DIMENSIONS OF URBAN DESIGN?
THE MORPHOLOGICAL DIMENSION

- The 'morphological' dimension of urban design; is the layout and configuration of urban form and space.
- There are essentially two types of urban space system 'traditional' and 'modernist'.
- 'Traditional' urban space consists of buildings as constituent parts of urban blocks, where the blocks define and enclose external space.
- 'Modernist' urban space typically consists of freestanding 'pavilion' buildings in landscape settings.
- During the modern period, the morphological structure of the public space network has changed in two important ways:
  - From buildings as constituent elements in urban blocks (i.e. connected terraced masses) defining 'streets' and 'squares', to buildings as separate freestanding pavilions standing in an amorphous 'space';
  - And
  - From integrated and connected small scale finely meshed street grids, to road networks surrounding segregated and introverted 'enclaves'.
- In each case there is currently a reaction to these changes.
THE MORPHOLOGICAL DIMENSION
THE MORPHOLOGICAL DIMENSION
THE PERCEPTUAL DIMENSION

- Awareness and appreciation of environmental perception, and, in particular, of perception and experience of 'place', is an essential dimension of urban design.

- Since the early 1960s an interdisciplinary field of environmental perception has developed, and there now exists a significant body of research on people's perception of their urban environment.

- An initial concern with environmental images has been supplemented by work on symbolism and meaning in the built environment.

- The interest in environmental perception has also been reinforced by a body of work focusing on the experiential 'sense of place' and 'lived-in' experiences associated with urban environments.

- Environmental perception leads to the construction of place, in terms of sense of place.
Certain paths are significant in supporting clear mental maps of cities or parts of cities. The mental maps of Londoners locate various other parts of London – such as The Mall, Piccadilly Circus, and Oxford Street – in relation to Regent Street.
THE SOCIAL DIMENSION

• Social dimension of urban design concerns how Space and Society are related:
• It is difficult to conceive of 'space' without social content and, equally, to conceive of society without a spatial component.
• The relationship is best conceived as a continuous two-way process in which people (and societies) create and modify spaces while at the same time being influenced by them in various ways.
• Social relations can be: constituted through space (e.g. where site characteristics influence settlement form); constrained by space (e.g. where the physical environment facilitates or obstructs human activity); and mediated by space (e.g. where the 'friction of distance' facilitates or inhibits the development of various social practices).
• Hence, by shaping that built environment, urban designers influence patterns of human activity and social life.
• There is five key aspects of urban design's social dimension:
  • The first is the relationship between people and space.
  • The second is the interrelated concepts of the 'public realm' and 'public life'.
  • The third concerns the notion of neighborhoods.
  • The fourth concerns issues of safety and security.
  • The fifth is the issue of accessibility.
THE VISUAL DIMENSION

• Visual - or, more precisely, the visual-aesthetic - dimension of urban design

• Architecture and urban design are often described as the only truly inescapable, and therefore public, art forms.

• While observers can choose whether or not to experience art, literature and music, urban design does not afford such a choice:

• In their daily activities, people must pass through and experience the public parts of the city environment.

• Thus, while we may 'accept the idea of "high" visual arts that appeal to a narrow audience who choose to visit a museum, city form and appearance must satisfy the broader public who regularly experiences it.

• There are four key issues to the visual dimension:
  • The first part concerns aesthetic preferences.
  • The second concerns the appreciation of space and the aesthetic qualities of urban spaces and townscape.
  • The third and fourth concern the design of elements that define and occupy urban space – the architecture, and the hard and soft landscaping.
THE VISUAL DIMENSION

(i) The principle of similarity, which enables recognition of similar or identical elements amid others – repetition of forms or of common characteristics (e.g. window shapes).

(ii) The principle of proximity, which enables elements that are spatially closer together to be read as a group and to be distinguished from those that are further apart.

(iii) The principle of common ground and common enclosure, whereby an enclosure or a ground defines a field or group. Those elements within the field or ground are distinguished from what lies outside.

(iv) The principle of orientation, whereby elements are grouped through their common orientation, either through parallelism or convergence towards a void or solid.

(v) The principle of closure, which enables recognition of incomplete or partial elements as wholes.

(vi) The principle of continuity, which enables recognition of patterns that may not have been intended that way.
THE VISUAL DIMENSION

Principles of containment and Enclosure
Width-to-length ratios help distinguish between 'street' spaces and 'square' spaces. If the ratio of width-to-length is 2:3 neither axis dominates. Ratios of about 1:3 begin to form the transition between 'street' and 'square', as one axis begins to dominate. Where the ratio of width-to-length is 1:5, one axis clearly dominates and movement is suggested along that axis. Width-to-length proportions of more than 1:5 suggest a street.
FIGURE 7.4
Gordon Cullen’s serial vision (source: Cullen, 1961, p. 17)
THE FUNCTIONAL DIMENSION

• Functional dimension of urban design involves how places work and how urban designers can make 'better' places.
• The 'social usage' and 'visual' traditions of urban design thought each had a 'functionalist' perspective.
• That of the former concerned the functioning of the environment in terms of how people used it, while in the latter, the human dimension was often abstracted out and reduced to aesthetic or technical criteria such as traffic flow, access or circulation.
• These two sets of functional considerations, can be further developed in four parts:
  • The first part concerns the use of public spaces.
  • The second concerns mixed uses and density considerations.
  • The third environmental design
  • The fourth aspects of the capital web.
Retail developers and designers are skilled in exploiting shopper psychology and manipulating shopper movements within shopping centers. In the simplest form of centers, the 'magnet' stores are located at either end of a central mall lined with smaller stores. The magnet stores attract shoppers to the mall. As shoppers enter the mall, they are drawn towards the magnet stores and in the process pass the smaller stores, thereby, generating footfall and potential trade for those smaller stores. If shoppers enter through one of the magnet stores, the other magnet stores provide the stimulus for movement along the mall. This is admittedly a simplified account of movement. The magnet stores attract people in the aggregate; they may not attract any particular individual. Equally, it may be the ambience and character of the mall's 'public' spaces that are the real attraction.
THE FUNCTIONAL DIMENSION
SPATIAL STRUCTURE (THE CAPITAL WEB)

FIGURE 8.8
A shape is convex if all points within the shape can be seen from all other points within that shape (i.e. a straight line drawn between any two points within the shape lies wholly within the shape). Related to this is the 'convex isovist' – the shape defined by all the points that can be seen from any point within the convex space. As sight lines are considered to be important in terms of influencing movement, the convex isovist represents the opportunity space that a pedestrian in the convex space can see and could move to. The diagram shows the convex element (the darker shading) and the strategic isovist (the lighter shading) for The Green – an historic but underused space in the centre of Aberdeen. Close to the main pedestrian thoroughfare of Union Street, it is not visually linked to it.

FIGURE 8.9
Axial map of Rothenburg. In an axial map, the plan view of the study area is drawn with axial lines ensuring that all the convex spaces are linked (i.e. integrated). Straight or axial lines are important because, for Hillier, people move along lines and, furthermore, need to be able to see along lines in order to know where they can go. Hillier notes that longer lines tend to strike façades at an open angle (i.e. suggesting further movement), while shorter lines tend to strike them at angles closer to a right angle, thereby, reducing the potential for movement in that direction. He also notes that patterns of land uses generally change slowly along lines of movement and more sharply with the increasing angle of turn onto different lines.
THE TEMPORAL DIMENSION

• Although sometimes considered to be a matter of working in three dimensions, urban design is four-dimensional: The fourth dimension being time.

• As time passes, spaces become lived-in places, made more meaningful by their time-thickened qualities.

• We experience the passage of time in the urban environment in two ways:
  • Through 'rhythmic repetition': 'the heartbeat, breathing, sleeping and waking, hunger, the cycles of sun and moon, the seasons, waves, tides, clocks'
  • Through 'progressive and irreversible change': growth and decay, not recurrence but alteration'.

• Time and space are intimately related.

• Space and time 'are the great framework within which we order our experience. We live in time-places.’

• A city 'is more than a place in space, it is a drama in time' (from Cowan, 1995, p. 1).

• There are three key aspects of the temporal dimension of urban design:
  • First, as activities are fluid in space and time, environments are used differently at different times. Urban designers need to understand time cycles and the time management of activities in space.
  • Second, although environments relentlessly change over time, a high value is often placed on some degree of continuity and stability. Urban designers need to understand how environments change, what stays the same and what changes over time. They also need to be able to design and manage environments that can accommodate the inevitability of time's passage.
  • Third, urban environments change over time, and urban design projects, policies, etc., are implemented over time.
THE TEMPORAL DIMENSION
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