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Chapter 4: *The Theories of Urban Spatial Design* pp.97-124

CHAPTER

4

THREE THEORIES OF URBAN
SPATIAL DESIGN

On the basis of research into the evolution of modern space and the analysis of historic precedents, three approaches to urban-design theory can be identified: (1) figure-ground theory; (2) linkage theory; and (3) place theory. These theories differ significantly from each other, but taken together can provide us with potential strategies for integrated urban design (fig. 4-1).

The *figure-ground theory* is founded on the study of the relative land coverage of buildings as solid mass ("figure") to open voids ("ground"). Each urban environment has an existing pattern of solids and voids, and the figure-ground approach to spatial design is an attempt to manipulate these relationships by adding to, subtracting from, or changing the physical geometry of the pattern. The objective of these manipulations is to clarify the structure of urban spaces in a city or district by establishing a hierarchy of spaces of different sizes that are individually enclosed but ordered directionally in relation to each other. A predominant "field" of solids and voids creates this urban pattern, often called the fabric, and is punctuated by object buildings and spaces, such as major landmarks or open spaces that provide focal points and subcenters within the field. The figure-ground drawing is a graphic tool for

illustrating mass-void relationships; a two-dimensional abstraction in plan view that clarifies the structure and order of urban spaces.

Unlike the figure-ground theory, which is based primarily on patterns of solids and voids, the *linkage theory* is derived from "lines" connecting one element to another. These lines are formed by streets, pedestrian ways, linear open spaces, or other linking elements that physically connect the parts of a city. The designer applying the linkage theory tries to organize a system of connections, or a network, that establishes a structure for ordering spaces. Emphasis is placed on the circulation diagram rather than the spatial diagram of the figure-ground theory. Movement systems and efficiency of the infrastructure take precedence over patterns of defined outdoor space.

The *place theory* goes one step beyond figure-ground and linkage theories in that it adds the components of human needs and cultural, historical, and natural contexts. Advocates of the place theory give physical space additional richness by incorporating unique forms and details indigenous to its setting. This response to context often includes history and the element of time and attempts to enhance the fit between new design and existing conditions. In place theory social and cul-

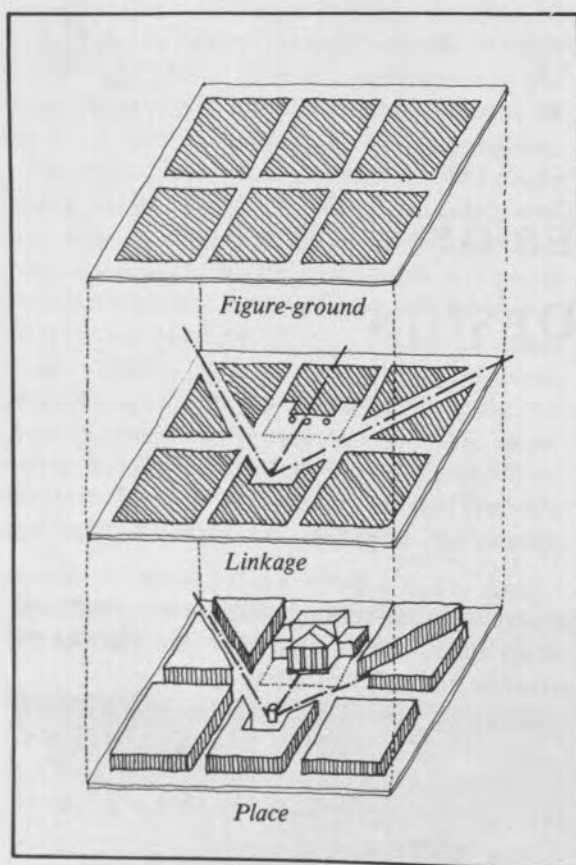


Figure 4-1. Diagram of Urban Design Theories. In recent years there have been three major approaches to urban design.

- (1) *Figure-ground theory:* In this approach, the starting point for an understanding of urban form is the analysis of relationships between building mass and open space. Figure-ground analyses are powerful tools for identifying the textures and patterns of the urban fabric as well as problems in its spatial order, but can lead to a static and two-dimensional conception of space.
- (2) *Linkage theory:* In this approach dynamics of circulation become the generators of urban form. The emphasis on connection and movement is a significant contribution, but the need for spatial definition is sometimes undervalued.
- (3) *Place theory:* Designers have increasingly become aware of the importance of historic, cultural, and social values in urban open space. Contextualists have argued strongly against the tendency of the Functionalists to impose abstract designs from the outside.

Overlay: The integrated approach suggested in this text would incorporate figure-ground, linkage, and place theories, giving clear structure to solids and voids, organizing connections between the parts, and responding to the human needs and unique elements of the context.

tural values, visual perceptions, of users and an individual's control over the immediate public environment are as important as principles of lateral enclosure and linkage.

Each of these approaches has its own value, but the optimum is one that draws on all three, giving structure to the solids and voids, organizing the links between parts, and responding to the human needs and unique elements of the particular environment. The physical spatial structure of the urban landscape must be designed in response to these interrelated theories.

FIGURE-GROUND THEORY

The best illustration of the figure-ground theory of urban design is Giambattista Nolli's Map of Rome, drawn in 1748. The Nolli Map (fig. 4-2) reveals the city as a clearly defined system of solids and voids. The building coverage is denser than the exterior space, thereby giving shape to the public openings—in other words, creating positive voids, or "space-as-object." The open space in Rome is carved out of the building mass as a continuous flow linking interior and exterior spaces and activities. Without this critical land coverage, the spatial continuity would be impossible. 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 the surrounding solids.⁵⁰ 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.

The figure-ground relationship in the Nolli Map is one of overall coherence, featuring a mesh between the block pattern and individual buildings. Object buildings are distinguished by their larger civic spaces in front and from the predominant field of tightly packed streets and squares registered within a continuous building mass or "pri-

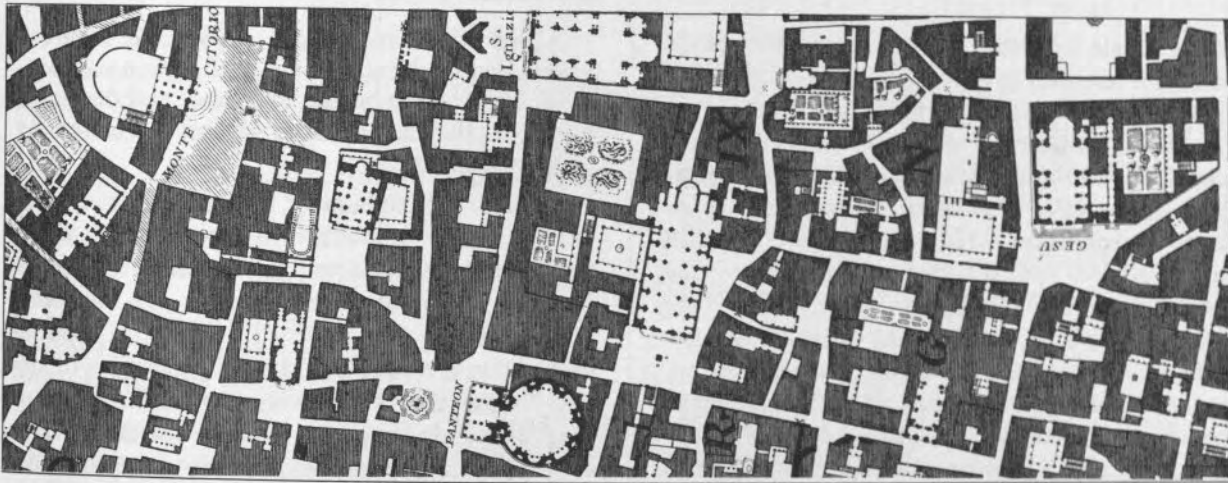


Figure 4-2. Giambattista Nolli. Map of Rome. 1748.

Nolli's map graphically illustrates the figure-ground relationship of a traditional city where public civic space is carved out of the private tissue. (See also fig. 3-2.) The predominant field is a dense continuous mass, allowing open space to become a figural void.

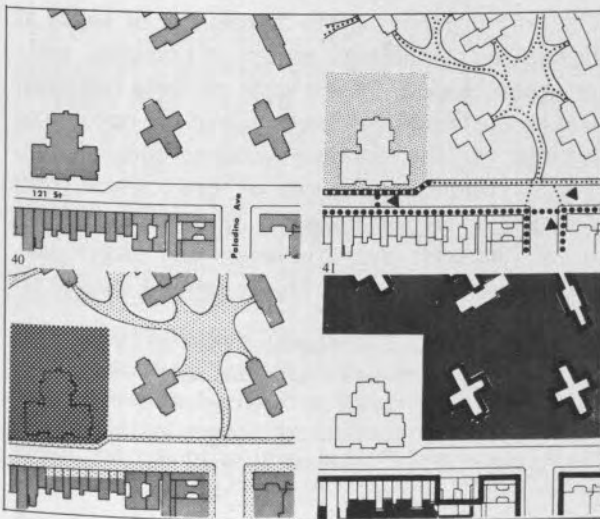


Figure 4-3. Robert F. Wagner, Sr. Houses. Upper East Side. New York, New York.

In contrast to Nolli's map, the predominant field is void in most modern cities. Buildings read as individual and isolated objects and the spaces between them are unformed. When buildings are principally vertical there is inadequate ground coverage and the intentional shaping of exterior space is virtually impossible. (Drawing: Victor Caliandro)

vate tissue." Thus, differentiating between public and private articulates the civic buildings (illustrated with ground floors exposed) from the "ur-

ban poché" surrounding them.

The term *poché* is often used in the figure-ground theory of urban design. It is a spatial field of solids, articulating the configuration of exterior voids. Poché is technically defined as the walls, columns, and other solids of buildings, indicated in black on architectural plans. On the exterior, however, *urban poché* is the supportive structure, which registers the spatial landscape, engaging the buildings to their adjacent voids, making a kind of continuous imprint on the plan. This results in spatial events that bring the design of the public realm together with that of the private object. Marketplace Center in Boston is a good contemporary example of the urban poché expressed in Nolli's figure-ground drawing.

The figure-ground theory further points out that when the urban form is predominantly vertical instead of horizontal—point-block towers, slabs, or skyscrapers common to the modern landscape—shaping coherent urban space is next to impossible (fig. 4-3). Most attempts to place vertical elements over a large ground plane result in vast open spaces seldom used or enjoyed. Vertical buildings strewn as objects on the landscape cannot give spatial structure to the environment because of inadequate ground coverage. When this occurs, the dominant reading, in contrast to the Nolli Map, is

of the single building, and the connective block pattern is missing. In order to achieve form on the exterior, the perimeter of spaces and blocks must be well articulated to establish outdoor rooms containing corners, niches, pockets, and corridors. Alvar Aalto of Finland, one of the most influential architects of this century, often described the problem of spatial design as one of connecting the form of the building to the structure of the site, or of twisting and turning the building's facades to create positive exterior space.⁵¹ This approach can be seen in almost all of Aalto's public buildings (prime examples include the Säynätsalo Town Hall and Riola Parochial Church), where an outdoor court or larger piazza forms the center and holds the composition together. Aalto's figure-ground concept for individual or small groups of buildings can be applied to urban design on a larger scale for the city.

The easiest way to achieve positive voids is to work with a horizontal building mass where the structures have more coverage than the surrounding field and where, conceptually, the space is carved out of the mass. In practice this figure-ground relationship is not always possible or even desirable, but it should always be kept in mind as a conceptual guiding principle in city design.

Certain definite types of positive voids should be created within the building mass of the city. Public spaces give symbolic content and meaning to the city by providing gathering places, paths, transitions between public and private domains, and arenas for discourse and interaction. As Susana Torre writes:

Urban voids are at once the vessel and symbol of human gathering, and represent the tension between the individual and the collective. Despite being physically endangered and politically fragile in the face of land speculation, squares and parks more often than not have survived while buildings around them were torn down and replaced. In America, squares and parks are expressions of civic pride. Important deeds are summoned to memory by such places as Independence Square, the Lexington Green and the Boston Commons. . . . However, the artistically

shaped urban void, a space of specific scale determined by the size of the gathering it can contain, and by the height, character and design of its boundaries, has been almost forgotten by modern planners.⁵²

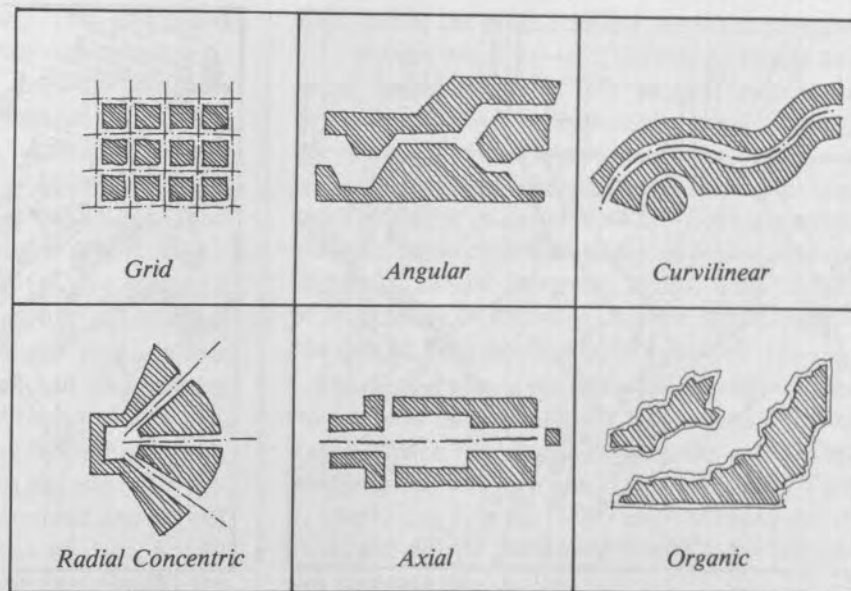
Space is the medium of the urban experience, providing the sequence between public, semi-public, and private domains. For these sequences to work, circulation barriers and gaps in continuity must be minimized or eliminated. Spatial orientation is defined by the configuration of urban blocks that collectively form districts and neighborhoods. It is the articulation and differentiation of solids and voids that make up the fabric of the city and establish the physical sequences and visual orientation between places. Figure-ground analyses (fig. 4-4) are especially useful in revealing such relationships. The nature of the urban void depends on the disposition of solids at its perimeter (buildings, groups of buildings, and/or urban blocks), on the scale of these elements, and on the horizontal dimension of the opening or ground surface between vertical components. Larger composite patterns of street space form districts, where the ensemble of spaces creates an urban character that dominates and unites individual, isolated spaces. Figure-ground studies re-

Figure 4-4. Typical Figure-ground Plan of a Portion of the City. Figure-ground studies are useful not only in revealing the composite patterns of street space but also in indicating the distinctive characteristics of districts. (Refer also to figure-ground studies for Boston and Göteborg, figs. 5-18 and 5-60.)



Figure 4-5. Six Typological Patterns of Solids and Voids.

The solid-void relationships formed by the shape and location of buildings, the design of site elements (plantings, walls), and the channeling of movement result in six typological patterns: grid, angular, curvilinear, radial/concentric, axial, and organic.



veal the collective urban form as a combination of patterns of solids and voids (fig. 4-5) that can take on many configurations, such as the orthogonal/diagonal overlay (the modified grid), the random organic (generated by terrain and natural features), and the nodal concentric (linear and wrap-around forms with activity centers), to name just three. Most cities are built from combinations and permutations of these patterns as well as through the juxtaposition of larger and smaller patterns. The organic shifting patterns of Imperial Rome and the regular grid of midtown Manhattan are the particular organizing structures of those cities. The shifting relationships of streets and blocks throughout an urban district give it its aggregate form.

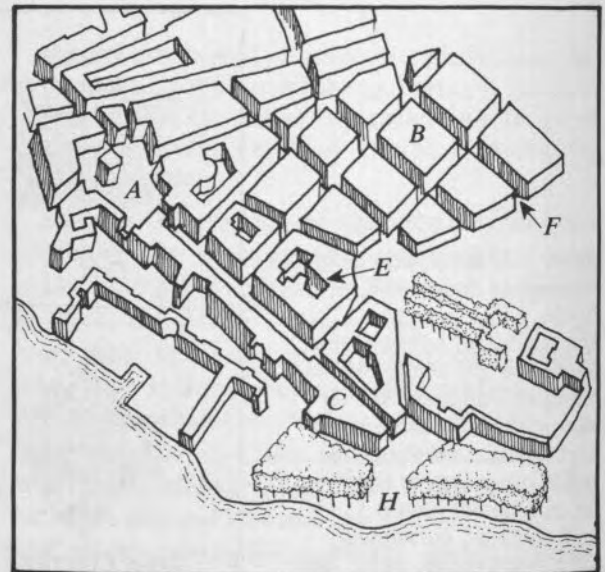
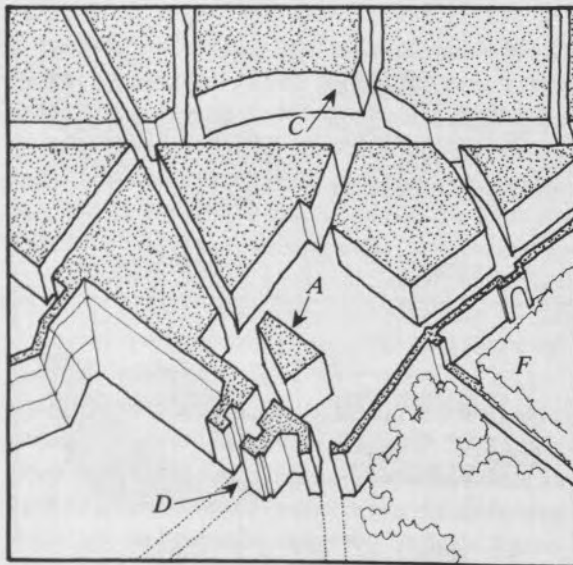
Beyond revealing the character and aggregate urban form, figure-ground drawings help articulate the differences between urban solids and voids and provide us with a tool for classifying them by type. As we have indicated, distinct types of solids and voids contribute to the design and perception of public space (figs. 4-6, 4-7).

Urban-solid types include public monuments or dominant institutional buildings, the field of urban blocks, and directional or edge-defining buildings; urban-void types include entry foyers,

inner-block voids, networks of streets and squares, parks and gardens, and linear open-space systems.

Urban Solids

The first important type of urban solid can be characterized as public monuments or institutions, which serve as centerpieces in the city fabric. These object buildings, often visual foci, need to sit prominently in open space to announce their presence and express their social and political significance. They are often freestanding—like the typical American city hall—or welded to blocks of more ordinary buildings, as frequently occurred with Gothic or Baroque churches in the traditional European city (see the Pantheon in Rome, fig. 4-8). The forecourts to public monuments and institutions, with their grand entrance stairs and the open spaces surrounding them, are often as important as the monuments themselves, as in the Campo in Siena or the Campidoglio in Rome. “On the European continent the cathedral is preceded by an urban space which serves to unite the symbolic interior of the building with the town as a whole. . . . A splendid answer to the problem of urban gathering is also offered by St. Mark’s Square (and monumental cathedral) in Venice,



Figures 4-6, 4-7. Diagram of the Types of Urban Solids and Voids.

In the traditional city three principal types of urban solids have evolved: public monuments and institutions (A); the predominant field of urban blocks (B); and edge-defining buildings (C). There are five main types of urban void that perform various functions in the exterior space of the city: entry foyers (D) act as passageways between private and public space; inner block voids (E) are semiprivate transition zones; the network of streets and squares (F) corresponds to the predominant field of blocks and contains the active public life of the city; parks and gardens (G) are nodes that contrast with architectural urban forms, while linear open space systems (H), usually associated with natural features such as riverways, waterfronts, and wetlands, cut through urban districts to establish edges and create larger-scale connections.

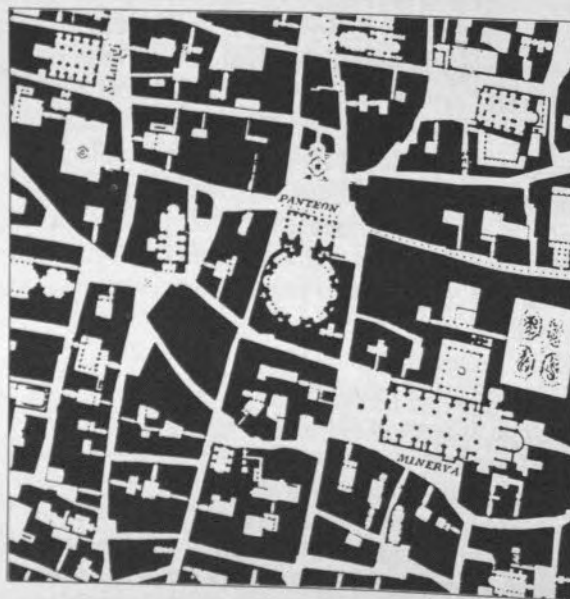


Figure 4-8. The Pantheon, Rome. Detail from the Nolli Map of Rome.

A type of urban solid found in all cities is the public monument or institution. In many cases this monument needs to be set off by an important public space, which may well be as significant as the architecture it frames. At the Pantheon in Rome, a piazza links the interior space to the outdoor structure of the wider city. Public monuments or institutions serve as focal points or centerpieces in the city. (See also Richardson's Trinity Church at Copley Square, fig. 2-19, and Boston City Hall, fig. 3-27.)

where the large piazza forms a meaningful transition between the dense labyrinth of the city and the glittering expanse of the sea."⁵³

A second major type of urban solid can be defined as the predominant field of urban blocks. According to Leon Krier, the size, pattern, and orientation of the urban block is the most important element in the composition of public spaces.

The *field* is organized by a repetition of preshaped parcels forming a pattern determined by use, such as residential, office, retail, or industrial, with appropriate spacing, bulk, and vertical dimension. The *field* of blocks sometimes forms a carpet pattern of recognizable, coherent textures that define a center. They might also be formed by neighborhoods or districts of a consistent group form.

Another category of solids in the city is formed by directional or edge-defining buildings that are generally nonrepetitive, specialized forms, often linear in configuration. These could be buildings that are intentionally designed to violate the predominant field and adjusted to face a boulevard, circle, or square, or to establish the edge of a district. They can also serve to surround and set off a monument, to define axial lines of sight, and to frame important places. Amsterdam South, the landmark Dutch housing district designed by H. P. Berlage in 1915, reveals a masterly treatment of the directional, edge-defining solid (fig. 4-9). Berlage's perimeter blocks form figural street space and squares that establish a continuous urban fabric, setting up a vocabulary that governs building volumes and facade styles as well as the treatment of landscape.

These three types of urban solids should be interconnected through design in such a way as to make the voids emerge as a figural network of linked spaces, as in Nolli's Map of Rome.

Urban Voids

As in the case of urban solids, there are certain definable urban voids. These need to be carved out of and pushed into the solids to provide functional and visual continuities, thereby creating an integrated, humane city in which architecture and exterior space are inextricably fused.

Five types of urban voids (with different degrees of openness and enclosure) play a part in the exterior city. The first is the entry foyer space that establishes the important transition, or passage, from personal domain to common territory. Security—the "eyes on the street" surveillance by a

doorman at the porte-cochère or neighbors peering out their windows—is a significant design and social consideration of the entry foyer. Oscar Newman in his work, *Defensible Space*,⁵⁴ stresses the importance of the semipublic entry foyer in crime prevention. The entry space is a private gateway visible to a select few and announcing the arrival of individuals to their living or work spaces. In form it can be forecourt, mews, niche, lobby, or front yard. In scale it is intimate, a place where one can be both public and private.

The second type is the inner block void—the enclosed "hole in the doughnut"—a semiprivate residential space for leisure or utility or a midblock shopping oasis for circulation or rest. Paley Park in Manhattan (see fig. 3-29) and the many courtyards and cloister gardens of Copenhagen fall into this category (fig. 4-10).

A third type of void is the primary network of streets and squares (fig. 4-11), a category that corresponds to the predominant field of blocks and that contains the active public life of the city. Historically, the streets and squares were the unifying structures of the city; in modern times (as we have previously discussed), they have lost much of their social function and physical quality. As extensions of the home and places for discourse among neighbors, urban streets and squares traditionally formed a systematic hierarchy of order from locally controlled space to citywide routes for communication. Streets and squares were places to be—to spend time in—as well as corridors through which to move. Throughout most of urban history the network of streets and squares functioned as the principal structure for civic design and spatial organization. Too often today they do not serve this role, as the mixed-use street has been replaced by shopping centers.

Public parks and gardens (fig. 4-12) are the fourth type of larger voids that contrast with architectural urban forms. Acting as nodes for the preservation of nature in the city, they are incorporated into the urban grid to simulate rural settings, to provide both relief from the hard urban environment and accessible recreation. Urban

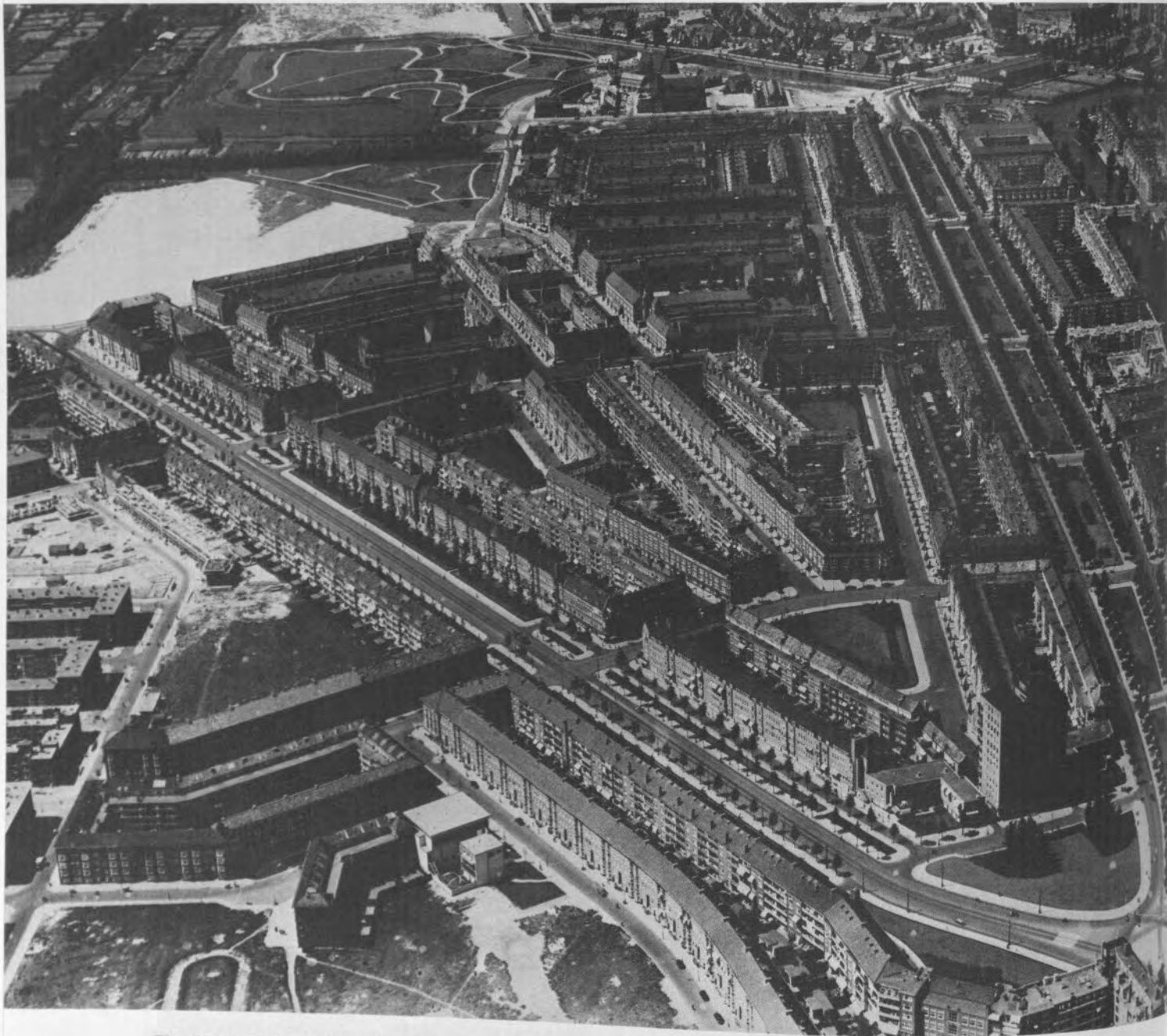


Figure 4-9. H. P. Berlage. Amsterdam South. The Netherlands. 1915. Berlage's linear blocks represent a masterly use of the edge-defining directional solid. Berlage's perimeter blocks form figural street space and squares that establish a continuity of urban fabric, setting up a vocabulary governing building volume, facade styles, and landscape treatment. (Photo: KLM Aerocarto)

Figure 4-10. Typical Entry Foyer and Inner-block Courtyard, Copenhagen, Denmark.

The entry foyer establishes the important transition, or passage, between personal domain and public territory. It is intimate in scale, visible to a small group, and provides a vital buffer of security between private and communal zones. The inner-block void is also an important transition zone between semiprivate and fully public space, whether as a residential space for leisure or utility or as a midblock oasis or urban park. (Refer also to Paley Park, fig. 3-29.)

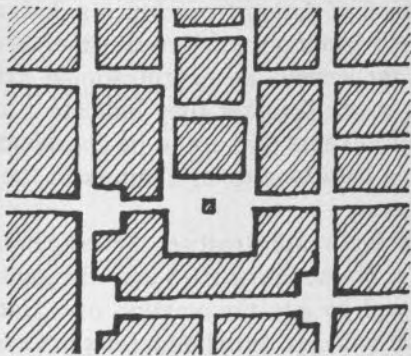


Figure 4-11. Plan Diagram of Streets and Squares. As urban voids, the network of streets and squares corresponds to the predominant field of solid urban blocks. Extensions of the home and places of neighborhood interaction, streets and blocks traditionally provided a systematic hierarchy from locally controlled territory to citywide communication routes. Places to move through, they were also places to spend time in.

parks and gardens shape adjoining sites by enhancing property values at their edges, but they are independent landscape compositions internally. One of the most formidable natural com-

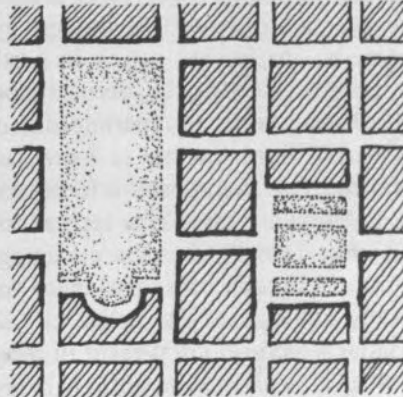


Figure 4-12. The Park in the City Grid. Parks and open gardens are urban spaces that provide contrast to the hard urban environment and opportunities for relaxation and recreation.

mons in any city is Olmsted's Central Park in New York City.

The final type of urban void is the linear open-space system (fig. 4-13), commonly related to major water features such as rivers, waterfronts, and wetland zones. These formal and informal greenways slice through districts, create edges, and link

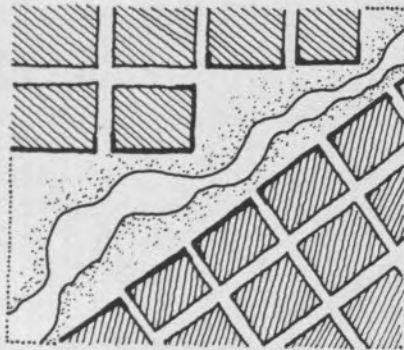


Figure 4-13. *Linear Open Space Systems within the City.* Often related to watercourses, linear open spaces slice through districts, establish edges, and link places. The landscape treatment may be formal or informal, but linear open spaces generally offer continuous greenery in contrast to the regular grid of urban streets.

places. The organic Riverway in San Antonio, Texas, and Olmsted's "Emerald Necklace" of greenways in Boston are linear systems that give richness to the city form by contrasting with the urban grid and providing a pervasive presence to the landscape. In Edmonton, a modern boomtown of close to one million people in northwest Alberta, Canada, the city grid, derived from the larger grid of the prairie, is superimposed over a natural system of linear ravines at a dramatically lower elevation. This juxtaposition forces the grid to change direction and allows for recreation in an untouched natural setting at a separate topographical elevation. In Edmonton's open-space amenity one is totally unaware of the active city above. Similar spatial structures are present in several of the new towns of Scandinavia, notably in areas of Tapiola, Finland, and Vällingby on the outskirts of Stockholm (see figs. 2-35, 2-36).

In conclusion, the crux of the figure-ground theory lies in the manipulation and organization of urban solids and voids. When the dialogue between the urban solids and voids is complete and perceivable, the spatial network tends to operate successfully. Fragments are incorporated into the framework and take on the character of the district. If the relationship of solids to voids is poorly balanced, fragments become disjointed, falling

outside the framework; the result is lost space. In order to reclaim our lost space, there must be a willingness to reconsider the object and evaluate the ground rather than worship the figure. Design of the object must be considered in conjunction with structuring the void, so that building and space can effectively coexist.

LINKAGE THEORY

As previously outlined, the linkage theory involves the organization of lines that connect the parts of the city and the design of a spatial datum from these lines 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. A spatial datum can be a site line, directional flow of movement, an organizational axis, or a building edge. Together they indicate a constant system of linkages that are to be considered when proposing additions to or changes in the spatial environment.

In his landmark treatise, *Investigations into Collective Form*, Fumihiko Maki discusses several factors that go into the creation of a framework of spatial linkages. Maki addresses linkage as the most important characteristic of urban exterior space, stating that:

Linkage is simply the glue of the city. It is the act by which we unite all the layers of activity and resulting physical form in the city. . . . urban design is concerned with the question of making comprehensible links between discrete things. As a corollary, it is concerned with making an extremely large entity comprehensible by articulating its parts.⁵⁵

From this emphasis on the linkage theory, Maki

defines three different formal types of urban space: compositional form, megaform, and group form (fig. 4-14). Compositional form, he says, consists of individually tailored buildings in abstract patterns that are composed in a two-dimensional plan. Linkage is implied rather than overt, and reciprocal tension is a product of the positioning and shapes of freestanding objects. Linkage elements are static and formal in nature. Maki cites as examples of compositional form Chandigarh Government Center (see fig. 2-9) and the new city of Brasília. In compositional form, perimeter edges to open space are not considered as important as the object buildings themselves.

The second formal type in Maki's linkage theory is the megastructure, in which individual components are integrated into a larger framework in an hierarchical, open-ended, and interconnected system. In megaform, linkage is physically imposed to make a structure. In describing megaform, Maki points out several administrative and engineering advantages, principally the advantage

of efficiency in ordering varied functions and investment within a simple infrastructure. The works of Kenzo Tange and Noriaki Kurokawa are given as models, with particular reference to a new community designed at the Massachusetts Institute of Technology in the 1960s (fig. 4-15).

The tight structure of megaform encloses the internally covered space and the perimeter is formally defined, but the structure is indifferent to exterior space. It tends to turn its back on the physical context and creates its own milieu by embracing a very large room without specific reference to human scale. In such examples the form generator is often the high-speed road network.

Maki calls his third formal type of linkage space "group form." This is the result of incremental accumulation of elements in space along an armature and is particularly typical of the spatial organization of many historic towns. In group form linkage is neither implied nor imposed but is naturally evolved as an integral part of the organic, generative structure. Group form is further char-

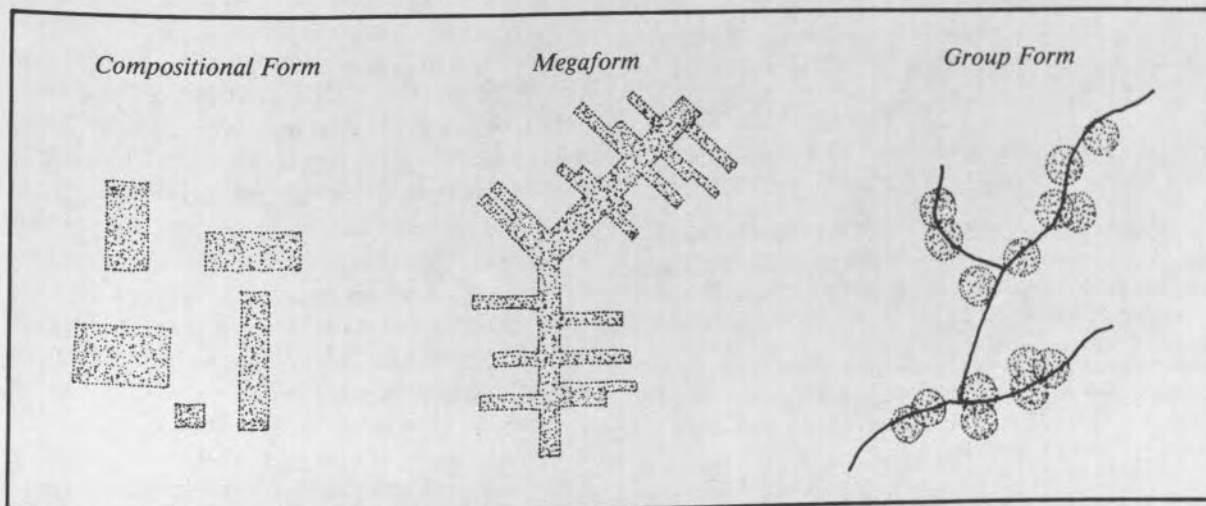


Figure 4-14. Fumihiko Maki. Three Types of Spatial Linkage.

(1) Compositional form: individual buildings are composed on a two-dimensional plane. In this type of urban form, spatial linkage is implied rather than overt and is typical of Functionalist planning methods. (See chapter 2.)

(2) Mega form: structures are connected to a linear framework in a hierarchical, open-ended system where linkage is physically imposed. Experiments in megaform were especially popular in the 1950s and 1960s.

(3) Group form: group form results from an incremental accumulation of structures along an armature of communal open space, and linkage is naturally and organically evolved. Historic towns and villages have tended to develop in this pattern.

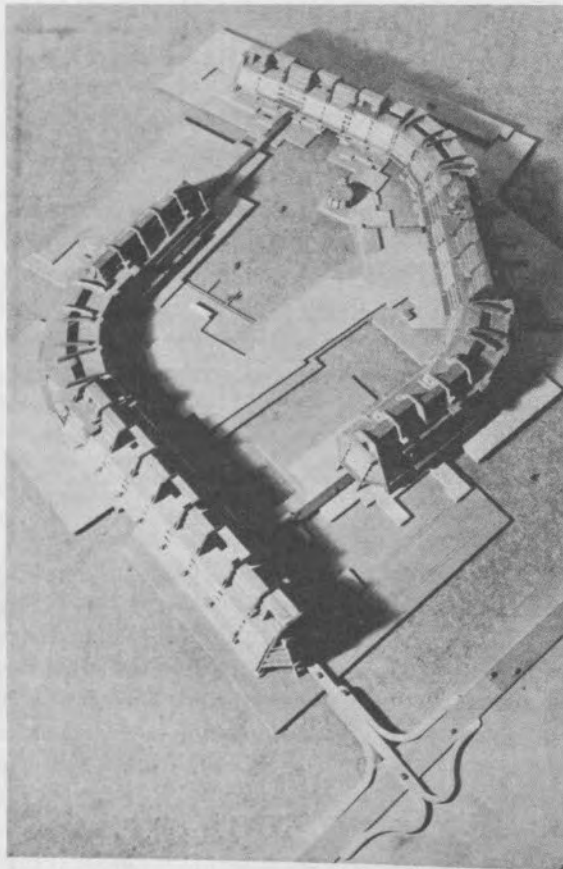


Figure 4-15. Kenzo Tange and Noriaki Kurokawa. *Plan for a New Community*. Cambridge, Massachusetts. M.I.T. 1960s.

Tange and other architects of the 1960s attempted to redress the problems of the modern city by looking at the possibilities offered by megastructures. Although important as studies in the potential of linear structures to create efficient linkages, these experiments generally lacked a concern for well-shaped, useful exterior open space. (From Maki, *Investigations in Collective Form*. Courtesy: School of Architecture, Washington University, St. Louis, Missouri)

acterized by a consistency of materials, a wise, often dramatic response to topography, deference to human scale, and by sequences of spaces defined by buildings, walls, gateways, and spires. Maki illustrates group form with images of the Greek village and the linear Japanese agrarian village (fig. 4-16), where the two-story streetfront forms a tight, continuous village facade that links

the individual house to the larger fabric of houses and connects private family life to the public life of the community. In this type of organization the house generates village form, the village generates house form, and individual buildings can be added or subtracted without changing the basic structure. In group form urban spaces are derived from the interior, and the rural space outside imposes limitations and conditions that define the place of the community within the landscape. The structure of the settlement responds to a necessary quid pro quo between factors of the internal and external site.

In all three formal types, Maki stresses linkage as the controlling idea for ordering buildings and spaces in design. From Maki we learn that there are several methods of organizing coherent spatial relationships under the linkage theory of urban design. What emerges from his important work is that the composition of public space is established as a totality before either individual spaces or buildings are planned.

Linkage theory was highly popular in the design thinking of the 1960s. A leading figure in exploration of structures generated by linkage was Kenzo Tange. His *New Community*, designed at MIT (see fig. 4-15), and his plan for Expo '70 are studies in futuristic forms connected by circulation systems. At Expo '70 (fig. 4-17) networks of pathways linked experimental structures at various levels. The scheme for horizontal linkages between high-rise elements, developed by the Regional Plan Association and published in *Urban Design Manhattan*, is another example of this theory and is a fascinating concept, but points out the problem of containing exterior space (fig. 4-18). The work of Candilis, Josic, and Woods at Toulouse-le-Mirail (see fig. 3-34) is also designed around branching circulation patterns, at the ex-

Figure 4-16. Facing page: *Japanese Village Street*. In the group form of the traditional agrarian village, street is the armature that unifies the community. Individual buildings can be added or subtracted without injury to the basic organization. (Courtesy: © RETORIA/Y. Futagawa and Associated Photographers)



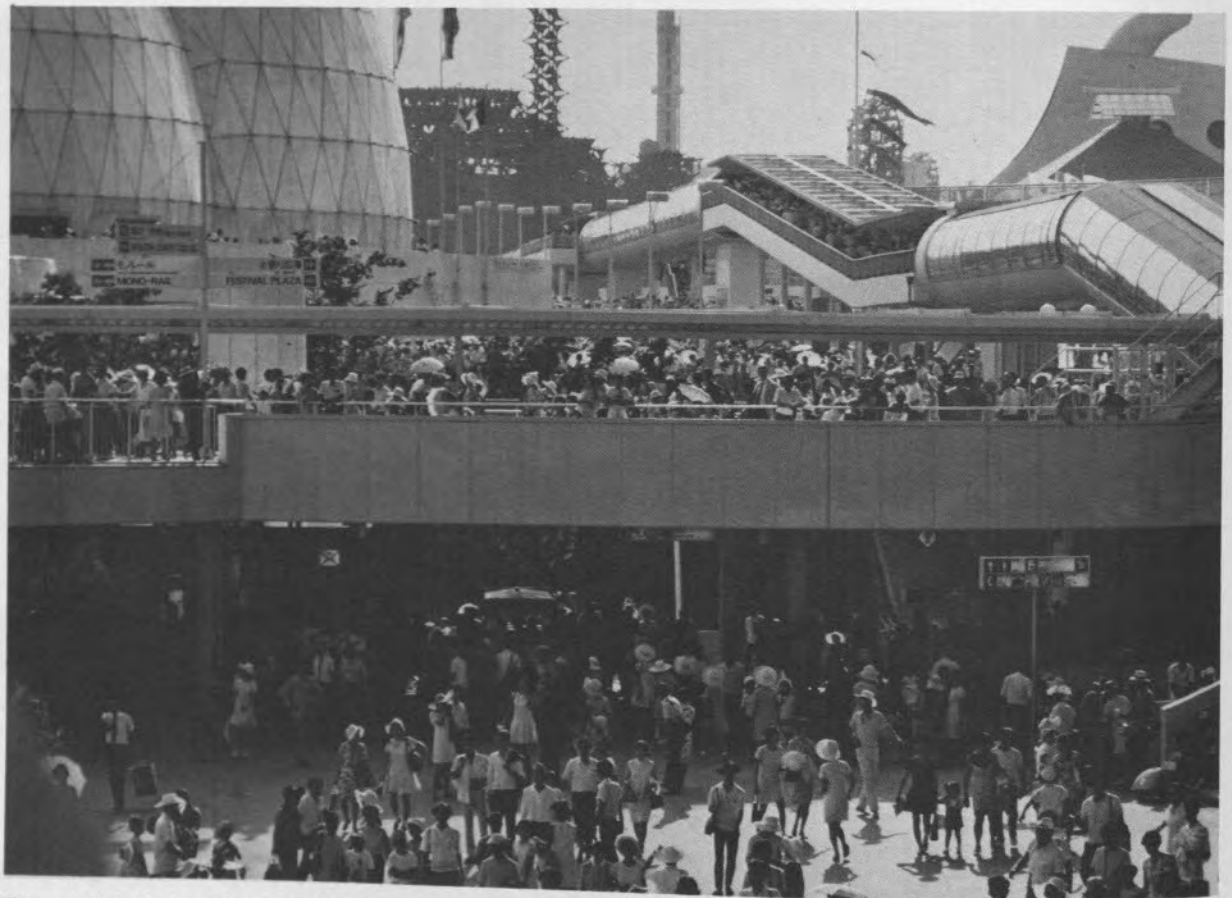


Figure 4-17. Kenzo Tange. Expo 70. Osaka, Japan. 1970.

At Expo '70 Tange created a complex of linked, futuristic structures connected at various levels by an extensive circulation system.

pense of exterior and interior space. A further illustration of the highly experimental and conceptual aspect of linkage theory is Peter Cook's Plug-in City of 1964 (fig. 4-19). A latticelike framework of intersecting tubes for service, supply systems, and escalators provides an interconnected structure. Prefabricated units could be plugged into the structure interchangeably, while horizontal traffic systems ran through the community at various levels. In all these projects linkage forms a nonspatial configuration organized around horizontal and vertical circulation.

Such proposals stress utopian ideals for community regeneration but do not address the need for traditional urban spaces formed by solids and

voids. In these experiments, proposing linked megastructures, the environment becomes a diagram of movement systems. A fascination with the machine aesthetic and high technology dominates the search for spatial opportunities.

The study of circulation and connection, however, is extremely important to the understanding of urban structure. One of the best-known applications of this type of linkage theory to the large-scale environment was Ed Bacon's guidance of the revival of Philadelphia (fig. 4-20). The attempt was to use citywide connections as a tool for restoring urban coherence and guiding new development in desired directions. Such planning can also be a powerful means of stimulating new investment.

Figure 4-18. Regional Plan Association. *The Three-dimensional Grid*. 1969. Linkage dominated planning theory during the 1960s. In this scheme horizontal connections between vertical structures are effectively created, but there is no system of contained exterior space. (Courtesy: Regional Plan Association, Inc.)

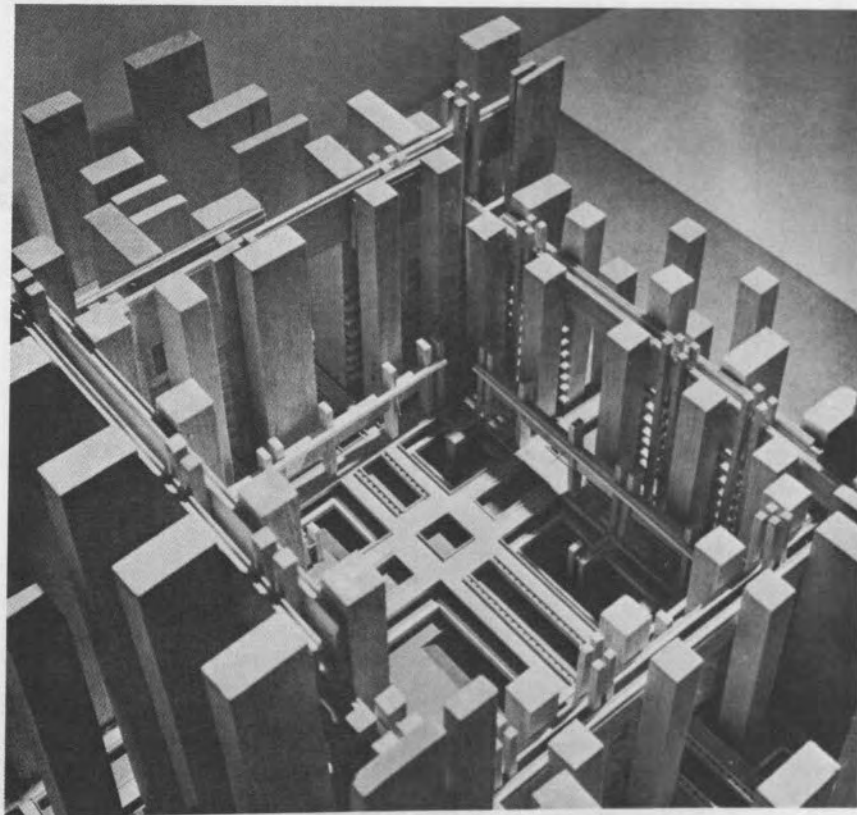
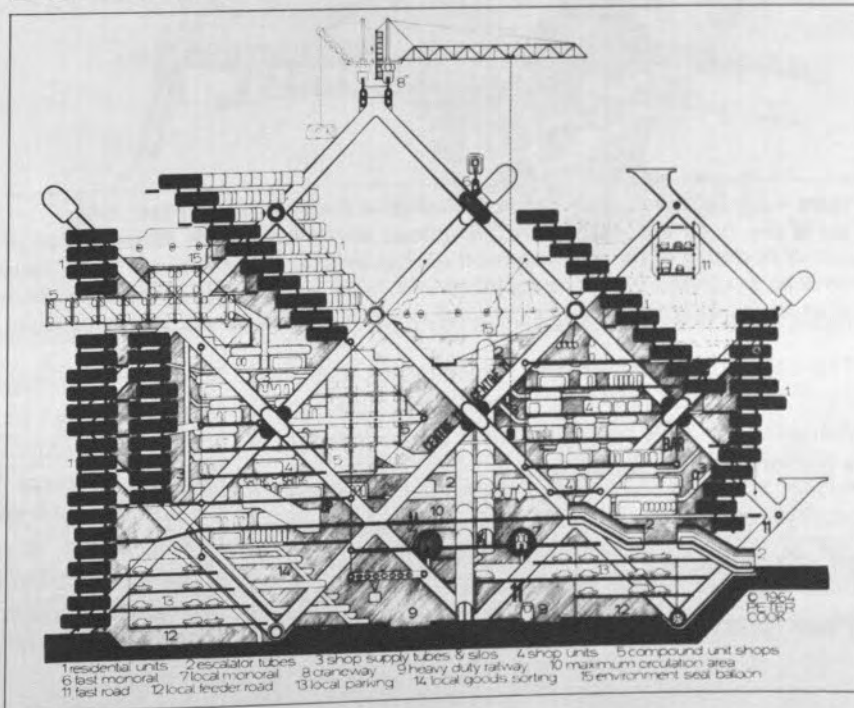


Figure 4-19. Peter Cook. Scheme for the "Plug-in" City. 1964. Peter Cook's fascination with the idea of the city of interchangeable parts linked by transportation systems was the ultimate expression of megastructure theory. His proposal for an infinitely extendable city based on a vertical latticelike framework of escalators, supply systems, and service tubes connected by transportation corridors at various levels is an important investigation of the three-dimensional grid. On the other hand, such futuristic concepts denied the traditional social function of urban space as well as the importance of the exterior landscape. (Courtesy: © Peter Cook)



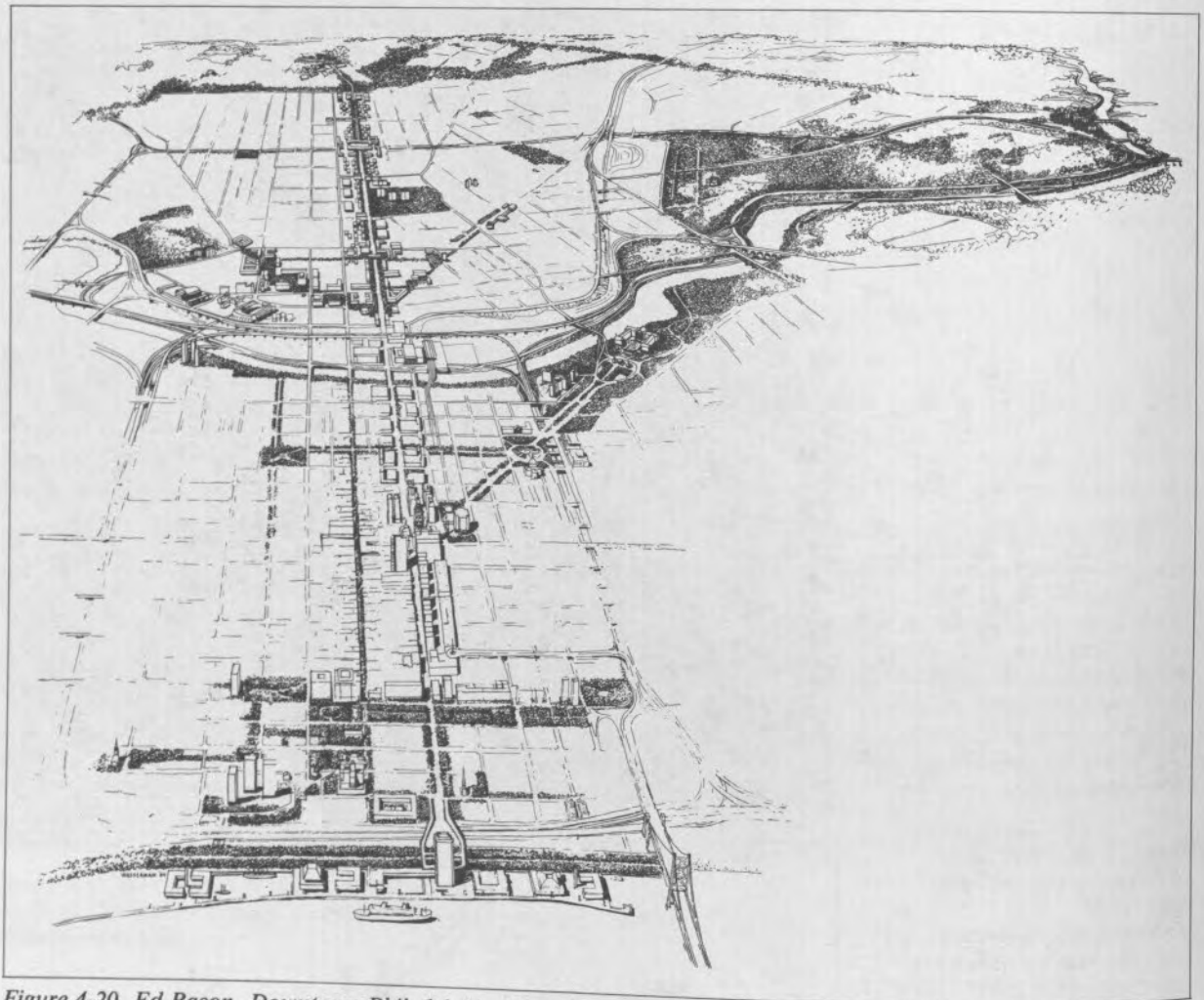


Figure 4-20. Ed Bacon. Downtown Philadelphia Redevelopment Plan. 1964.

One of the major contributions of the linkage theory has been in the area of large-scale urban planning. Ed Bacon, planner in charge of the redevelopment of Philadelphia for over twenty years, emphasized the need for strong spatial corridors to connect important buildings and public spaces. Such systems for connection should be incorporated into urban design in order to clarify the total structure. (From Bacon, *Design of Cities*. Drawing: Irving Wasserman)

The case studies of Boston, Washington, Göteborg, and Byker in chapter 5 will show how important large-scale linkage systems are in creating a comprehensible urban form.

PLACE THEORY

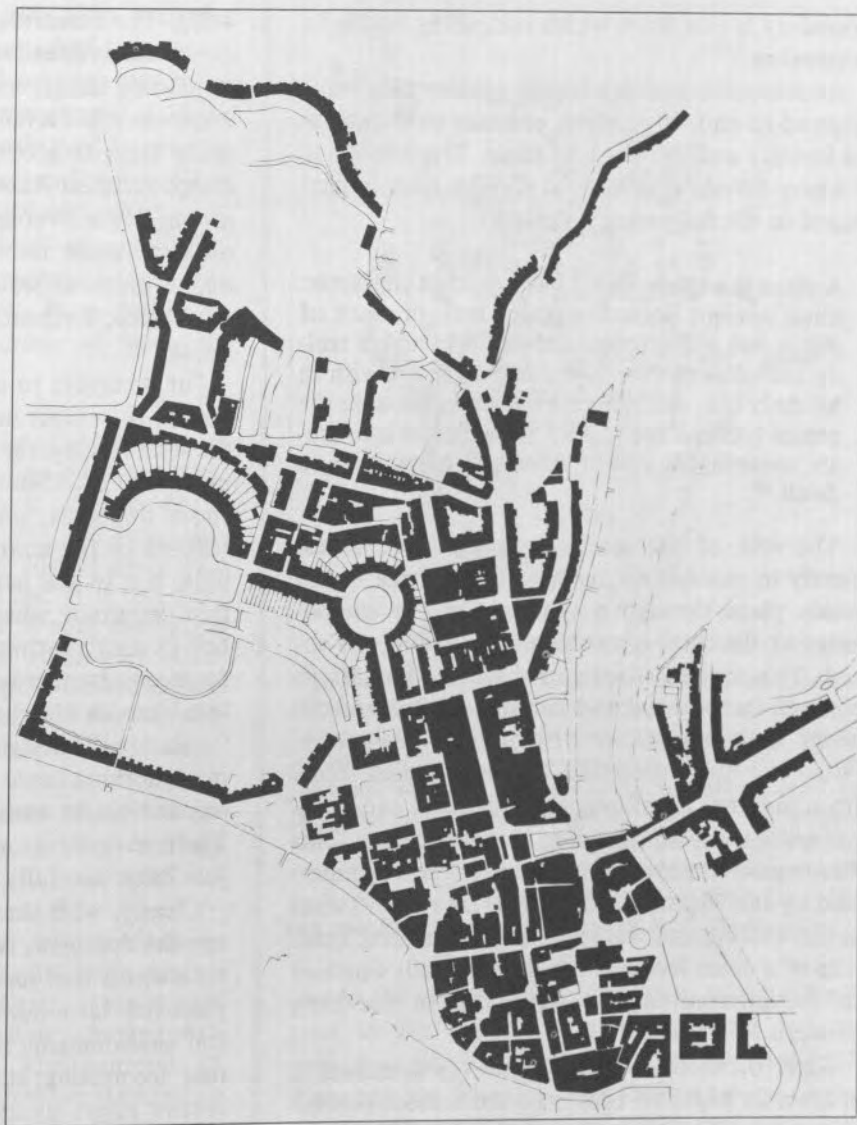
Place theory represents the third category of ur-

ban-design theories. The essence of place theory in spatial design lies in understanding the cultural and human characteristics of physical space. If in abstract, physical terms, *space* is a bounded or purposeful void with the potential of physically linking things, it only becomes *place* when it is given a contextual meaning derived from cultural or regional content.

While types of space can be defined by cate-

Figure 4-21. John Wood the Younger. *The Circus and Royal Crescent in Bath, England. 1764 and 1769. Plan.*

The effectiveness of the curved crescents of Bath does not stem merely from geometric clarity. As special "places" they gain meaning as responses to the environment they evolved within, encompass, and have helped form. The primary spatial design moves include the Circus (enclosed circle at the center of the plan), the Royal Crescent (open elliptical arc to the left), and the Landsdowne Crescent (serpentine wall at the upper left).



gories or typologies based on physical properties, each place is unique, taking on the character or *Stimmung* of its surroundings. This character consists both of "concrete things having material substance, shape, texture and color"⁵⁶ and of more intangible cultural associations, a certain patina given by human use over time. The curved wall of the Circus and Royal Crescent in Bath, for example, is not merely a physical object in space but also has a unique presence expressing the environ-

ment it grew out of, encompasses, and exists within (fig. 4-21).

People require a relatively stable system of places in which to develop themselves, their social lives, and their culture. These needs give manmade space an emotional content—a presence that is more than physical. The boundary, or definite edge, is important to this presence. As Martin Heidegger says, "a boundary is not that at which something stops, but as the Greeks recognized, the

boundary is that from which something begins its presencing."⁵⁷

Architecture and landscape architecture must respond to and, if possible, enhance environmental identity and the sense of place. The essence of Norberg-Schulz's influential *Genius Loci* is contained in the following statement:

A place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize the genius loci and the task of the architect is to create meaningful places where he helps man to dwell.⁵⁸

The role of the urban designer, then, is not merely to manipulate form to make space but to create place through a synthesis of the components of the total environment, including the social. The goal should be to discover the best fit between the physical and cultural context and the needs and aspirations of contemporary users. Often the most successful design of places stems from minimal interference in the social and physical setting instead of radical transformation. This "ecological approach" to design (a term popularized by Ian McHarg in *Design With Nature*) aims at discovering and working with the intrinsic qualities of a given locale and is diametrically opposed to the internationalism advocated in the early Modern Movement.

Later offshoots of Modernism (as discussed in chapter 2) began to move toward a more contextual approach, at least in concept. In the 1950s, Team 10 promoted the idea of "the house as a particular house in a particular place, part of an existing community that should try to extend the laws and disciplines of that community."⁵⁹ During this period, Team 10 was preoccupied with the definition of urban place, a goal that they attempted to achieve in such forms as perimeter walls, pedestrian nets, and cluster blocks, as in the scheme of the English architectural couple Peter and Alison Smithson for the Hauptstadt in Berlin (fig.

4-22). The intention was right, but the physical expression is questionable as a contextual response to existing urban conditions and the need for diversity at street level. The Berlin scheme, like some other Team 10 proposals, does not, in fact, fulfill Dutch architect Aldo Van Eyck's manifesto for the group: "Whatever space and time mean, place and occasion mean more. For space in the image of man is place; articulate the in-between . . . Space experience, I repeat, is the reward of place experience."⁶⁰

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. All designers are fallible, but to the best of their ability they should first determine what the configuration "wants to be" (Kahn)⁶¹ within the existing setting and in deference to human requirements. The Dutch architect Herman Herzberger, one of Europe's leading "contextual" designers, puts it this way: "Designing is nothing more than finding out what the person and object want to be: form then makes itself. There is really no need for invention—you must just listen carefully."⁶²

Clearly, with these ideas in mind, most recent city development, new towns, and suburbs are environments that have failed to create a concept of place that responds to the social, cultural, or physical environment. Symbols and fragments of the past are missing; the continuity of time, with successive layers intact, is lacking. In new developments of the 1960s even basic constraints of site were often ignored. Real-estate economics and technological experiments became driving forces of urban and suburban development.

One of the problems, both in urban renewal and new-town development, is that designers have felt compelled to complete every detail of a project, without leaving loose ends for transformation either by the individual or to accommodate needs that change with time. Especially in new towns this has been a major dilemma, as they have often been

completed absolutes that do not allow user manipulation. Inhabitants have not had the opportunity to bring along their old patterns and styles of living or to modify their new homes in ways that allow them to feel the comfort of familiarity and continuity with their previous lives. Individuals must exercise some control over their environments. There was too much planning, too much zoning, and not enough humane inquiry into the regional and social context. Peter Smithson, the English architect and member of Team 10, writes:

Let no one pretend that quality of place will arise from zoning or master planning by themselves. Part of the presence of any good place is the feeling we have of it embodying and being surrounded by a field of its own sort of space with its special limits and potentials. It is this field that we have previously said is only interesting today if it implies connection: roads with buildings, buildings with buildings, with trees, with the seasons, with decorations, with events, with other people in other times.⁶³

Kevin Lynch, planner and author of several significant books on place theory, further develops this idea:

Just as each locality should seem continuous with the recent past, so it should seem continuous with the near future. Every place should be made to be seen as developing, charged with predictions and intentions. The concepts of space and time appear and develop together in childhood, and the two ideas have many analogies in their formation and character. . . . space and time, however conceived, are the great framework within which we order our experience. We live in time places.⁶⁴

The crucial question becomes: How do we as designers respond to time and place, when overdesigning and too much planning are almost as dangerous as allowing the marketplace to shape cities in a random, ad hoc fashion? We have dis-

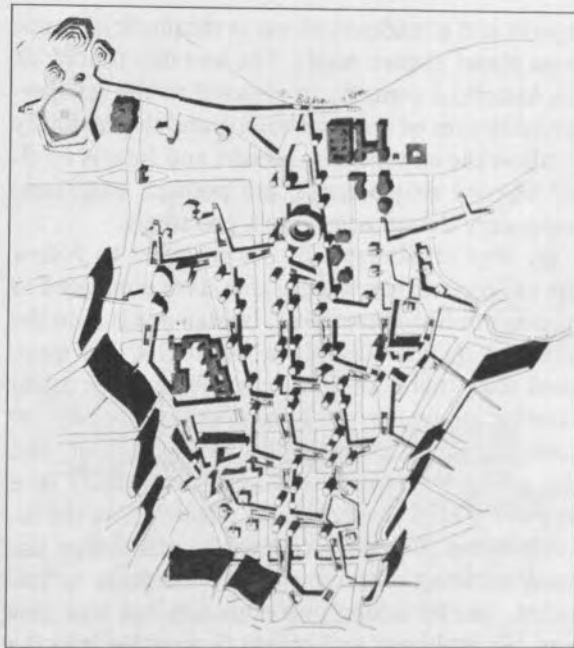


Figure 4-22. Peter and Alison Smithson. Scheme for the Hauptstadt, Berlin, West Germany.

In recognition of the importance of the sense of place, members of Team 10 experimented with edge-defining perimeter walls and concepts of the "pedestrian net over the street net." Although the intention in this project was well meant, it is doubtful that the physical expression was an appropriate response to the existing context or the need for diversity at street level. (Courtesy: Alison and Peter Smithson. Drawing by P. Sigmund)

cussed the dangers of underdesign, of what happens in the modern city when all is left to individual developers. At the same time we have discussed the issue of overdesigning—too much zoning, too much planning—which denies historic continuity and inhibits future change. Our cities must of necessity be historically and physically fluid and mobile; we cannot lose that flexibility as we impose our designs. The critical issue of this book, even beyond that of dealing with our contemporary urban space, is how designers, architects, and landscape architects should perceive their roles. Perhaps the most destructive aspect of the Modern Movement and of recent trends in planning has been the self-aggrandisement of de-

signers and a tendency to make simplistic assumptions about human needs. The humility to look at the historical context, to respond to the self-perceived desires of the community, and the flexibility to allow the community, present and future, to alter its own environment, are perhaps what contemporary design needs most pressingly.

By way of illustration, the examples to follow are of recent urban designs that have attempted to respond to historic context, human needs, and the essential qualities of place. Naturally, the questions of spatial definition; of establishing or maintaining nodes, paths, landmarks, edges; of connecting and defining districts, monuments, and the primary elements that give imageability to a city are crucial physical tools. However, in the instances that follow, successful spatial design has been achieved without creating buildings in isolation, but by taking into consideration how new and old buildings and spaces fit together into the established urban context.

If place theorists tend to agree on the values they are trying to express, their approaches have been remarkably varied. Ralph Erskine represents an attempt to respond to vernacular, organic systems; the new classicists look at formal devices to connect the new to the existing. French contextualists create nostalgic collages to emulate the evolution of the city. Kevin Lynch has studied the mental mapping process of individuals in the city, while Stanford Anderson has studied the ecology of the street. Gordon Cullen explores the experience of sequence through space, whereas Lucien Kroll allows clients to create their own designs. These represent some of the major approaches to place theory.

Erskine has perhaps become one of the best-known and most respected of the contextualists. His work has gained widespread fame in Europe for its response to local place—human and physical. He has probably built more projects than any other contextualist, designing housing communities, shopping complexes, and workplaces that stress, in their physical form, the human meaning of place and the history of the site. His designs

blend proposed and existing structures in an informal organic arrangement that seems to grow out of the local and regional vernacular. His strong, villagelike spaces immediately assume an aura of inevitability, as if they had always been there (Västervik, fig. 4-23). Chapter 5 contains a detailed case study of his community at Byker, Newcastle, perhaps the most outstanding example of Erskine's contextual urban design.

In contrast to Erskine's concern for organic order, one of the responses to the issue of contextual design has been a revival of classical compositional devices that include the use of symmetry, perspective, and other formal interventions. The drawings for Helsingborg's Konserthus Square by Sven Markelius in 1926 (fig. 4-24) and Francesco di Giorgio's image of an ideal piazza of the 1500s (fig. 4-25) illustrate the idea of using classical principles to organize disparate elements around an idealized exterior space. In contrast to the design of space by Erskine, which is entirely circumstantial, these examples illustrate the power of *idealized* urban space.

Similarly, the recent work of Leon Krier shows that an urban design of idealized public spaces will mediate between radically different styles of architecture if there is sufficient strength and clarity of layout. Krier's new classicism is not only inclusive and multivalent but also highly ordered (and often symmetrical), providing coherence and unity to the variables he intends to structure. He makes the sharp distinction between the values inherent in what he terms the "classical society" versus those inherent to the industrialized society. To the classical, Krier assigns the values of permanence and structure, wherein describing the industrialized world he derisively points to the evolving qualities of the trivial and abstract. "Classical," Krier says, "means the best of its kind. Not of any specific period, but simply the best possible, most perfect, most beautiful form of any given structure."⁶⁵ Krier's mission is to reconstruct the traditional urban block as the definer of streets and squares. In two of Krier's reconstruction schemes, one at Echternach (see fig. 2-14), the other in Lux-

Figure 4-23. Ralph Erskine. Västervik, Sweden. Sketch for the Revitalization of the City Core. 1971.

Erskine has become one of the most widely respected of contextual designers. His proposal for the revitalization of this Swedish town on the Baltic Sea reveals a sensitivity to vernacular architecture, organic spatial structure, and the natural setting. (Courtesy: Ralph Erskine)

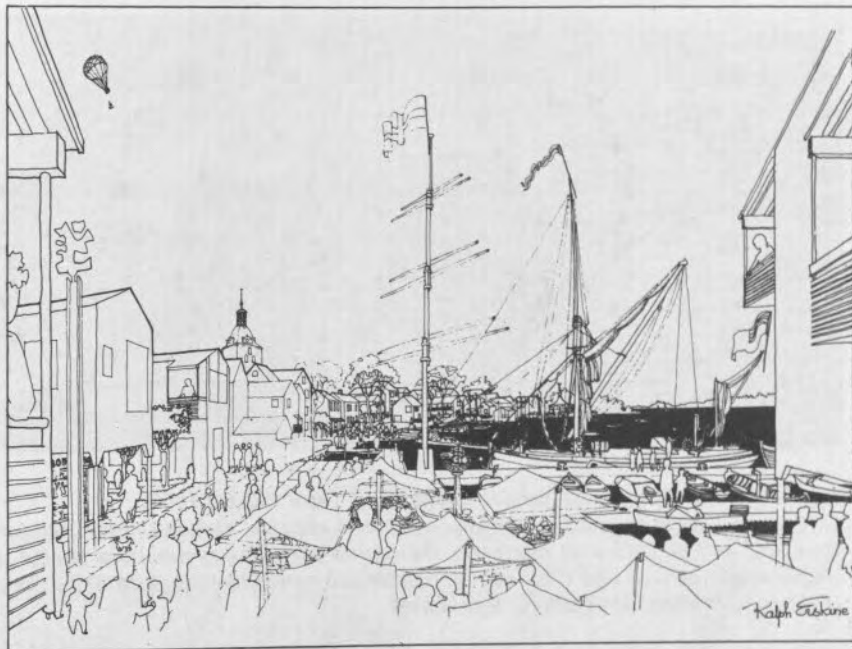
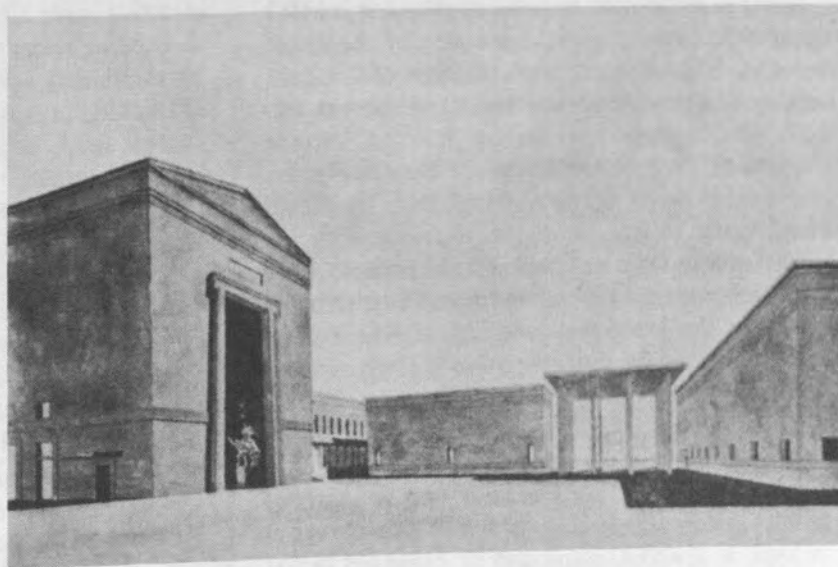


Figure 4-24. Sven Markelius. Konserthus Square. Helsingborg, Sweden. 1926.

One of the responses to the issue of contextual design has been the revival of classical compositional devices, including the use of symmetry, perspective, and axes. As in Markelius's fine example of Nordic classicism in Helsingborg, an "idealized" structure is created to give coherence to diverse elements at its edges. (Courtesy: Chalmers School of Architecture)



embourg (fig. 4-26), he attempts to give cohesiveness to the city through a formal, multidirectional, horizontal pattern of spaces. Public space becomes a positive entity relating new and old, high and low, stone and glass, black and white.

The complex linking [of urban spaces] provides an accommodation of the conflicting public and private domains, offering a place for the unpredictable and a location for intermediate transitions. . . . an architecture advocating the city of contextualism.⁶⁶



Figure 4-25. Francesco di Giorgio. *Image of an Ideal Piazza*. 1500s.
Di Giorgio's ideal piazza is composed of several classical elements: four freestanding columns, a small ornamental fountain, and an arch that reinforces the central axis. The symmetrical design of these elements along with a very simple retaining wall and clear paving pattern are powerful enough to unify the diversity of the buildings around it. (Courtesy: Walters Art Gallery, Baltimore)

Another European movement that has reacted against the anticontextual approach of the Functionalists is the French contextualism of the Laboratory of Urban Form in Paris, (TAU Group, fig. 4-27), established by, among others, Antoine Grumbach, Alain Demangeon, Bruno Fortier, Dominique Deshoulières, and Hubert Jeanneau. Their work reflects a disenchantment with the modern large-scale development of France. They express a nostalgia for the traditional city, refusing to accept the antiurban ideology of recent years and seek to revive traces of the lost city. Preoccupied with developing and transforming the neo-classical image, their search is for a more meaningful urban continuity by exploring monumentality as an armature to reconnect the parts of the city. Their approach to contextual design is not to look at specific typologies of buildings but at typologies of open space that make up environmental form. Within the urban fabric, they deliberately introduce contrasting elements—angular buildings and spaces that penetrate the existing spatial geometry. The result is a stratified and sedimentary collage of urban form in which proposed

elements seem to have an accidental relationship to existing ones. In this way, place is established by simulating urban growth over time.

Looking at the city in parts, the French contextualists see it as a complex system of confrontations between forms and spaces that are juxtaposed—confrontations that enrich the meanings of each constituent district.⁶⁷ These French urban designers talk a lot about the city as a theater of memory, with the idea of nostalgia and accumulation as the sources for the perfect design. Consequently, their drawings show an incredible depth in superimposing disparate geometries and resolving contradictory spatial patterns. The points of juncture between geometries serve as “shock absorbers” between dissimilar adjacent patterns that add to the richness of their designs. Their image of the city, as fragmentary and evolutionary, is a critique of the fixed rationality of large French developments of the Modern Movement.

Kevin Lynch, like the French contextualists, also looked at the city in parts in an attempt to define a theory of place. In his work *Image of the City*, which was instrumental in redirecting urban de-

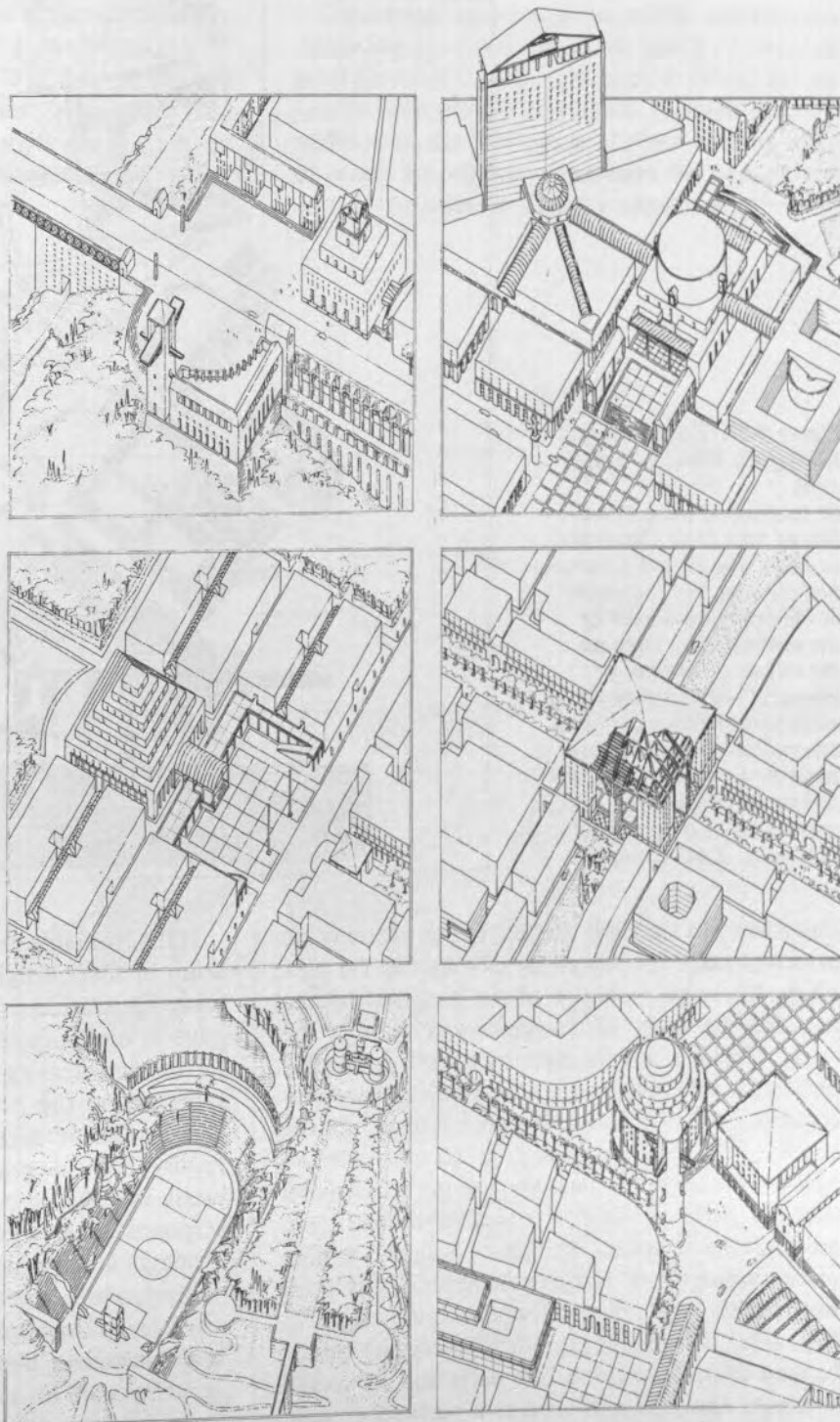
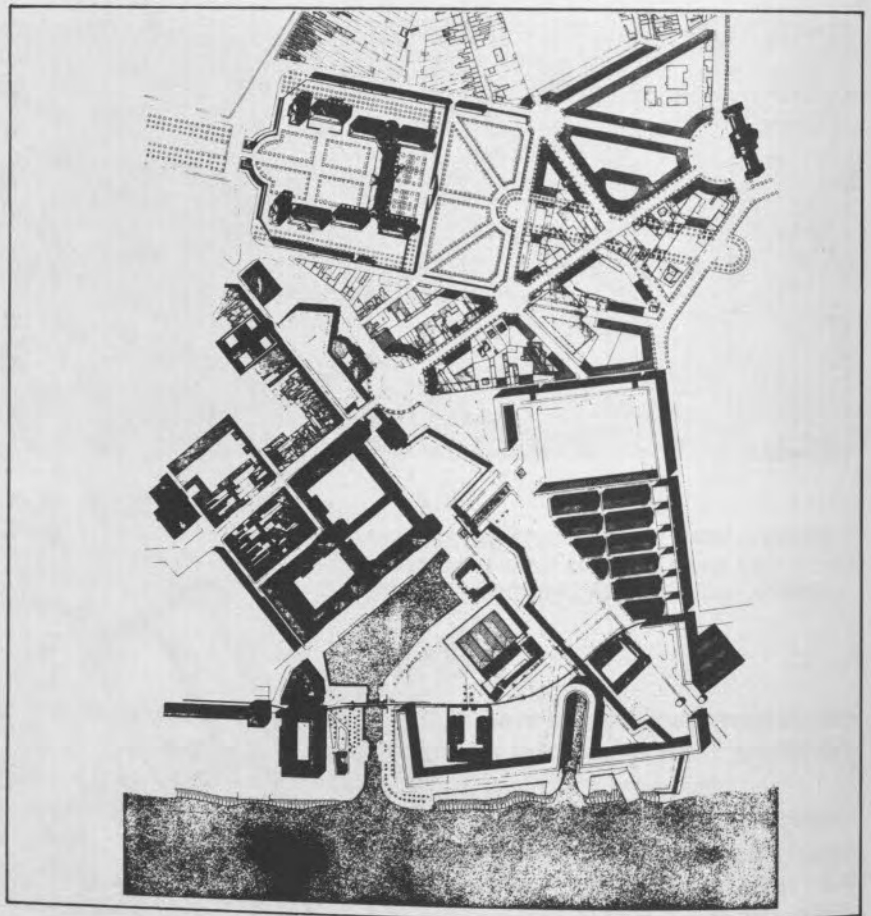


Figure 4-26. Leon Krier.
Proposals for the Recon-
struction of Luxembourg.
1978.

A leading exponent of con-
textual design, Leon Krier
has looked intently at classi-
cal spatial structures to de-
rive principles for linking
old and new, high and low,
and diverse materials,
colors, and textures. His
plans are based on values of
permanence and frequently
incorporate strongly defined
geometric spaces as ordering
devices. (Courtesy: Leon
Krier)

Figure 4-27. TAU Group.
Rochefort, France. Plan.
1977.

In contrast to the rationalism of such New Classicists as Krier, the French Contextualists look with nostalgia at the organic disorder of the evolved city. They see the city as a "theater of memory"—fragmentary and evolutionary in nature—and attempt to recreate the apparently accidental confrontations of conflicting geometries in their plans. (Drawing: TAU Group)



sign theory in the early sixties, Lynch presents his principal rules for designing city spaces: (1) *legibility*: the mental picture of the city held by the users on the street; (2) *structure and identity*: the recognizable, coherent pattern of urban blocks, buildings, and spaces; (3) *imageability*: user perception in motion and how people experience the spaces of the city. Lynch said that successful urban spaces were those that met these requirements, and that the parts of the city, which he termed "elements of urban form," should be designed around these requirements. His five elements of city form were paths, edges, districts, nodes, and landmarks (fig. 4-28). According to Lynch, every city can be broken down into these five parts and its spatial structure analyzed and used as a basis for design.

Hans Hollein's drawings for the Municipal Museum in Mönchengladbach (1972–80) are yet another illustration of the power exterior space can have in conceptually welding new and old architecture and creating a sense of place (fig. 4-29). By representing the broader relationship in his design—adjacent neighborhoods, open space, and roads—Hollein graphically illustrates the hierarchy of existing conditions to which his design responds. The emphasis he places on contextual elements is the driving force for the form of this project, which succeeds in being both modern and sensitive to the historic fabric it restructures. This approach gives him the opportunity to create a contemporary interior for a museum without leaving a spatial vacuum in the public realm as a by-

product. Hollein believes that urban architecture should be understood at various levels, from “small shops and coffeepots” to the “whole city where illusion and reality come into play.”⁶⁸ In other words, a design should work for the man on the street as well as for those who wish to penetrate its deeper meaning.

Contextual space as sequentially complex and villagelike is effectively illustrated by townscape artist Gordon Cullen, who used drawings to capture the sensation of movement through space. In addition to the perception of place and the image of space, he implicitly addresses the psychic content of the exterior city, the relationship between

Figure 4-28. Kevin Lynch. *Diagrams of the Spatial Elements of the City*. Lynch looked at the city as a system that contains a set of organizing structures of psychological significance to its inhabitants. He recognized that each individual forms a “mental map” of his or her environment, in which paths, edges, districts, nodes, and landmarks provide the important reminders of physical and psychological orientation. (Drawings based on diagrams by Kevin Lynch)

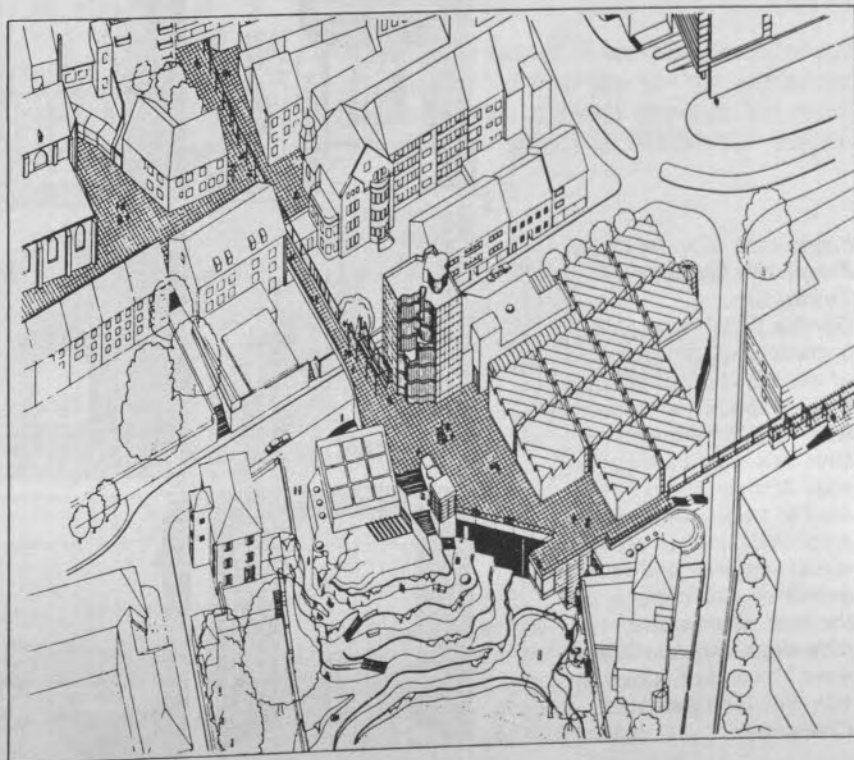
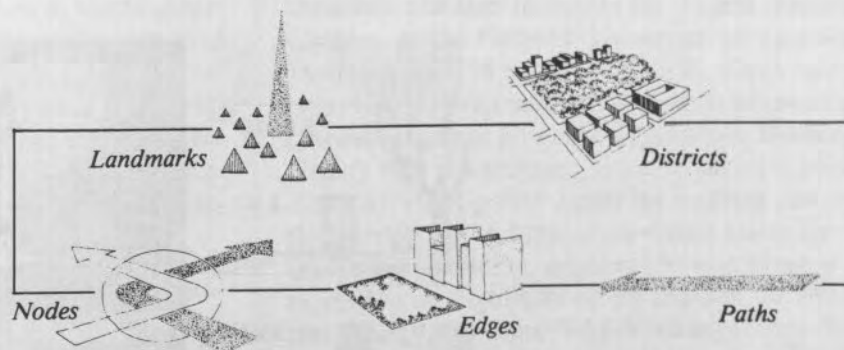


Figure 4-29. Hans Hollein. *Municipal Museum. Monchengladbach, Germany. 1972-1980*. Hollein's Municipal Museum is at once modern and responsive to the historic and physical context it restructures. (Drawing: Hans Hollein)

object and movement, as well as the event of arriving at or leaving city rooms. His drawings (fig. 4-30) explore the fluidity of sequence through space with an artistic flair for the picturesque. Cullen brings two-dimensional plans to life—"like nudging a man who is going to sleep in church"⁶⁹—by sketching perspective sequences that illuminate contrasts and transitions, emphasizing the powerful effect of the third dimension. At eye level, even the slightest deviation, projec-

tion, or setback in the alignment of the plan is expressed. Cullen's images of rural and urban environments strive to define place and context as well as to provide commentary and analysis of design.

Another approach to the understanding of context is the work of Donald Appleyard in the residential streets of San Francisco. In *Liveable Streets Project*⁷⁰ he explores the physical and social complexities of street space and developed an ecology

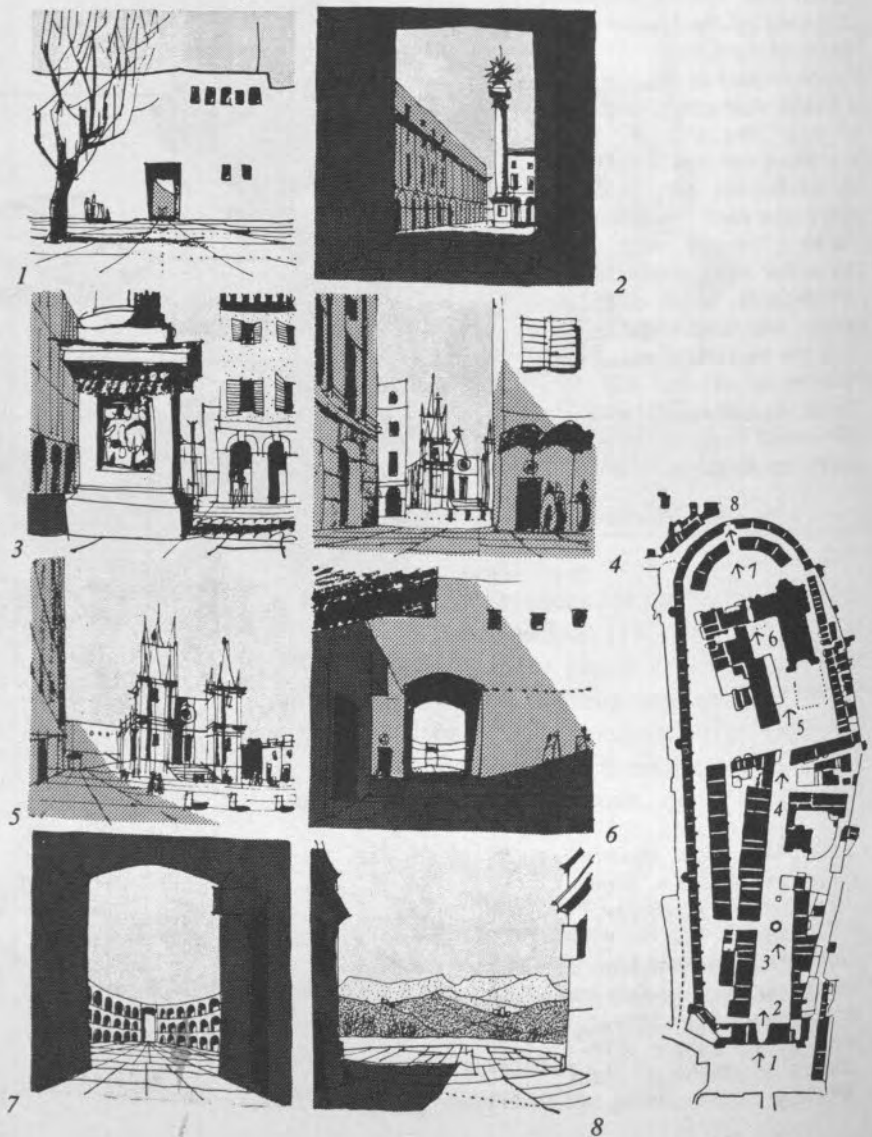


Figure 4-30. Gordon Cullen. *Perspective Sequence of Townscapes.*

Gordon Cullen's graphic illustrations of the experience of moving through urban spaces capture the unique sense of place from street level. His works are a powerful demonstration of the need to understand and graphically analyze the individual character and sequence of public spaces in the built environment. (Drawings: Gordon Cullen from *Townscape*. Courtesy Van Nostrand Reinhold Company)

of street life that assesses the impact of traffic on indoor life and on activity relationships within the household (fig. 4-31). He further documented how people modify their environment as a defense against traffic and their efforts to control traffic itself. Appleyard's studies are critical to our understanding of the street in context as a spatial entity for mixed use and social discourse, beyond its function for vehicular movement and storage. Street frontage is the delicate foil between the interlocked public and private lives of urban space.

What has to emerge from the current wave of contextualism is a form of city space that combats the inhospitality of the no-man's land by providing people with an environmental structure rich enough to accommodate everyone. In restructuring lost space we must, in the words of Dutch architect Herman Hertzberger,

contribute to an environment which gives people more chances to impress it with their own individual characteristics . . . enabling it to be taken over by each person as an essentially familiar place. . . . In this way, form and user interpret and adapt to each other, each enhancing the other in a process of mutual submission.⁷¹

Hertzberger applied his critique of self-con-

tained single-purpose environments to the design of several important European building projects (such as the Centraal Beheer in Apeldoorn and the Theater for the Arts in Delft), which are commentaries on the city as a whole and accommodate diverse social patterns in overlapping and interpenetrating spaces—spaces that he intentionally left unfinished in order to invite occupants to fit the environment to themselves.

Lucien Kroll takes the commitment to social architecture one step further in his student housing complex at the Catholic University of Louvain Medical School in Brussels in 1970, where occupants take an even more active role in structuring space according to how they want to live. Working directly with the architect, the user-clients manipulated a "kit-of-parts" inside the building and on the exterior (fig. 4-32) and combined materials—bricks, cement blocks, asbestos tiles—as an ad hoc expression of the history of the city and the complexities of its residents. What Kroll says about this building is applicable to urban design in general:

Fortunately we wanted to see these spaces turned neither into a work of art nor an intellectual achievement, but a living process, an open-ended dynamic activity in which each genera-

Figure 4-31. Donald Appleyard. The Ecology of the Liveable Street. Berkeley, California. 1981. From a social-behavioral point of view, Appleyard analyzes the street as an ecological system. His studies have made an important contribution to the understanding of the street as an environment for social and personal existence as well as for vehicular movement and storage. (Drawing: Donald Appleyard)



BEFORE TRAFFIC IMPACTS
Pleasant, Quiet Rooms
Adjacent to Street
Adequate Parking
Sidewalks Safe for Play
Emission-free Air

No Noise, Vibrations
Safe Environment for the Elderly, Handicapped
Clean Streets
Many Outdoor Activities Like Gardening
Conversation with Neighbors

tion adds a new meaning and enriches it with its contradictions.⁷²

We have seen that contextual space is inclusive and multivalent, incorporating fragments of past artifacts, associations, and events in a rich, layered blend. Cultural symbols, replicated or reflected in modern forms, are important in making these urban spaces fit into context, as are the physical connections to the surrounding site or buildings. We have also suggested that an evolved, indigenous urban form is more satisfying than complete order imposed from outside. The former generally suggests a more fluid, villagelike space (Maki's group form) in which disparate elements are connected and into which new pieces can be fit as the place changes over time. Classical formalism, however, is not precluded as a frame for the changeable parts and can provide an armature for various hierarchies of idealized public and private space as well as for the redesign of lost space. We have also seen that regionalism and contextualism have a lot to do with livability—with the resident's sense of identification with and control of personal space. In approaching design contextually, we find that we already have an enormous re-

source upon which to base a new kind of pluralistic design for the Postmodern city. These kinds of approaches are necessary if we are to restore and revive context and place as design considerations.

In conclusion, we have examined three theories of urban spatial design: the figure-ground theory, the linkage theory, and the place theory. A common problem has been that designers have become obsessed with one of these theories, setting aside the other two in their urban-design pursuits. This is an inadequate approach, as the living city consists of a layering of elements in each theory. For instance, if an urban complex is designed around the linkage theory alone, it falls short because the product becomes nonspatial and therefore nonexperiential. If the place theory is applied without regard to linkage and figure-ground, important connections outside the design area and new spatial opportunities within may be lost. Conversely, if the figure-ground theory is exclusively used, the results often become totally spatial and possibly unrealistic in terms of user needs and implementation. The key, therefore, is to apply these theories appropriately and collectively to each urban-design project.

Figure 4-32. Lucien Kroll. Catholic University of Louvain, Medical School. Belgium.

Yet another response to the awareness that designers must address issues of place and user needs is reflected in the work of Lucien Kroll. At the Catholic University of Louvain, the architect acted as a structural advisor to the student-clients, who manipulated a "kit of parts" to create individual spaces within the building and an eclectic collage of forms and materials on the exterior. (Courtesy: Lucien Kroll)

