

APPROACHES TO URBAN DESIGN: A CRITICAL REVIEW

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ABSTRACT

This paper is an attempt to discuss urban design as a subject used to be surrounded by controversy and conflicts. First, a list of definitions of the subject is given. This reflects the lack of consensus when attempts are made to define the subject. Second, three of the well-known, comprehensive literature sources are critically reviewed. This includes three types of classification of the different approaches to urban design by Marijuan (1978); Cuthbert (1985); and Gosling and Maitland (1984). The final objective is to provide a general definition within a strategic view of urban design and a common ground that can be shared by the various approaches the subject implies.

INTRODUCTION

Urban design re-emerged in the late 1960s as a branch of planning which was concerned with giving visual design direction to urban growth and conservation (Barnett, 1982). While most planning is concerned with two-dimensional structuring. Such as subdivision layout and the segregation of land uses, urban design attitudes to the coherence of townscape is seen as three-dimensional, which includes the relationships between buildings both new and old, the forms of spaces and small-scale improvements to streets (Ralph, 1987).

Much of the emphasis in such interpretations is on visual quality, which is remarkable because this had been almost completely ignored in planning since the days of the City Beautiful movement at the beginning of the century.

However, the variety of approaches to urban design demonstrates a lack of consensus when attempts are made to define the subject. For example:

"Urban design is that part of city planning which deals with aesthetics and which determines the order and form of the city".

(F. Gutheim, 1963)

"Urban design is concerned with the organisation of all kinds of urban outdoor space including that created by buildings and building form. The goal is to secure a clarity and richness of the organisation of building forms and the space between them".

(G. Shankland, 1965)

"Urban design is the wilful, three-dimensional interpretation of planning decision".

(G. Vigier, 1976)

"Urban design is the art of three-dimensional city design at a scale greater than that of the single building".

(J. Floyd, 1978)

"Urban design is primarily concerned with the no man's land which is in reality everyman's land".

(B. Goodey, 1978)

"Urban design is the thoughtful process of giving physical form to urban development as a response to urban societal needs and aspiration". (Policy statement, American Institute of Planners, 1979)

"We will call urban design the symbolic attempt to express accepted urban meaning in certain urban forms".

(Castells, 1983)

"Urban design is the design of attractive spatial structures and the public spaces between them and the production of buildings and uses which so far as possible support the interests of the widest possible public".

(Joint Centre for Urban Design, Oxford Polytechnic, 1988).

"Urban design is the design of the general spatial arrangement of activities and objects over an extend area, where the client is multiple, the program indeterminate, control partial, and there is no state of completion".

(Lynch, 1968)

"Urban design is concerned with physical manipulation of form and space in response to the complex set of forces which impinge upon the city at any given moment in history".

(M. Cunningham, 1972)

"Urban design links planning, architecture and landscape architecture to the extent that it fills whatever gaps may exist among them".

(F. Vigier, 1976)

"Urban design is a synthetic inventive mapping of physical conditions which establishes and explores whole areas of the city. In other words, it is architecture, but encompassing more in scale, intention and techniques".

(Peterson 1980)

"Urban design has been viewed as a sub-field of city planning-dealing primarily with the sensuous, aesthetic and visual qualities of the urban environment".

(A. Jacobs, 1980)

Attitudes of urban designers to their subject are just as varied as the definitions of urban design displayed above. Appraisals of the main lines upon which these attitudes are formed haven't been undertaken recently by Javier Marijuan (1978), Cuthert (1985), and Gosling-Maitland (1984).

The avarious approaches reviewed below were particularly chosen in the light of the broad perspective of the subject in relation to the built environment.

MARIJUAN'S CLASSIFICATION

Marijuan defines a series of approaches to urban design, which can be classified in three broad groups:

A. Dependent on particular politico-cultural systems:

A1: Marxist A2: Utopian: A3: Capitalist.

B. Related to a variable politico-cultural system:

B1: Mathematical/economic;

B1: Descriptive/functionalist: and

B3: Morphological:

(i) Analysis of human geography;

(ii) Morphology of the plan; and

(iii) Network analysis.

B4: Historical

C. Not dependent on any politico-cultural system (Perceptual):

C1: The city as an image;

C2: The city as sequences; and

C3: The city as under-rated architecture.

A brief description of what is meant by each of the above-mentioned categories runs as follows:

A1: Marxist:

Marijuan argues that Marxist theory claims an attitude towards the city as well as towards society in general. According to such analysis, the city is seen as representing the state of the class struggle within it, and the ultimate objective of the urban designer is to eliminate inequalities in the benefits which the city offers to its citizens.

A2: Utopian:

The utopian concept refers to Plato's proposal that a perfect environment is the result of a perfect society.

Thus utopian planning proposals, historically, have been based upon particular utopian concepts of society, and have assumed the creation of a new mentality in mankind. Most of such proposals have adopted rigid geometrical forms.

A3: Capitalist:

The capitalist view of the city is held to be that of a field in which forces struggle for predominance in urban life. The forces are related to particular power structures, such as government, church or multi-national companies, and the city reflects an equilibrium of power, whether relative or absolute. The emphasis in the city structure may be on protection, beauty, identity or other general ideas of an optimal situation.

B1: Mathematical/economic:

This term does not necessarily imply geometric proposals for the city and its growth. Rather it refers to a consideration of the city as a field of complex needs which are to be satisfied. The city is analysed within the framework of an interchange of goods and services. The main objective is to achieve an adequate physical infrastructure for the city and its hinterland based upon a highly detailed analysis of networks and inter-relationships.

B2: Descriptive/functionalist:

The functionalist view arose out of a re-assessment of the major European industrial cities at the beginning of the twentieth century. Building on the work of Tony Garnier, Le Corbusier proposed such a view in which the functions of the city (i.e., living, working, leisure and transportation) were identified as discrete systems both for analytical purposes and as criteria for proposal for the future.

B3: Morphological:

This term is intended to cover those approaches which concentrate upon classification and study of the form of cities. This includes:

- (i) Analysis of human geography: This study of human geography emphasizes the importance of topographic factors in the determination of its form. Cities may be classified as those on hillsides, river crossings, coastal sites and so on. Such analysis tends to be more descriptive than explanatory.

- (ii) Morphology of the plan: This produces a classification of city plans in such terms as rectangular, radial, linear, concentric and polycentric; and aims to establish underlying principles of formation.
- (iii) Network analysis: In the context of morphological approaches, network analysis takes as its point of departure the hypothesis that the city or its hinterland is structured by networks, and it is then analysed through the observation of the elemental categories of these networks in different areas, and their combination.

B4: Historical:

The historical approach stems from the study of classical cultural periods of urban history and is embodied in the works of Lewis Mumford and Patrick Geddes among others. Architecture is considered as the main element in the construction of the city throughout history and with it comes the sense of permanence, individuality and memory.

C. Perceptual: (or not dependent on any politico-cultural system): The study of perception and interpretation of the environment attaches great importance to the attitude of the individual and his relationship with the city and surrounding world. Marijuan asserts that it is based upon the preoccupations of psychologists and sociologists and cites Goodey to confirm this view. Goodey notes that "the basic motive for interpretation should be the right to know, the right to acquire knowledge about the environment". In fact this particular approach has been pioneered as much by architects and urban designers as by psychologists and sociologists. It includes the following:

C1: The city as a structured image:

This approach, mainly developed by Lynch, is analysed through five main constituent elements (i.e., paths, edges, landmarks, nodes and districts) with the interrelationships between these elements.

C2: The city as sequences:

In this group is the type of study developed by Gordon Cullen. Based upon architecture and spaces generated, the city is seen as a succession of sequences and as a chain of different events.

C3: The city as under-rated architecture:

This trend relates to a range of recent attitudes, from a total rejection of conscious to a renewed interest in vernacular models, which share two underlying assumptions: firstly, that architectural is a particularly truthful record of its period; and secondly, that any previous period is better than today. According to this view the accumulation within the city of past forms is not only justified but highly desirable.

Each of the groups of attitudes that Marijuan identifies makes a specific response towards common issues of urban design. It attaches greater or lesser importance to the role of the individual as an agent in effecting the urban environment and to the relevance of strictly architectural influences. It may be primarily concerned with urban design questions operating at the most local scale, or alternatively at wider level.

CUTHBERT'S CLASSIFICATION

Cuthbert (1985) demonstrates the "paradigms of urban design" and argues that the subject, as well as many of the attitudes within it, is totally eclectic and devoid of any central focus or organizing force.

He argues that the evolution of a 'Unified Field Theory' for urban design seems a remote, if not impossible task unless a radical change in focus takes place.

A variety of selected examples of approaches in urban design were classified according to five classes which reduce in their organisational values as they progress from A to E. 'A' is the most coherent class, whereas class 'E' only has substance in that it represents opposite ends in the spectrum of the urban design literature.

A. Class 'A'

Covers subject of environmental psychology and its disciplines, cognitive mapping and environmental perception. The classic work in this area is 'Environmental Psychology' by Proshansky et al (1970).

This approach is limited to what is termed 'man-environment relations' and is demonstrated by a model proposed by Appleyard (1973).

In contrast the direction taken by Smith (1974) demonstrates the function of memory, subliminal perception, learning and symbolism in the development of an urban scheme and a congruent theory of aesthetics.

Smith stresses limbic values (i.e., controlling visceral functions, deep rooted emotional response, reactions to

non-verbal symbols and conscious arousal) as potentially deterministic of design decisions. Because limbic values are rooted in archetypes, he claims a certain universality for design principles emerging from this source.

B. Class 'B'

Includes theorists and practitioners who are interested in getting things built, and it also involves many architects and planners.

Koetter and Rowe, for example, advance the idea of a 'Collage City' which attempts to deal with an additive and perpetually incomplete urban form.

The structuralist-historicist approach to urban design materializes in the work of Rob Krier (1981), who is tied to the reconstruction of traditional urban components (e.g. the square, the street, the arcade), and the processional way rather than a search for new urban structure.

C. Class 'C'

Incorporates statements which see urban design as the outline of administrative, social and political process.

In this area, 'Community' by John and Percival Goodman stands out as an all-embracing contemporary, historical, classic, utopian, socialist text.

Jonathan Barnett (1979) considers that urban design is a matter of public policy and must be built into the fabric of urban administrative and decision making.

Friedman (1973) stresses the idea of democratic politics in the planning of urban space via the medium of 'transactive planning'.

Manuel Castells' insight has been revolutionary in the field of 'the new urban studies'. Although urban design is addressed only indirectly in his publications, it is argued that "even the few comments he makes are significant insight into the total scope of capitalist accumulation process within western society, and the consequent political allocation of social space" (Cuthbert, 1985).

D. Class 'D'

May be described as 'cultural studies', impinging on psychology at one end of the spectrum and ecology at the other.

Christopher Alexander (1964, '73, '75 and '79) has involved himself in all of these areas, and his ideas remain extremely influential within the field of urban

design.

Alexander's most influential product is "A Pattern Language" (1975), in which he proposes an assembly of 253 elements which outlines both form and content of specified cultural patterns as a foundation for implementing urban growth on an incremental basis.

Recently (1978), in 'A new Theory of Urban Design' Alexander suggests seven rules upon which "every act of construction, even increment of growth in the city, works or should work towards the creation of a wholeness".

Newman (1973, '76 and '80), using principles derived from animal ethology, in particular the concept of 'territoriality', outlines his ideas on defensible space as a method of urban structuring and especially so in regard to residential areas.

Rappoport (1979) can be described as "a human ecologist whose range of subject material is extensive with regard to the psychological, behavioral, cultural and symbolic dimensions of urban space" (Cuthbert, 1985).

However, it is argued that the class 'D' approach is limited due to its incapacity to connect with the governing economic and political forces of urban structure.

E. Class 'E'

Two kinds of direction, polarized at either end of the theoretical continuum, are included:

The first group is characterized by the work of Martin and March (1970). In this instance the authors concentrate on the field of mathematical modelling.

In contrast to the first group, the second is marked by attitudes and inputs which are totally eclectic in their diversity. Kevin Lynch (1981) in his 'Theory of Good City Form' argues that such a theory is possible, and proposes a set of 'performance dimensions' (i.e., vitality, sense, fit, access and control) which specify the required fit between behaviour settings, communication systems and an ideology of control.

The outlined analysis as pursued by Cuthbert, assumes that what the architectural and planning professions as well as the academic community conceive as 'Urban Design' is "effectively a non-subject...rather, it is a hypothetical construction of undiluted professional self-interest, focussed on the absolute control of those processes which govern the form of the built environment" (Cuthbert, 1985).

He suggests that in order to reformulate some credible formulation of urban design, its source must spring from the historical evolution and development of the material conditions within the society and the human relations based thereon.

One major factor of this hypothesis is to reject the concept of 'professionalized' urban spaces, since the political allocation of urban space is "the design process through which the spatial structure comes about".

Thus, Cuthbert looks at the urban design process from a politico-economical viewpoint and believes that this view represents the major factor in such a process or "a theory of urban form, which devolves from a political economy of space".

GOSLING-MAITLAND CLASSIFICATION

Gosling and Maitland (1984) argue that urban design theorists have sought inspiration from three sources:

- A. From idealisation of the past in natural models.
- B. From idealisation of the future in utopian models.
- C. From study of the present in models drawn from the arts and sciences.

These three sources, they believe, form the background to their examination of urban design theories.

A. Natural models

For the question of how the town originated, Gosling and Maitland demonstrate that two types of answers can be offered. Firstly, towns owe their foundations and underlying plan to a specific event, a 'big-bang' origin'. The second type of beginning has no such precise definition, but towns of this type have grown organically over time.

Towns of the first type were the result of a self-conscious design decision and existed as concepts before materialisation in fact. Most of the towns of America, France, Switzerland and South Germany began in this way, whereas many medieval towns of Europe which sprang up during the population extension of the twelfth and nineteenth centuries are examples of the second type (Gosling and Maitland, 1984).

Camillo Sitte's 'Der Stadtenbau' in 1889 and Raymond Unwin's 'Town Planning in Practice', in 1909 are of the influential works and played a crucial part in the development of a coherent appreciation of the question of 'natural towns'.

This model of towns illustrates that the vision of the natural, organic town is more inspirational than factual in its message, whilst the formal or 'artificial' towns can be regarded as a designer's proposition about what might make a successful solution to a particular need.

B. Utopian models:

The utopian models are based on an idealized society within the city and the ideal city can only exist in theory as one designer's formulation of a possible complete solution to the design problem (i.e., town).

Although most utopias aim to be comprehensive, two major groups may be identified.

The first is primarily concerned with the reformation of society, for which it then goes on to propose an appropriate city form. In contrast, the second group of ideal plans is primarily motivated by the technical difficulties of achieving a successful city form.

The most striking and early examples of utopian models are the family of centralised and polygonal plans derived from Plato's description of the utopia, and from Vitruvius' preoccupation with the exposure of the ideal town to winds.

Bacon, Le Corbusier, F.L. Wright and Howard devised their utopian models during periods of either enforced obscurity or isolation. Examples of their work are Le Corbusier's 'Villa Radieuse', Wright's 'Broadacre City' and Howard's 'Garden City', Buckminster Fuller's 'Domed-over City', Archigram's 'Walking City' and Paolo Soleri's 'Arcosanti'.

C. Models from arts and sciences

Given the complexity and interactivity of urban problems, Gosling and Maitland indicate that it is not surprising that designers found it helpful to borrow ideas from other fields in order to gain fresh insight. This term has taken two forms: analogy and translation.

These two forms have constituted an important source of urban design theory.

The 'analogical' approach sees the city as an organism, often a human one. For example, Ebenezer Howard regarded existing cities as "ulcers on the face of our beautiful island", whereas Frank Lloyd Wright described their plans as "the cross-section of a fibrous tumour".

Le Corbusier in 'The City of Tomorrow' provided an analytical account of his subject in terms of its discrete but independent system in terms of 'cells', 'organism', 'artery' or 'lungs'.

Whereas such analogies offer novel holistic interpretations of the city translation from one discipline to another tends to be more concerned with individual concepts or techniques. Methods were borrowed from fields such as pure mathematics, linguistics, semiotics anthropology, psychology and photography to construct and present a

view of city morphology.

Ideas from these fields have been reflected in works by Cullen, Jane Jacobs, Christopher Alexander, Oscar Newman, Moholy-Nagy, Kevin Lynch. Donald Appleyard and Phillip Thiel.

Cullen refers to the relation between people and their towns as primarily effected by signalisation through 'a language of gestures'.

'Territoriality' has been studied in both animals and man, and examples of territorial behaviour have been notably explored by Jane Jacobs, as well as in Oscar Newman's 'Defensible Space'.

Alexander's 'Pattern Language' seeks insight from the discipline of linguistics in terms of syntactic structure.

The importance of photography and video as techniques for enlarging the scope of normal vision and simulating human movement have had influential effects in Lynch's 'Image of the City', Appleyard's 'View from the Road' and Moholy-Nagy's 'Vision in Motion'.

COMMENTS

Having reviewed these three visions of urban design according to Marijuan (Table 1.1), Cuthbert (Table 1.2) and Gosling-Maitland (Table 1.3), it is important to consider the following points:

1. Each of these three classification uses different criteria in its analysis: Marijuan's analysis is based upon the

relationships of different urban design approaches to the politico-cultural systems of the environment within which they exist. This coincides, to an extent, with Cuthbert's argument regarding the role of political power in shaping the urban space and the built environment in a capitalistic world. However, in the third group of marijuan's analysis (group C, Table 1.1) he rightly argues that perceptual approaches, such as those of Lynch and Cullen, are not dependent on any politico-cultural system.

Cuthbert, having highlighted the inconsistency and lack of coherence among the different approaches to 'urban design', argues that urban design is a 'non-subject', and in a world of capitalism, it is the political and economical interest that mostly influences the formulation of the urban environment. This view tends to underestimate the role of conscious design in the process of urban development. Of course the significance of political decisions and economic resources in such process cannot be denied, but at the end it is the projected design which brings these decisions into reality.

On the other hand Gosling and Maitland, in the third type of analysis, emphasize the role of design in their time-based classification. Their three types of models are drawn from the past (natural models), present (models from arts and sciences), and future (utopian models). This method tends to be chronologically descriptive rather than analytical since it depends mainly on 'time' as a major criterion for classification.

Table 1.1. Approaches to urban design: marijuan's classification. based on: marijuan, j. C. 1978.

Class			Discipline	Examples
A	Dependent on a Particular politico-cultural system	A1 A2 A3	Marxist Utopian Capitalist	- plato -
B	Related to a variable politico-cultural system	B1 B2 B3 B4	Mathematical/economical Descriptive/functionalist Morphological. Analysing human geography Plan morphology Network analysis Historical	Cabndge school Garnier & le Corbusier Mumford & Geddes
C	Not dependent an any politico-cultural system	C1 C1.1 C1.2 C1.3	Precepal City as an image City as experieuce City as underrated architecture	Goodey Lunch Cullen

Table 1.2. Approaches to urban design: Cuthbert's classification. Based on: Cuthbert, A.R. 1985.

Class	Names	Discipline
A:	Appleyard. Down & Stea. Proshansky et al. Smith	Psychology Cognition. Environmental psychology. Perception
B:	Bacon Jencks Krier, R Koetter & Row	Planning Architectural criticism. Rationalism. Contextualism
C:	Barnett. Castells. Friedman Goodman.	Public administration Sociology. Psychoanalysis. Politics.
D:	Alexander. Newman. Rappoport.	Cultural anthropology. Ethology. Ecology
E:	Halprin Krampen Lynch. Martin & March Venturi.	Performance/Arts. Semiotics Eclecticism. Mathematics. Information theory.

Table 1.3. Approaches to urban design; Gosling/Maitland's classification. Based on: Gosling, D. and Maitland, B. 1984.

Model	Approach			Examples
A: Natural models (PAST)	A1: A2:	Artificial Organic		Sitte, C. Unwin, R.
B: Utopian model (Future)	B1: B2:	Social Technical	Plato & Vitruvius	Wright, F.L. Howard, E. Le Corbusier. Buckinham. Isozaki Solerl, P. Fuller, B.
C: Models from art & science (Present)	C1: C2:	Analogy Translation	Organism Mathematics Linguistics Semiotics Anthropology Psychology Photography	Howard, E. Wright, F.L. Le Corbusier Cullen, G. Jacobs, J. Alexander, C. Newman, O. Moholy Nagy Lynch, K. Appleyard, D. Thiel, P.

2. Whatever the rationale behind the three types of classification, they prove that the subject of urban design has been surrounded by a great deal of diversity, argument and controversy. This is due to the involvement of different interests, actors and activities in what is seen as a complex interrelated progression of decision making. Each evolves and uses particular sets of criteria to validate the particular theoretical standpoint.

From the arguments displayed above, one has to accept that there is no easy, single, agreed definition of urban design. The variety of approaches to urban design demonstrates lack of consensus when attempts are made to define the subject. However, seven characteristics or general principles of the subject are particularly important. These are:

1. The aesthetic factors and visual quality of the urban environment are major concern of urban design.
2. These aesthetic and visual qualities should be considered within the broad context of economic, social and political factors that may influence the process of urban design.
3. Due to the involvement of a variety of clients and professionals, urban design requires the skills of a regulator or a catalyst to stimulate co-ordinated action.
4. The three-dimensional aspect of the built environment is significant in interpreting planning decisions and development to those involved in the decision-making process.
5. Urban design tends to take place at a particular scale, at an area smaller than city planning and larger than an individual building.
6. A recognition that person-environment relations are an integral element in the design process at this scale.
7. Both guidance and creative design play key roles in the urban design process.

These seven characteristics can provide a strategic view of urban design and a common ground that can be shared by the different, and sometimes paradoxical, approaches it implies. Thus the subject of urban design can be seen as the design and organisation of buildings and spaces of the built environment taking in consideration their visual and aesthetic qualities, their three-dimensional form, their intermediate scale (i.e., larger than an individual building and smaller than a whole city), the user-environment relationships and the different clients this implies; within the spheres of the existing political, economical and social forces (See Figure 1).

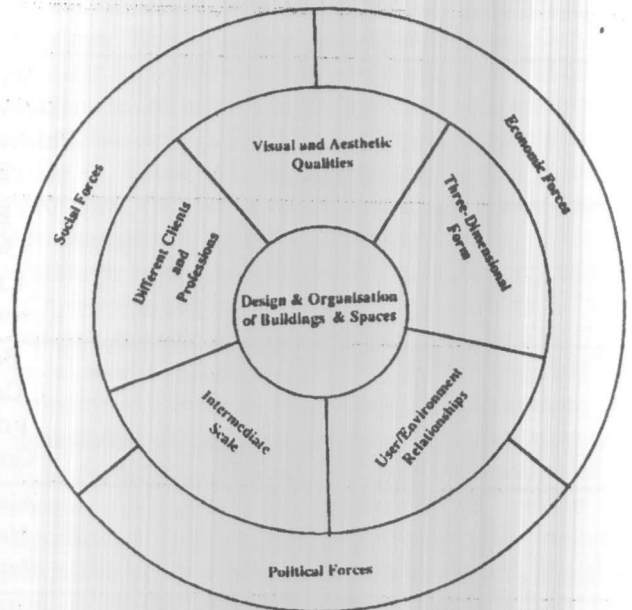


Figure 1. A comprehensive view of urban design.

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