Stilwell, 2002, pp. 3–4)

It is therefore necessary to address a larger and more encompassing view of the world in order to obtain a synoptic understanding of urban space and form, as well as its central features such as location, rent, density, and other factors as they interact within the dynamic of the urban political economy. So in contrast to the apparent limitations outlined above, which render impossible any coherent view of urban form and design as a social product, a historical and material interpretation of social life rooted to spatial political economy, begins with the assumption that human consciousness and all forms of human relations emerge from the adopted mode of production. By extension, the same is also true of the production of urban form and design as part and parcel of human consciousness and the resulting generation of built form in all of its manifestations, that is, what we like to call *Urban Design*.

Spatial political economy and urban design

To say that space has absolute properties is to say that structures, people and land parcels exist in a manner that is mutually exclusive each of the other in a three dimensional, physical (Euclidean) space (Harvey, 1973, p. 168)

Marx's vast influence over the development of human knowledge has been legion, and his legacy remains powerful even today. While it is clear that his work should be judged in the context within which it was written, the power of his intellectual construct has been so great that most contemporary thinkers are forced to come to terms with his logic, and its transformation over the last century and a half, even if it is ultimately rejected (Gibson-Graham, 1996). Spatial Political Economy, is an extension of political economy, or more accurately, of Marx's critique of political economy, for the very simple reason that none of the great masters of classical or neo-classical economic theory were the least concerned with space. It also moves beyond a simple historical materialism to recognize that individuals are not mere purveyors of potential surplus value, and that other important dimensions of modern life have a huge influence on urban space. Primary among these is the dimension of culture that Marx relegated to the superstructure, meaning that it was real but relatively unimportant.

In postmodern society, the relation between culture, economy and space has taken on a fundamental role in the economy of cities and their physical expression, bringing into heightened significance elements of gender, ethnicity, sexuality, language, and various aspects symbolic expression (Cuthbert, 2006). Notwithstanding the contribution of the Chicago School to urban spatial analysis from 1930 to 1960, it was not until the 'Paris School' of the late 1960s and early 1970s that any significant and theoretically informed debates over the theory of urban space took place. Beginning around 1965, the revolutionary contributions made by Alain Touraine, Henri Lefebvre, Manuel Castells, Edmond Preteceille and others, cemented the importance of political economy to urban spatial analysis, and their contribution to the general field of urban sociology remains profound even today. It was on the basis of two ground breaking texts – *La Revolution Urbaine* by Henri Lefebvre (1970), and *La Question Urbaine* by Manuel Castells (1977), that the debate on the theory of space became central to the development of social science.

To his credit, Castells broke through the cocoon surrounding traditional *aspatial social theory* into a new dimension of *spatial urban theory*. For the first time, and within this new paradigm, he integrated fundamental relationships between society, space and form. This has also been referred to as Postmarxist theory; one that retains some important Marxist concepts but which also extends significantly beyond them, probably best personified in the work of theorists such as David Harvey, Mark Gottdiener, Ed Soja, Alan Scott and others. The Paris School, among whom Lefebvre was probably the most significant figure, launched the concept of spatial political economy, demonstrating the evolutionary nature of the Marxian legacy and its continuing influence. Shortly after, these and other works stimulated a great debate in social science over the possibility of 'an urban sociology'. This occurred between 1975 and 1985, and was dominated by Neo-Marxist thinkers such as Touraine, Lefebvre, Castells, Preteceille, fully 150 years after *Capital* was published.

In this sense, spatial political economy can be considered a *metalanguage* or *metanarrative*, and this may be as close as one can get to a succinct definition. It constitutes a loose coalition of ideas with a powerful intellectual base that goes back to

Adam Smith, Hegel and Marx, and today incorporates the spatial interests of social science, geography, cultural studies, economics, architecture, art history and other disciplines. Importantly, it also includes existential positions such as feminism and sustainability. A central theme of spatial political economy is its wholesale rejection of any division of knowledge based upon professional and academic boundaries. Taking the profession of urban planning as an example, McLoughlin said 'One of my main conclusions is that the dominance of the town planning tradition in the academy is a serious and ideologically driven limitation on our ability to understand urban problems and policies which might improve our cities and the lives of their people' and what he referred to as 'the shear intellectual incoherence of the whole business....'(McLoughlin, 1994, p. 1113, see also Huxley's elaboration and critique (1997)). His position was that the core-periphery relationship currently existing in urban planning, and to a large degree throughout tertiary education, should be reversed. The ideological role of professional influence and the somewhat arbitrary nature of academic programmes should be relegated to the periphery, with a focus on social-scientific perspectives. This argument would of course encompass the built environment disciplines, including urban design. McLoughlin maintained that the discipline occupying a key role at the centre of spatial political economy must be human geography since it is at the centre of the socio-spatial dialectic as defined by Ed Soja (1989), but is nonetheless part of a coalition discourse which 'is multi-faceted and includes (at least) insights which are drawn from (critiques of) positivist geography and neoclassical economics, as well as neo-Marxist and Neo-Weberian social theory, feminist geography, the "Green" movement, and much else. It is a puzzling, contradictory and sometimes conflictual set of discourses' (McLoughlin, 1994, p. 1114).

While various scholars over the last 50 years may have been sympathetic to Marxist or neo-Marxist thought and other critical perspectives, the relationship between spatial political economy and the specificity of urban form/design has been weakly and unconsciously developed for three main reasons.

First, if we accept that the literature on spatial political economy only has a history of 30 years

and took 20 years to mature, this has only allowed a 10-year period for other disciplines to fully engage with its concepts. Second, and over the same period, the debate between structuralism and postmodernism as grand and fragmented narratives respectively, has to an extent, overshadowed considerations of synthesis between disciplines. In many instances it has gone in the other direction, fragmenting even the disciplines themselves. If anything, Postmodernism further removed this possibility with its focus on fragmentation, difference, discursive practices, the wholesale rejection of totalizing constructs and a reorientation away from synthesis towards deconstruction. Sayer scathingly comments that 'the move from Marxism to postmodernism and concerns with difference could be interpreted as a means by which the left could abandon Marxism and shift its radicalism onto new terrain without having to acknowledge or make concessions to the right' (Sayer, 1995). Third, tertiary education is bounded by its own administrative and professional constraints that do not recognize spatial political economy, and so the academy has as usual done its bit in constraining the emergence of new forms of knowledge. Nonetheless, it is possible to denote some of the more important individual contributions to this paradigm, which become more coherent and focused as we approached the new millennium.

Overall, the adoption of spatial political economy has been much more highly articulated in the realm of urban planning than it has been in architecture or urban design, most likely because of its closer proximity to social science (keeping in mind the considerable overlap between these somewhat arbitrary professional realms). Indeed, many of the key scholars driving what was called 'the New Urban Studies' whose task was to reconstruct urban social theory during the 1980s, concerned themselves with urban planning as part of the state apparatus because of its role in the social control and regulation of urban space; Pahl (1970, 1975, 1983), Castells (1977, 1978, 1983, 1996, 1997, 1998), Harvey (1979, 1982, 1985), Scott, (1980, 2000b), Mingione (1981), Saunders, (1986), Dear (1986), and many others.

Over the same time period, the critical extension of social theory into the arena of architectural and urban form – what has been called *The Powers of Architecture* (Knesl, 1984) began to develop. To this end, seminal papers by Scott and Rowe's

(1977), and Harvey (1979) cannot be underestimated, as well as influential writing by others such as Maxwell (1977), Tafuri (1979, 1980), Korilos (1979), Rubin (1979), Dickens (1979, 1981), Frampton (1983, 1988), Knox (1982), Knesl (1984), King (1984, 1996). Several of my own papers collectively provide an in-depth study of Hong Kong from this perspective around the same period (Cuthbert, 1985, 1987, 1989, 1991, 1992a, b). The general trajectory of this writing is exemplified in Castell's *the City and the Grassroots* (1983), and articles, such as *The Economic Currency of Architectural Aesthetics* by Paul Walker Clarke (1989), as well as Sharon Zukin's writing that most architects and planners will be familiar with. More recently, a book I recently reviewed called *Enduring Innocence: Global Architecture and its Political Masquerades* by Keller Easterling (2005), see review, Cuthbert (2007), and two articles by Leslie Sklair (2005, 2006) are excellent examples of the genre.

Paul Walker Clarke's 1989 article also provided a relatively rare synthesis of the general *Weltanschauung* at the end of the 1980s 'It is a simple assertion that architecture costs money and occupies space. It is therefore integral to the production of space and to the spatial configurations of the urbanism of our political economy' (1989, p. 28). Paying homage to David Harvey (1973, 1985, 1989), Clarke then goes on to expound what Sayer (1984) would refer to as the *necessary* and *contingent* aspects of architectural form in relation to this theoretical framework. Six years later in 1995, another landmark paper by Jacob C Goldberg moved the materialist perspective another big step forward: *Corporate Capital and the Techniques of Modernity* – problems in the mass production of space, image and experience. For most architects, urban designers and urban planners, the urban process has little coherence primarily because of an educational process that is ideologically biased towards professional membership. Learning is detached from any fundamental social or economic theory, with the resultant stress on aesthetics, technology, regulation and professionalism.

Hence the urban political economy and its spatial expression are necessarily perceived as a myriad individual and unrelated problems, if indeed it is recognized at all – there has been little consciousness transmitted in the educational process as to socio-political nature of the urban process. So for

example, transportation, conservation, redevelopment, public housing, recreation necessarily become atomized 'planning problems'. Just describing these problems using *planning* as a descriptor instantly mystifies their interrelatedness within the system we call capitalism, since planning itself has little or no coherence other than as a social technology in the service state regulation. I would argue that all so-called 'planning problems' are actually social or economic problems in disguise. What the disguise serves to mask is the profoundly political nature of urban planning practice. This disguise is further enhanced by the ideology of professions in general, whose mandates are always couched in the obfuscating language of liberalism, for example working in the best interests of the community, encouraging awareness of best practice, raising awareness of social issues, etc.

But because planning professions are usually licensed either by the state (or in Britain through a Royal Charter) and are also contracted by private capital, no real critique is possible from the inside. The corollary of course is that if the profession did not exist, 'planning' would still continue, but the mystification of the planning process would be lifted, and its prime function in the service of political interests would become transparent. Similarly, Urban Design comes to be viewed as 'the middle ground' between architecture and planning, fitting into the regulatory system focused on development control and design guidelines, to what I would suggest is its lowest common denominator. Its true function in the reproduction of symbolic and other capital from improvements on land, the perpetuation of memory, the representation of history and its consequences, and the celebration of civilized life in built form, are all sacrificed to building envelopes, site setbacks, the appropriate use of materials and the adequate provision of parking.

This mystification of function in the creation of urban form is what Clarke seeks to dispel, bringing together the work of Harvey, Rowe, Tafuri, Knesl and others previously mentioned. At the same time, Sharon Zukin (1988, p. 45; 1991) has summarized *the Postmodern Debate over Urban Form* which had taken place during the 1980s, where the postmodernization of disciplines such as architecture, social science, philosophy, cultural studies and human geography had been maturing on the basis of structural economic and social

Table 4 Properties of industrial and cultural forms and practices

	Industrialism	Post industrialism	Modernism	Post modernism
Qualities	Regulation Rigidity Fusion Standardization Material base Hierarchies Legitimation	Deregulation Flexibility Diffusion Diversification Information base Grids and networks Discretion	Order Control Direction Need Product History Function	Anarchy Chance Indeterminacy Desire Process Destiny Signification
Properties	State power Class politics Mass production Strategic planning Development Nationalism Econ. of scope Welfare statism Specialization Unionization	Corporate power New class politics In time production Contextual planning Adaptation Ethnic fission Econ. of scale Individual accountability Synergy in labour Individual bargain	Construction Society Community Monoculturism Class culture Permanence Similarity	Deconstruction Ethnicity Locality Pluralism Commodity culture Transience Diversity
Philosophical	Scientific rationality	Neo-Darwinism	Structuralism	Post structuralism
Attributes	Keynesianism Taylorism Fordism	Functionalism Flexible specialisms Diversification	Realism Romanticism Formalism Narrative Contiguity	Hyper reality Mysticism Imagery Discursive Difference
Spatial effects and implications	Massification Concentration Centralization Community base Zoning Suburban focus	Demassification Diffusion Dispersal Locality based Complex integration Urban focus	Urban functions State symbols Arch 'styles' Paradigmatic Syntactic Design	Urban landscape Corporate symbols Arch rhetoric Eclectic Metaphoric Codification

change (Harvey, 1989). While Harvey draws fundamental distinctions between the economy and culture, their interaction is synergistic, so I have used his terminology of industrialism and modernism (culture) and post-industrialism and postmodernism (culture) to encapsulate their various characteristics and spatial outcomes in Table 4. From this it should be fairly clear that the aims of spatial political economy are to map the interactions between historical dimensions and socio-spatial practices in the context of significant theoretical paradigms, and to trace the relations between them.

What characterizes the period since 1990 is the phenomenal rise in the significance of culture – the recombination of aesthetics with economics – in ways either not previously encountered or alternatively, considered real, but relatively unimportant (Featherstone 1990, Scott, 2000a). While urban sociology and human geography still play central roles, this has resulted in expanded credibility for cultural studies that had previously

occupied a somewhat marginal relationship to urban development. So the material practices of postmodernity have extended the compass of spatial political economy into considerations which includes impacts on gender, ethnicity, disability, language, race, poverty, conservation, homelessness, sustainability, animal rights, public art, tourism and other facets of the urban prospect. Zukin points to the significance of culture in the creation of urban form when she says that 'the liminal space of postmodern urban forms is socially constructed in the erosion of autonomy of cultural producers from cultural consumers'. Despite this, Zukin remains convinced that certain fundamentals remain unaltered:

The constant rebuilding of cities in core capitalist societies suggests that the major condition of architectural production is to create shifting material landscapes. These landscapes bridge space and time; they also directly mediate economic power by both conforming

to and structuring norms of market driven investment, production and consumption (Zukin, 1988, p. 47)

Of course, since 1990 we have been fully engaged with processes of urbanization driven by the mandates of the information age, when concepts of development, progress and history have all been challenged as to their relevance. While it is impossible to prioritize texts in relation to the general field of spatial political economy over this period as they relate to urban space and form, nonetheless, some typify or otherwise encapsulate the critical issues of the time. In this regard, honours for the most encompassing text must be shared between *Postmetropolis – Critical Studies of Cities and Regions* (Soja, 2000), and Nan Ellin's *Postmodern Urbanism* (1996). The latter is an astounding summary of the overall development of the period (and much more), and will remain the critical distillation of the ideas, philosophies and practices of postmodern urbanism for some time to come. The same is true of Claudio Minca's edited collection *Postmodern Geography – Theory and Praxis* (2001). The volume provides a 'beginning of millennium' statement of the concerns of human geography, with contributions from luminaries such as Michael Dear, Dennis Cosgrove, Cindy Katz, Gunnar Olson, Ed Soja, Neil Smith and others. Landmark texts have also been written in many areas, for example Doreen Massey's *Space Place and Gender* (1994), Scott Lash and John Urry's *Economies of Signs and Space* (1994), Sharon Zukin's *The Cultures of Cities* (1995) and *Landscapes of Power* (1991), Mike Davis' *The Ecology of Fear* (1998), Castells' trilogy beginning with the *Rise of the Network Society* (1996), Allen Scott's *The Cultural Economy of Cities* (2000a) and *Metropolis* (1988), Michael Dear's *The Postmodern Urban Condition* (2000), and David Harvey's *Spaces of Hope* (2000).

These examples are an injustice to the many other phenomenal texts in the area of spatial political economy/urban geography/feminism/culture. However there is a marked contrast if we try to locate a specific literature on the political economy of urban design, for a multitude of reasons amplified above. Here we are dealing with a fairly rarified field. Nonetheless, there are a significant number of exemplary works sufficient to suggest a new consciousness of urban design coalescing more or less in the last 10 years. Christine Boyer's *The City of Collective Memory* in 1994 is an original

contribution to the history of urban form, followed two years later by Ross King's *Emancipating Space* (1996), an intellectual *tour de force* subtitled *Geography, Architecture and Urban Design*. Kim Dovey's *Framing Places- Mediating Power in Built Form* (1999) explores how the built environment mediates and represents the social practices of power. Joseph Rykwert's *The Seduction of Place – The City in the Twenty First Century* (2000) is badly titled because we have to wait until chapter eight to arrive at considerations of the new millennium, but until that point the book is a fascinating account of the creation of place in the twentieth century. *Gender Space and Architecture* edited by Rendell, Penner and Borden (2000), subtitled *An Interdisciplinary Introduction*, demonstrates exactly how many different disciplines, and therefore different perspectives now focus on urban and other spaces (a text that should be read in concert with Colomina's *Sexuality and Space*, 1992). Similarly Easterling's *Enduring Innocence* (2006) sets a new benchmark in studies of urban form, in what can only be described as a postmodern analysis which tests the limits of spatial political economy and its assumptions.

Conclusion

After finishing this paper I realize that despite its length, it has probably raised more issues than it has solved. Also it has not come up with any happy certainties guaranteeing that spatial political economy will provide any formulaic answers to specific urban design problems. What it will do after a significant amount of new learning is improve our capacity for substantial engagement with theory, improve the breadth of our knowledge and therefore our understanding, and generate an enhanced capacity in analytic and creative thinking about urban problems. It will also contextualize the discipline in terms of its *urban* claims. Almost the only questions I ever receive in discussions on this topic relate to design issues and practices – how will this improve my design ability? What does spatial political economy have to contribute to my office and practical projects, etc (can we make money out of it). Seldom if ever are responses focused on the 'urban' part of urban design. This requires a different kind of question, one that realizes that improvements in design and practice can be substantially enhanced by *not addressing* design issues at all. In most offices the capacity to

'design' far outstrips the capacity to understand the socio-spatial, political, cultural and economic environment of the problems to be solved. Simply stated, it is clear from the last 50 years of urban design 'theory', that improvements in design must come from the outside. After all, what is there left on the inside of mainstream urban design that has the capacity to move us forward? Can any of the four major attempts at synthesis or the four serious claims to primacy be taken any further than they are at the moment? What more can we squeeze out of contextualism, functionalism, figure ground relationships, design regulations, case studies, serial vision, etc? Has mainstream urban design in fact collapsed around its own limitations and is it now in need of a paradigm shift towards a deeper theoretical engagement with the world?

From the above discussion of theory in urban design, several things are evident. First, that the relationship to architecture still has great influence, and rightfully so. The world needs good designers. One of the consequences of this influence however is that the development of significant theory in urban design remains deterministic, weakly developed and compromised in scope. The cult of the individual architect, of the architect as master planner that dominates architectural design has been carried over into urban design, where urban design theory is largely a matter of whose vision one adopts. Consequently, the nature of theory that does emerge is somewhat anarchistic, disjointed, dependent and cultish. As such there are no shared theoretical constructs, ideologies or paradigms. Kevin Lynch offers his own eclectic combination of aesthetic choices as to how city design should take place. Christopher Alexander's ideas are utopian, utterly impractical, and require society to be reinvented. Roger Trancik presents us with choices between various types of elegant pattern, and Hillier's models require doctoral level mathematics to understand them. Third, and consequently, the major theorists in the discipline present us with concepts of urban form that are unrelated, largely devoid of any social content and divorced from any economic, political or social base. There is no recognition, except for some rare instances, that the production of the built environment, its form and symbolic content, are part and parcel of the material production of social space.

Using spatial political economy, we can begin to reconstruct theory in urban design by having a common theoretical base that is rooted to substantial discourses in urban sociology, economics, geography and cultural studies. Urban design can and indeed *should* be viewed as the outcome of the social production of urban form, which in turn is the outcome of the social production of space in its material and symbolic dimensions. In so doing, theorists, practitioners and academics can move towards more integrated explanations of urban form as a basis for establishing the credibility of urban design as an independent discipline, and to improve quality across the entire range of urban design activity through improved understanding of the world in which we live. More importantly, there will be a common base which will liberate creativity and round which ideas may circulate, rather than the anarchy that we currently experience.

References

- Alexander, C. (1964) *Notes on a Synthesis of Form*. Cambridge, MA: Harvard University Press.
- Alexander, C. (1966) *The City as a Mechanism for Sustaining Human Contact*, Working Paper No. 50, Berkeley: Centre for Planning and Development Research, University of California.
- Alexander, C. (1965) A city is not a tree, *Architectural Forum*, **122**(1): 58–61.
- Alexander, C. (1977) *A Pattern Language*. New York: Oxford University Press.
- Alexander, C. (1979) *The Timeless Way of Building*. London: Oxford University Press.
- Alexander, C. (1987) *A New Theory of Urban Design*. New York: Oxford University Press.
- Alexander, C. (2003a) *The Phenomenon of Life: The Nature of Order* (Book 1). Berkeley: The Centre for Environmental Structure.
- Alexander, C. (2003b) *The Process of Creating Life: The Nature of Order* (Book 2). Berkeley: The Centre for Environmental Structure.
- Alexander, C. (2003c) *A Vision of a Living World: The Nature of Order* (Book 3). Berkeley: The Centre for Environmental Structure.
- Alexander, C. (2003d) *The Luminous Ground: The Nature of Order* (Book 4). Berkeley: The Centre for Environmental Structure.
- Alexander, C. and Poyner, B. (1965) The atoms of environmental structure, Unpublished Paper, Berkeley, CA: The Centre for Environmental Structure.
- Alonso, W. (1964) *Location and Land Use*. Boston, MA: Harvard University Press.
- Aravot, I. (2002) Back to phenomenological placemaking, *The Journal of Urban Design*, **7**(2): 201–212.
- Architectural Design. (1979) *Roma Interrotta, AD Profiles*, **20**(49): 3–4.



- Bacon, E. (1967) *Design of Cities*. London: Thames & Hudson.
- Banham, R. (1973) *Los Angeles: The Architecture of Four Ecologies*. London: Penguin Books.
- Bannerjee, T. and Southworth, M. (1990) *City Sense and City Design*. Cambridge, MA: MIT Press.
- Barnett, J. (1982) *An Introduction to Urban Design*. New York: Harper & Row.
- Bassett, K. and Short, J. (1980) *Housing and Residential Structure*. London: Routledge and Keegan Paul.
- Batty, M. and Longley, P. (1994) *Fractal Cities*. London: Academic Press.
- Batty, M. and Xie, Y. (1996) Preliminary evidence for a theory of the fractal city, *Environment and Planning A*, **28**(10): 1745–1762.
- Bertalanffy, L. (1968) *A General Theory of Systems*. New York: Braziller.
- Bottomore, T. (1983) *A Dictionary of Marxist Thought*. Oxford: Blackwell.
- Boudon, R. (1968) *The Uses of Structuralism*. London: Heinemann.
- Bourdieu, P. (1977) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Boyer, M.C. (1994) *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments*. Cambridge, MA: The MIT Press.
- Broadbent, G. (1990) *Emerging Concepts in Urban Space Design*. New York: Van Nostrand.
- Buchanan, C. (1963) *Traffic in Towns*. London: Her Majesty's Stationary Office.
- Buchanan, C. (1988) What city? A plea for place in the public realm, *Architectural Review*, **1101**: 31–41.
- Buchanan, P. (1979) Patterns and regeneration, *The Architectural Design*, **1**(79): 21–23.
- Carmona, M. (1996) Controlling urban design Part 1: a possible renaissance, *The Journal of Urban Design*, **1**(1): 47–73.
- Castells, M. (1977) *The Urban Question – A Marxist Approach*. London: Edwin Arnold.
- Castells, M. (1978) *City, Class and Power*. London: Macmillan.
- Castells, M. (1983) *The City and the Grassroots, A Cross-Cultural Theory of Urban Social Movements*. Berkeley: University of California Press.
- Castells, M. (1996) *The Rise of the Network Society*. Oxford: Blackwell.
- Castells, M. (1997) *The Power of Identity*. Oxford: Blackwell.
- Castells, M. (1998) *End of Millennium*. Oxford: Blackwell.
- Chermayeff, S and Alexander, C. (1960) *Community and Privacy: Toward a New Architecture of Humanism*. New York: Doubleday.
- Chomsky, N. (1957) *Syntactic Structures*. Mouton: The Hague.
- Chomsky, N. (1975) *Reflections on Language*. London: Fontana.
- Clarke, P.W. (1989) The economic currency of architectural aesthetics, in Diani, M. and Ingraham, C. (eds.) *Restructuring Architectural Theory*. Evanston, IL: Northwestern University Press, pp. 48–59.
- Clarke, P.W. (2006) The ideal of community and its counterfeit construction, *The Journal of Architectural Education*, **58**(3): 43–52.
- Collins, G.R. and Collins, C.C. (1986) *Camillo Sitte: The Birth of Modern City Planning*. Mineola, New York: Dover Publications.
- Colomina, B. (ed.) (1992) *Sexuality and Space*. New York: Princeton Architectural Press.
- Coser, L. (1977) *Masters of Sociological Thought*. New York: Harcourt, Brace, Jovanovitch.
- Cosgrove, D. (1998) *Social Formation and Symbolic Landscape*. Madison, WI: The University of Wisconsin Press.
- Cullen, G. (1961) *Townscape*. London: The Architectural Press.
- Cullen, G. (1967) *Notation: The Observant Layman's Code for his Environment*. London: The Architectural Press Broadsheets, Alcan Industries Ltd.
- Cuthbert, A.R. (1985) Architecture, society and space: the high-density question re-examined, *Progress in Planning*, **24**(2): 73–160.
- Cuthbert, A.R. (1987) Hong Kong 1997: the transition to socialism – ideology discourse and urban spatial structure, *Environment and Planning D. Society and Space*, **5**: 123–150.
- Cuthbert, A.R. (1989) Between two worlds – the future of the environmental professions in Hong Kong, *Habitat International*, **13**(4): 137–146.
- Cuthbert, A.R. (1991) A fistful of dollars: legitimation and development in Hong Kong, *The International Journal of Urban and Regional Research*, **13**(2): 234–249.
- Cuthbert, A.R. (1992a) In search of the miraculous, *The International Journal of Urban and Regional Research*, **16**(1): 325–329.
- Cuthbert, A.R. (1992b) For a few dollars more: urban planning and the legitimation process in Hong Kong, *The International Journal of Urban and Regional Research*, **15**(4): 575–593.
- Cuthbert, A.R. (2001) Going global: reflexivity and contextualism in urban design education, *The Journal of Urban Design*, **6**(3): 297–316.
- Cuthbert, A.R. (ed.) (2003) *Designing Cities*. Oxford: Blackwell.
- Cuthbert, A.R. (2006) *The Form of Cities*. Oxford: Blackwell.
- Cuthbert, A.R. (2007) A review, *Enduring Innocence: Global Architecture and its Political Masquerades*. Keller Easterling. Cambridge, MA: MIT Press (2005). *The Journal of Urban Design*, **12**(3): 485–488.
- Davis, M. (1998) *The Ecology of Fear*. New York: Random House.
- Day, K. (1999) Introducing gender to the critique of privatised public space, *Journal of Urban Design*, **4**(2): 155–178.
- Dear, M. (1986) Postmodernism and planning, *Environment and Planning D: Society and Space*, **4**(3): 367–384.
- Dear, M. (2000) *The Postmodern Urban Condition*. Oxford: Blackwell.
- Dickens, P. (1979) Marxism and architectural theory – a critique of recent work, *Environment and Planning B*, **6**(1): 105–116.
- Dickens, P. (1981) The hut and the machine-towards a social theory of architecture, *Architectural Design*, **51**(1): 32–45.
- D.E.T.R. (2001) *The UK Department of the Environment, Transport and the Regions. Training for Urban*

- Design, pp. 1–12. <http://www.planning.detr.gov.uk/urbandesign>.
- Dovey, K. (1999) *Framing Places – Mediating Power in the Built Environment*. London: Routledge.
- Dovey, K. (2001) Memory, democracy and urban space: Bangkok's path to democracy, *The Journal of Urban Design*, 6(3): 265–282.
- Doxiadis, C.A. (1966) *Between Dystopia and Utopia*. Hartford, Connecticut: Trinity College Press.
- Duany, A. (2002) The transect, Introduction to the special issue, in Duany, A. and Talen, E. (eds.), *The Journal of Urban Design*, 7(3): 251–260.
- Duany, A. and Plater-Zyberk, E. (1992) The second coming of the American small town, *Wilson Quarterly* 16(Winter), 19–48.
- Dunleavy, P. (1981) *The Politics of Mass Housing in Britain 1945–1975*. Oxford: Clarendon.
- Ellin, N. (1996) *Postmodern Urbanism*. Oxford: Blackwell.
- Easterling, K. (2006) *Enduring Innocence: Global Architecture and its Political Masquerades*. Cambridge, MA: MIT Press.
- Featherstone, M. (1990) *Global Culture: Nationalism, Globalisation and Modernity*. London: Sage.
- Feyerabend, A. (1975) *Against Method*. London: Verso.
- Frampton, K. (1983) Towards a critical regionalism: six points for an architecture of resistance, in Foster, H. (ed.) *Postmodern Culture*. London: Pluto Press, pp. 16–30.
- Frampton, K. (1988) Place, form and cultural identity, in Thackara, J. (ed.) *Design after Modernism: Beyond the Object*. London: Thames and Hudson, pp. 51–66.
- Gans, H. (1962) *The Urban Villagers*. New York: The Free Press.
- Geddes, P. (1915) *Cities in Evolution*. London: Williams Press.
- Gehl, J. (1987) *Life Between Buildings – Using Public Space*. New York: Van Nostrand Reinhold.
- Gibberd, F. (1953) *Town Design*. London: Architectural Press.
- Gibson-Graham, J.K. (1996) *The End of Capitalism (As We Knew It). A Feminist Critique of Political Economy*. Oxford: Blackwell.
- Giddens, A. (1979) *Central Problems in Social Theory*. London: Macmillan.
- Goldberg, J.J. (1995) Corporate capital and the techniques of modernity – problems in the mass production of space, image and experience, *Journal of Architectural Education*, 48(4): 227–239.
- Gosling, D. (1984) Definitions of urban design, *Architectural Design*, 54(1/2): 16–25.
- Gosling, D. (2002) *The Evolution of American Urban Design: A Chronological Anthology*. New York, NY: John Wiley & Sons.
- Gosling, D. and Maitland, B. (1984) *Concepts of Urban Design*. London: Academy.
- Gospodini, A. (2002) European cities in competition and the new 'uses' of urban design, *The Journal of Urban Design*, 7(1): 59–74.
- Hall, E.T. (1959) *The Silent Language*. New York: Doubleday.
- Hall, E.T. (1969) *The Hidden Dimension*. New York: Doubleday.
- Hall, E.T. (1976) *Beyond Culture*. New York: Doubleday.
- Hall, P. (1982) *Great Planning Disasters*. Berkeley, CA: University of California Press.
- Hanson, B. and Younes, S. (2001) Reuniting urban form and urban process, *The Journal of Urban Design*, 6(2): 185–210.
- Halprin, L. (1963) *Cities*. New York: Reinhold Publishing.
- Halprin, L. (1969) *The RSVP Cycles: Creative Processes in the Human Environment*. George Braziller, Inc., New York.
- Harvey, D. (1973) *Social Justice and the City*. London: Edwin Arnold.
- Harvey, D. (1979) Monument and myth, *Annals of the Association of American Geographers*, 68(3): 362–381.
- Harvey, D. (1982) *The Limits to Capital*. Oxford: Blackwell.
- Harvey, D. (1985) *The Urbanisation of Capital*. Oxford: Blackwell.
- Harvey, D. (1989) *The Condition of Postmodernity*. Baltimore, MD: Johns Hopkins University Press.
- Harvey, D. (2000) *Spaces of Hope*. Edinburgh: Edinburgh University Press.
- Hays, K.M. (ed.) (2000) *Architecture Theory Since 1968*. Cambridge: MIT Press.
- Herman, A. (2002) *The Scottish Enlightenment – The Scots Invention of the Modern World..* London: Fourth Estate.
- Hillier, W. (1989) The architecture of the urban object, *Ekistics*, 33(4): 5–21.
- Hillier, W. (1996) *Space is the Machine: A Configurational Theory of Architecture*. Cambridge: Cambridge University Press.
- Hillier, W. and Hanson, J. (1984) *The Social Logic of Space*. Cambridge: Cambridge University Press.
- Hillier, W. and Leaman, A. (1976) Space syntax, *Environment and Planning B*, 3(2): 147–185.
- Huxley, M. (1997) 'Necessary but by no means sufficient...' Spatial Political Economy, Town Planning and the possibility of better cities: A commentary on Brian McLoughlin's last paper, *European Planning Studies*, 5(6): 741–751.
- Inam, A. (2002) Meaningful urban design – teleological, catalytic, relevant, *Journal of Urban Design*, 7(1): 35–58.
- Isaacs, R. (2000) The urban picturesque: an aesthetic experience of urban pedestrian places, *The Journal of Urban Design*, 5(2): 145–180.
- Jacobs, J. (1961) *The Death and Life of Great American Cities*. New York: Random House.
- Jameson, F. (1988) Cognitive mapping, in Nelson, C. and Grossenberg, L. (eds.) *Marxism and the Interpretation of Culture*. Houndmills: MacMillan, pp. 347–357.
- Jiven, J. and Larkham, P.J. (2003) Sense of place, authenticity and character: a commentary, *The Journal of Urban Design*, 8(1): 67–82.
- Kallus, R. (2001) From abstract to concrete – subjective reading of urban space, *The Journal of Urban Design*, 6(2): 129–150.
- Katoshevski, R. and Timmermans, H. (2001) Using conjoint analysis to formulate user-centred guidelines for urban design: the example of new residential development in Israel, *The Journal of Urban Design*, 6(1): 37–54.
- Katz, P. (1994) *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill.
- King, A.D. (1984) The social production of building form: theory and research, *Environment and Planning D. Society and Space*, 2: 367–492.

- King, R. (1996) *Emancipating Space – Geography, Architecture and Urban Design*. New York: Guilford Press.
- Knesl, J.A. (1984) The powers of architecture, *Environment and Planning D: Society and Space*, 2(1): 3–22.
- Knox, P.L. (1982) The social production of the built environment, *Ekistics*, 49(295): 291–297.
- Korilos, T.S. (1979) Sociology of architecture – an emerging perspective, *Ekistics*, 12(15): 24–34.
- Krier, L. (1978) Urban transformations (Special Issue) *The Architectural Design*, 48(1).
- Krier, L. and Culot, L. (1979) *Counterprojects*. Venice: Archives D'Architecture Moderne.
- Krier, R. (1979) *Urban Space*. New York: Rizzoli.
- Lang, J. (1994) *Urban Design: The American Experience*. New York: Van Nostrand.
- Lang, J. (1996) Implementing urban design in America: project types and methodological implications, *Journal of Urban Design*, 1(1): 7–22.
- Lash, S. and Urry, J. (1994) *Economies of Signs and Space*. Sage: London.
- Lefebvre, H. (1970) *La Révolution Urbaine*. Paris: Gallimard.
- Levi-Strauss, C. (1978) *Structural Anthropology*. London: Allen Lane.
- Lynch, K. (1958) Environmental adaptability, *American Institute of Planners Journal*, 28(4): 1–9.
- Lynch, K. (1960) *The Image of the City*. Cambridge, MA: The MIT Press.
- Lynch, K. (1971) *Site Planning*. Cambridge, MA: The MIT Press.
- Lynch, K. (1981) *A Theory of Good City Form*. Cambridge, MA: The MIT Press.
- Lynch, K. and Rodwin, L. (1958) A theory of urban form, *American Institute of Planners Journal*, 28(4): 36–52.
- Macdonald, E. (2002) Structuring a landscape, structuring a sense of place: the enduring complexity of Olmsted and Vaux's Brooklyn parkways, *Journal of Urban Design*, 7(2): 117–144.
- Madanipour, A. (1996) Urban design and the dilemmas of space, *Environment and Planning D: Society and Space*, 26(6): 331–355.
- Maller, A. (1998) Emerging urban form types in a city of the American middle west, *The Journal of Urban Design*, 3(2): 137–150.
- March, L. and Steadman, P. (1971) *The Geometry of Environment*. London: RIBA Publications.
- Marijuan, J.C. (1978) Towns in expansion: historicist approach or perceptual approach?, Unpublished Masters thesis, Oxford Polytechnic, UK.
- Marx, K. (1956) *Capital – A Critique of Political Economy*, vol. 2. London: Lawrence and Wishart (original 1893).
- Massey, D. (1994) *Space, place and gender*. Cambridge: Polity Press.
- Maxwell, R. (1977) Tafuri, Culot and Krier, the role of ideology, *Architectural Design*, 3(9): 23–32.
- McHarg, I. (1969) *Design With Nature*. Garden City, NY: Natural History Press.
- McLoughlin, B.J. (1970) *Urban and Regional Planning: A Systems Approach*. London: Faber and Faber.
- McLoughlin, B.J. (1994) Centre or periphery? Town planning and spatial political economy, *Environment and Planning A: Society and Space*, 26: 1111–1122.
- Mills, E.S. (1972) *Studies in the Structure of the Urban Economy*. Baltimore, MD: John Hopkins Press.
- Minca, C. (ed.) (2001) *Postmodern Geography: Theory and Praxis*. Oxford: Blackwell.
- Mingione, E. (1981) *Social Conflict and the City*. Oxford: Blackwell.
- Mumford, L. (1961) *The City in History*. London: Pelican.
- Muth, R.F. (1969) *Cities and Housing*. Chicago: Chicago University Press.
- Neill, W.J.V. (1997) Memory, collective identity and urban design: the future of Berlin's Palast der Republik, *The Journal of Urban Design*, 2(2): 179–192.
- Newman, O. (1971) *Crime Prevention Through Architectural Design*. Washington, DC: US Department of Justice, Law Enforcement Assistance Administration.
- Newman, O. (1973) *Defensible Space*. London: The Architectural Press.
- Newman, O. (1976) *Design Guidelines for Creating Defensible Space*. Washington: US Justice Department.
- Newman, O. (1980) *Community of Interest*. Garden City: Anchor Press.
- Norberg-Schultz, C. (1979) *Genius Loci: Towards a Phenomenology of Architecture*. New York: Rizzoli.
- Pahl, R. (1970) *Patterns of Urban Life*. London: Longmans.
- Pahl, R. (1975) *Whose City?*. Harmondsworth: Penguin.
- Pahl, R. (1983) Whatever happened to urban sociology? Critical reflections on social theory and the urban question, *Environment and Planning D.*, 1: 217–239.
- Perrin, C. (1970) *With Man in Mind*. Cambridge: MIT Press.
- Piaget, J. (1971) *Structuralism*. London: Routledge and Kegan Paul.
- Popper, K. (1959) *The Logic of Scientific Discovery*. London: Hutchinson.
- Popper, K. (1974) *Conjectures and Refutations*. London: Routledge and Kegan Paul.
- Proshansky, H.M., Ittelson, W.H. and Rivlin, L.G. (1970) *Environmental Psychology: Man and His Physical Setting*. New York: Holt, Rinehart and Winston.
- Punter, J. (1996) Urban design theory in planning practice: the British perspective, *Built Environment*, 22(4): 263–277.
- Rabeneck, A. (1979) A pattern language, *The Architectural Design*, 1(79): 19–20.
- Rapoport, A. (1969) *House Form and Culture*. Englewood Cliffs, NJ: Prentice-Hall.
- Rapoport, A. (1977) *Human Aspects of Urban form, Towards a Man-Environment Approach to Urban Form and Design*. Oxford: Pergamon Press.
- Rapoport, A. (1981) *The Meaning of the Built Environment*. Beverley Hills: Sage.
- Rendell, J., Penner, B. and Borden, I. (eds.) (2000) *Gender, Space, Architecture: An Interdisciplinary Introduction*. New York: Routledge.
- Robey, D. (1973) *Structuralism*. Oxford: Clarendon Press.
- Rowe, C. and Koetter, F. (1979) *Collage City*. Cambridge, MA: The MIT Press.
- Rowthorn, B. (1974) Neo classicism, neo-Ricardianism and Marxism, *The New Left Review*, 86: 63–87.

- Rowley, A. (1994) Definitions of urban design, *Planning Practice and Research*, 9(3): 179–197.
- Rubin, B. (1979) Aesthetic ideology and urban design, *Annals of The Association of American Geographers*, 69(3): 339–361.
- Rudofsky, B. (1964) *Architecture Without Architects: A Short Introduction to Non-pedigreed Architecture*. Garden City, NJ: Doubleday.
- Rudofsky, B. (1969) *Streets for People: A Primer for Americans*. Garden City, New York: Doubleday.
- Rykwert, J. (2000) *The Seduction of Place. The City in the Twenty First Century*. London: Weidenfeld and Nicholson.
- Salah Ouf, A.M. (2001) Authenticity and the sense of place in urban design, *Journal of Urban Design*, 6(1): 73–86.
- Salingaros, N. (1998) Theory of the urban web, *The Journal of Urban Design*, 3(1): 53–72.
- Salingaros, N. (1999) Urban space and its information field, *The Journal of Urban Design*, 4(1): 29–50.
- Salingaros, N. (2000) Complexity and urban coherence, *The Journal of Urban Design*, 5(3): 291–316.
- Saunders, P. (1986) *Social Theory and The Urban Question*. London: Routledge.
- Sayer, A. (1976) A critique of urban and regional modeling, *Progress in Planning*, 6(3): 191–254.
- Sayer, A. (1984) *Method in Social Science: A Realist Approach*. London: Hutchinson.
- Sayer, A. (1995) *Radical Political Economy: A Critique*. Oxford: Blackwell.
- Schurch, T.W. (1999) Reconsidering urban design: thoughts about its definition and status as a field or profession, *Journal of Urban Design*, 4(1): 5–28.
- Scott, A.J. (1980) *The Urban Land Nexus and The State*. London: Pion.
- Scott, A.J. (1988) *Metropolis*. Los Angeles: The University of California Press.
- Scott, A.J. (2000a) *The Cultural Economy of Cities*. London: Sage.
- Scott, A.J. (2000b) Globalisation and (late-/post-) modernity, in Beynon, J. and Dunkerley, D. (eds.) *Globalisation: The Reader*. London: Athlone, pp. 55–57.
- Scott, A.J. (2001) Capitalism, cities and the production of symbolic forms, *The Royal Geographical Society*, 26: 11–23.
- Scott, A.J. and Roweis, S.T. (1977) Urban planning in theory and practice – a reappraisal, *Environment and Planning A, Society and Space*, 9: 1097–1119.
- Schusterman, R. (1999) *Bourdieu: A Critical Reader*. Oxford: Blackwell.
- Shane, G. (1976) Contextualism, *The Architectural Design*, 11: 676–679.
- Shane, G. (2000) Colin Rowe 1920–1999, *The Journal of Architectural Education*, 53(4): 191–193.
- Simon, H. (1969) *The Sciences of the Artificial*. Cambridge, MA: The MIT Press.
- Sitte, C. (1889 orig.) *City Planning According to Artistic Principles*. See Collins and Collins, 1989.
- Sklair, L. (2005) The transnationalist capitalist class and contemporary architecture in globalising cities, *The International Journal of Urban and Regional Research*, 29(3): 485–500.
- Sklair, L. (2006) Ikonik architecture and capitalist globalisation, *City*, 10(1): 21–47.
- Smith, P. (1974) *The Dynamics of Urbanism*. London: Hutchison.
- Smith, P. (1976) *The Syntax of Cities*. London: Hutchison.
- Soja, E. (1989) *Postmodern Geographies*. London: Verso.
- Soja, E. (2000) *Postmetropolis*. Oxford: Blackwell.
- Sommer, R. (1969) *Personal Space: The Behavioural Basis for Design*. Englewood Cliffs, NJ: Prentice-Hall.
- Spriergen, P. (1965) *Urban Design: The Architecture of Towns and Cities*. New York: McGraw Hill.
- Stilwell, F. (2002) *Political Economy – The Contest of Economic Ideas*. Oxford: Melbourne.
- Tafuri, M. (1979) *Architecture and Utopia – Design and Capitalist Development*. Cambridge, MA: The MIT Press.
- Tafuri, M. (1980) *Theories and History of Architecture*. New York: Harper and Row.
- Talen, E. (2002) Help for urban planning: the transect strategy, *The Journal of Urban Design*, 7(3): 293–312.
- Trancik, R. (1986) *Finding Lost Space – Theories of Urban Design*. New York: Van Nostrand Reinhold.
- Unwin, R. (1909) *Town Planning in Practice – An Introduction to the Art of Designing Cities and Suburbs*. London: T. Fisher Unwin.
- Vernez-Moudon, A. (1992) A catholic approach to organizing what urban designers should know, *Journal of Planning Literature*, 6(4): 331–349.
- Venturi, R., Scott-Brown, D. and Azenour, S. (1977) *Learning from Las Vegas – Revised Edition: The Forgotten Symbolism of Architectural Form*. Boston: MIT Press.
- Ward, C. (1979) A pattern language, *The Architectural Design*, 1(79): 15–19.
- Webber, M.M. (1964) The urban place and the non-place urban realm, in Webber, M., Dyckman, J., Foley, D.L., Guttenberg, A.Z., Wheaton, W.L.C. and Bauer Wurster, C. (eds.) *Explorations into Urban Structure*. Philadelphia: University of Pennsylvania Press, pp. 79–153.
- Wirth, L. (1938) Urbanism as a way of life, *The American Journal of Sociology*, 44: 1–24.
- Zukin, S. (1988) The postmodern debate over urban form, *Theory Culture and Society*, 5(2): 431–446.
- Zukin, S. (1991) *Landscapes of Power: From Detroit to Disney World*. Berkeley: University of California Press.
- Zukin, S. (1995) *The Cultures of Cities*. Oxford: Blackwell.