AN EVALUATION OF URBAN DESIGN: ITS CONCEPT AND THEORY AS APPLIED TO CITY PLANNING

by

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CHAPTER I

INTRODUCTION

In the past people lived and crowded together in relatively small urban areas. Today's urbanized societies are of a different nature in that they are not only large in size, but are usually densely populated. Kingsley Davis indicated that in 1960 alone, there were some 52 million Americans living in urbanized areas.[1] This number represented 53 percent of the total population concentrated in 213 urban areas occupying 0.7 percent of America's total land area. As Robert C. Weaver pointed out in 1965, seven out of ten people in America lived in urban areas, and by 1970 the proportion is expected to be even greater.[2] With such a rapid increase of urban population, we are posed with this question: What has caused the acceleration of urbanization? Though improved technology and industrialization were the most significant factors, there are two other major reasons: (1) The growth of rural settlements; as these settlements grew larger in population and geographical area, they became reclassified as cities. (2) The Excess of births over deaths in cities; however, this fact was never estab-

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[1] Kingsley Davis, "The Urbanization of The Human Population," Scientific American, Vol. CCXIII, No. 3, (September, 1965), p. 41.

[2] Robert C. Weaver, "The Godkin Lectures at Harvard University," Dilemmas of Urban America, (Massachusetts: Harvard University Press, 1965), pp. 1-3.

lished as a valid reason. On the contrary, a chief obstacle to city growth of the past was the high mortality rate owing to lack of medical care, poor hygiene and sanitation. As Bernard Benjamin, a chief statistician of the British General Register Office remarked:

> Living in the town involved not only a higher risk of epidemics and crowd diseases...but also a higher risk of degenerative disease...the harder wear and tear of factory employment and urban discomfort.

The migration from rural to urban areas was the chief reason for rapid urbanization. With advanced modern technology and rapid industrialization, a significant number of the agricultural population were attracted to cities in search of employment and economic opportunities. Between the period of 1920 and 1950, there was a marked decline in agricultural population from 32.5 million in 1916 to only 20.5 million in 1960.[3] Modern technology has enabled people to produce more farm products with less reliance on farm labor. As a result, farm population is decreasing absolutely and relatively.[4]

Since the Second World War, urbanization in American cities has become so rapid that today many cities are faced with acute problems of congestion, substandard housing, decay blight, and slums (Figs. 1, 2, 3). These problem areas are usually occupied

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[3]Kingsley Davis, op. cit., p. 47.

[4]Robert C. Weaver, op. cit., p. 1.

Fig. 1. An example of urban poverty.

Fig. 2. An example of a cityscape desecrated and "blighted" by neglect.

Fig. 3. An example of a subcityscape, Los Angeles, California.

Fig. 4. An example of suburban sprawl. Houston, Texas.

by the lower socio-economic groups. At present, city officials, architects, planners, engineers, sociologists, and economists are all faced with the problem of finding ways and means to provide the citizens of a community with a better standard of living in a more totally integrated urban environment. The current Urban Renewal program is one avenue by which the Federal Government helps cities to improve their living conditions through financial aids and technical assistance.

The city of today is a vast complex in terms of its geographical area, social structure and diversified life-styles. The problems of poor living conditions, decay, blight and slums, which attend urbanization must be approached from the social, economic, demographic, political, and physical aspects of planning. However, it is beyond the scope of this study to deal in detail with these various disciplines. Based on the premise that a city's physical environment exerts a profound psychological influence on the well-being of the citizens living in it, this study will focus attention on the physical aspect of urban design and planning.

I. STATEMENT OF THE PROBLEMS

Physical Chaos in Cities.

Because of the migration of people from rural to urban areas in search of better economic opportunities and employment, much attention has been given to problems of urban development in an attempt to prevent the degeneration of human values. Unfortunately, the majority of these migrants are of the lower socio-economic

group. By virtue of their limited incomes and education, they are forced to live in substandard houses, and to congregate in ethnic pockets or areas that are badly in need of community utilities and services.

A primary function of a city is to provide satisfactory living and working conditions for its population. With this objective in mind, the writer deems it necessary that planners and designers alike must assume a major responsibility to provide guidance and to apply available techniques to achieve better city development. The growth of a city must be guided by proper planning, for both the short-range and the long-range (the immediate and the future) objectives. Only then can a city's development follow in an orderly manner. This implies that a city's land area will be divided into various divisions, each of which is to be developed for a particular use, or for compatible uses. Thus the retail businesses, commercial shops, offices, restaurants and places for entertainment are located in the central core of a city; the heavy industries, and warehouses are located near suitable waterways, and in areas that are easily accessible for the various modes of transportation. Planning must be implemented for eventual development into physical form. Physical designers are therefore responsible for the design of a city's various building structures, civic centers, parks and recreational areas. These building forms and public areas must furthermore be aesthetically pleasant, orderly, and harmoniously related to the urban environment.

Lack of Creative Design.

A reverse trend in migration has been evidenced by the flight of the middle-income group to suburban areas and to the urban fringes causing extensive "urban sprawl" (Fig. 4). On most of the suburban lots in these areas, one finds detached single-story houses. Because of their nearly homogeneous architectural style, it can be said that they contribute very little to visual satisfaction or architectural composition, though individually a few may have pleasing qualities. A positive approach toward relieving the monotony of such homogeneity in architectural character should be the sensitive adjustment of houses in relation to the topography and natural landscape, and the interspersion of "cluster" developments, garden apartments, shops, and other architectural variations. In most urban areas, the haphazard development of multiple and mixed land uses constitutes a serious problem to a city's orderly growth. In many cities, the dullness and monotony that is seen in the streets is due to the unrelieved gridiron plan (Fig. 5). Though the gridiron layout may have been carefully planned in the early days of city planning, most of such layouts developed, not so much because of economic and social requirements, but rather because the designers lacked imagination and creativity. At present, we can readily see that many American cities are unimaginative and prosaic in character.

We must recognize that a major problem in urban design is the establishment of a satisfactory relationship between the natural topography of the land and the geometrical forms of the

Fig. 5. An example of the monotonous and mundane gridiron layout.

buildings, and the location of traffic systems that are built on it. A pleasant urban environment does not and can not evolve overnight, nor can it be achieved by some sudden divine inspiration on the part of an over zealous designer. It must be nurtured with feeling, concern, careful planning, design, and with imagination.

Negative Planning and Design.

An important function of the planner-designer is the attempt to secure order and balance in the physical growth of cities by careful study and analysis of the plan-design criteria. Design and planning become nebulous and illogical if they consist of mere data collection and projections of population, land-use or transportation studies. Actual implementation of the planning process must be developed so that designs and plans will eventually materialize into the three-dimensional form-relationship of the urban environment.

If the purpose of planning and design is to provide adequate living and working conditions for the citizens, the planner-designer must understand that the plan-design process is an "embryo" product of three-dimensional spatial conception. Again since urban problems of congestion, decay, blight and slums, are of direct concern in relation to the welfare of the citizens living in a city, the city's improvement and further development must first be concerned with the problem of the homes, and their environments, and not with boulevards, plazas, and grandiose plans.

The development of a chaotic city is not necessarily the result of any one overall plan and design. Rather, it is due to the confusing overlays of individual design activity, the lack of coordination among various disciplines, of negative planning, and of rigid governmental regulations.

Although our urban problems are indeed serious, they are not altogether insurmountable. This situation presents a challenge which the planner-designer must accept. It is hoped that the ensuing chapters will indicate design principles and planning concepts which will help present designers reduce the repetition of previous mistakes, and thus contribute to a more orderly, unified, organic, and livable environment in our urban complexes.

II. METHODOLOGY

This study will attempt to focus attention upon certain elements of urban design, both of the past and present, that demonstrate aesthetic expression and satisfaction. The analysis of aesthetic characteristics and design of cities are more complicated than those designs that concern school, residential neighborhoods, recreational areas, shopping malls and civic centers.

In the continuing and rapid process of urbanization occuring now in most large cities, pockets of blight, slums, dilapidation and decay are factors contributing to urban "ugliness." Though many building structures, both residential and non-residential, have been built since the Second World War, they are unsatisfactory if they suffer from a lack of aesthetic expression and design appeal.

This study will identify and evaluate the techniques and aesthetic qualities which have stimulated and inspired the creation of good urban design. Examples will be presented to show how designers can benefit from past experience, and to determine what design elements should be incorporated into our current practice of urban design.

The Scope of the Study.

The scope of this study will, by necessity, cover a broad range of design principles since urban design in itself tends to be all inclusive. Though examples of classical town design will be interspersed with contemporary ones and briefly discussed, this study will primarily be focused on the immediate past and the present.

This study is necessarily limited to the city in terms of physical space as a place for living and for working. Space can, in a sense, be subjected to critical evaluation and comparative analysis by viewing it not only from within, but from without and from above. The writer will attempt in the report to look at a city with self-consciousness regarding its aesthetic values. The visual comprehension must be continuously evaluated if we are to kindle our awareness concerning aesthetics, and to be able to recognize the underlying determining principles.

What Is Urban Design and Planning?

Before planners and designers attempt to answer the question, "What is Urban Design and Planning?" they should first of all ask

themselves what a city is. Urban design is part of the city planning process since it is concerned with the overall physical development of a city. From the standpoint of pure form, it is not altogether clear what makes a city. A city may be defined from various aspects. An economist may regard a city as a large complex concerned with input-output commodities; a sociologist may distinguish it from a village in terms of its higher development of social differentiation and provision of better economic opportunities available for the individuals. In regard to urban politics, Professor William Schultze regards a city as a political entity designated by law. The city has a unique character in that it is an arrangement of people in space with non-static integrated culture that is dynamic and always changing. Joseph Passonneau, dean and professor of architecture at Washington University, St. Louis, has made the following statement:

> A city is a community consisting of a large concentration of people in a relatively limited geographical area, activated by the production of manufactured goods and for the distribution of various kinds of goods and services involving a high degree of specialization and complicated social and political organization.[5]

In the same context, Walter Christaller has dealt in detail with the hierarchal order of cities based on the functions they performed and services offered.[6]

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[5]Joseph Passonneau, "The Emergence of City Form," Urban Life and Form, (New York: Holt, Rinehart & Winston, Inc., 1963), p. 9.

[6]Robert E. Dickinson, City and Region, (London: Routledge & Kegan Paul Ltd., 1964), p. 82, (The sevenfold hierarchy of nested functions is classified as (1) consumer, (2) retail, (3) wholesale, (4) transhipment, (5) exchange, (6) control, (7) leadership.

With these rather diverse and broad concepts of a city in mind, the writer will now attempt to differentiate the meaning of urban design as distinct from the other related design disciplines:

Architecture is concerned with the detailed design of individual buildings or groups of buildings.

Landscape Architecture concerns the environment between buildings or groups of buildings and built-up areas.

Planning consists primarily, but not exclusively, of long-term decisions which affect the overall structure of the community, such as studies concerning land-use, transportation, and policies to effectuate them.

Urban Design links all these three disciplines in order to overcome the gaps existing among them.[7] Urban design thus implies a deliberate three-dimensional interpretation of planning decisions. As such, it concerns every aspect of shaping the urban environment -- from the simple design of street "furniture" (street lamps, benches, waste-paper containers etc.) to a large-scale cityscape; from the pedestrian and vehicular movement to the architectural characteristics of building masses and forms.

Physical designers need to recognize that urban design cannot function solely from a physical design approach. It

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[7]Francois C. Vigier, "An Experimental Approach to Urban Design," Journal of The American Institute of Planners, (February, 1963), p. 21.

requires the complete coordination of the various other disciplines - the sociological, economic, demographic, and political aspects - all interwoven and interrelated to achieve the end product, a better urban environment.

III. ORGANIZATION OF REMAINDER OF THE REPORT

In writing up the introduction, identifying the problems, stating the methodology and the scope of study, it has become apparent that the study must follow a logical sequence. Accordingly, the report will be arranged in the following manner:

CHAPTER I. Introduction: The introductory chapter includes a brief outline of the process of urbanization, a statement of the problems and the solutions, the methodology, the purpose and the scope of study. The Definitions of Terminology in Appendix A attempt to define some of the more important terms commonly used in planning and design.

CHAPTER II. A Retrospect on City Design of the Past: This chapter will discuss briefly the classical and medieval city designs, and will indicate certain aesthetic principles involved in a successful design approach.

CHAPTER III. City Form: This chapter will identify historical and contemporary city forms. It will analyze perception

and composition of a city's form and meaning, its determinants, and interpret the philosophy and theories underlying urban design.

CHAPTER IV. The Aesthetic Approach to Urban Design: In this chapter, an attempt will be made to discuss the forces that influence aesthetics, the failures among contemporary designers and the corrective measures. It will also focus attention on how the design elements (expression, correlation, organic order, harmony, dynamic aspects), must be used by urban planners and designers in forming new communities and in re-forming older ones.

CHAPTER V. Human Scale and Spatial Concept: This brief chapter will discuss the aspects of open space, spatial relationships, intimacy, function, and infinity.

CHAPTER VI. The Role of Physical Designers: This chapter will discuss the function of physical designers, the role of the architect, the role of the planner, what the responsibilities of physical designers are, and will indicate how their contributions can be integrated with those of other professionals to effectuate a better environmental design for cities.

CHAPTER VII. Conclusion and Recommendations: This chapter summarizes the report and attempts to propose certain goals which may contribute toward a better design approach. The Formulation of Design Goals is given in Appendix C.

The report organization is completed with a Bibliography, and Appendixes.

CHAPTER II

A RETROSPECT ON CITY DESIGN OF THE PAST

Greatness in cities lies in a quality of spirit -- the perceptible expression of a city's culture, of its designers and of its citizens. Historically, man has always attempted to gain control over his environment by focusing attention on the development of his cities. People visiting great cities of the past have become impressed with individualizing characteristics of their designers. Though many examples could be used in a cursory review, the writer will discuss only briefly a few examples of great historical cities to identify the aesthetic qualities from which modern designers can benefit.

The Classical Cities.

In reviewing the distinguishing characteristics of classical cities, many outstanding authorities, each a specialist in his own field, have made some thorough and revealing studies. The authors have approached the subject from diverse viewpoints: viz., Lewis Mumford as an historian; and Percy Johnson Marshall as an historian and a designer. Though most of the literature presented various treatises on ancient and classical city development, only limited materials could be used as guides for the evaluation of aesthetics in urban design. However, Paul D. Spreiregen in his book, Urban Design: The Architecture of Towns and Cities, has made a significant contribution in this

respect.[1]

Although it was in the early Egyptian civilization that city planning gained stature, the Greeks provided better for the needs of their citizens as Arthur Gallion indicated:

> The Athenian citizen experienced the exhilaration of freedom and accepted the challenge of responsibility it thrust upon him with honor and with pride. The discovery of freedom gave impetus to the search for truth as honest men desire it. Philosophy was nurtured, and there were no depths which the wise and intelligent were afraid to plumb. Reason was encouraged, logic invited, and science investigated. There was no truth which might be discovered and remain undisclosed. Inspired by this atmosphere it was no wonder great philosophy was born; only in freedom can such greatness be cultivated, not freedom from care but freedom of spirit. This was the environment of culture which produced Socrates, Plato, and Aristotle.[2]

Athens, Greece.

In the Athenian era, Greek architects and designers possessed a profound understanding of nature, its climate and topography. They never attempted to overwhelm nature with their buildings, but carefully manipulated design elements until the buildings were so successfully placed in the landscape that they seemed to become another component of nature. Although the major civic buildings did not dominate nature, they did dominate the city with their impressive architectural character and their commanding site in the landscape.

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[1] Paul D. Spreiregen, Urban Design: The Architecture of Towns and Cities, (New York: McGraw-Hill Book Company, 1965).

[2] Arthur B. Gallion and Simon Eisner, The Urban Pattern, (New York: D. Van Nostrand Company, Inc., 1963), p. 13.

To the Greek citizens, the temple was the symbol of democracy. The design and orientation approach were based on the human understanding of how the eye reacts with sensitivity to the buildings that are placed in relation to nature.[3] This human scale was achieved by the placing of temples alongside comparatively larger neighboring hills; dominance was created by locating temples high upon a majestic plateau, a procedure used in locating the Acropolis (Figs. 6,7). On the Acropolis, the freedom of spirit was exemplified. Many modern designers have attempted in vain to reproduce the Acropolis, its buildings and temples that it once held. They, however, have failed to capture the aesthetic understanding of ancient Greeks who greatly appreciated the relationship between topography and buildings.

The grouping of special buildings in Greek cities required a different design approach. In the Athenian Agora, buildings were placed in close conjunction with one another, and not as lone structures in a natural setting. The composition of the building groups consisted of a harmonious combination of masses and spaces. Emphasis was given to the axes of the spaces so that they coincided with the paths of movement. Space, in a true sense, became an element of the Greek urban design.[4]

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[3]Paul D. Spreiregen, "Historic Precedents in the Design of Cities," Journal of the American Institute of Architects, (January, 1953), pp. 39-44.

[4]Paul D. Spereiregen, Urban Design, op. cit., p. 9.

Fig. 6. The majestic view of the Acropolis, Athens.

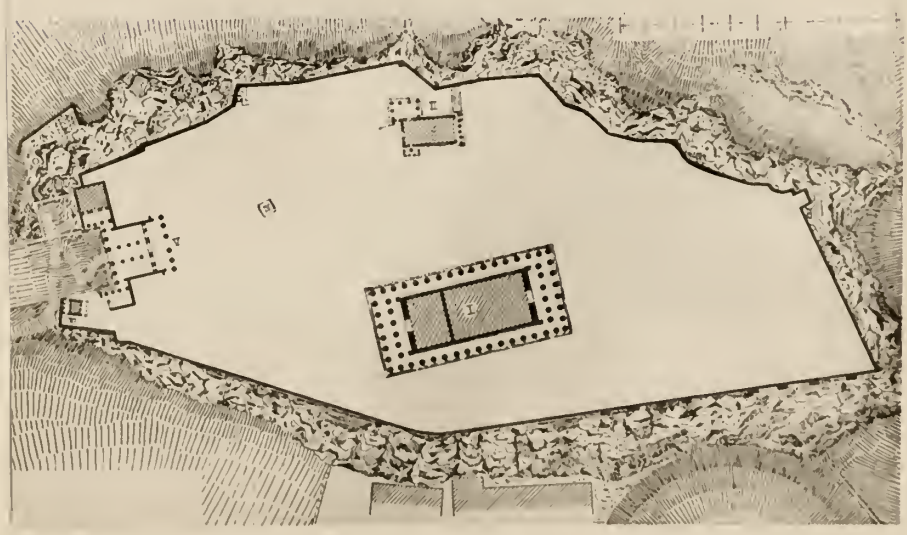

Fig. 7. Plan of the Acropolis, Athens.

These design elements of human scale, dominance, the relationship between topography and buildings, the concept of spatial relationship and movement, which the Greek designers of the past had so successfully used should be revived and incorporated into our contemporary urban design.

The Roman City Design.

In contrast with the Greek freedom from enclosure in the plan of the Acropolis, the writer shall now analyze the Roman city planning concept. From the geometrical town designs of Helenistic Greece, Roman designers had learned the art and technique of city building, though they introduced several ideas of their own. Whereas Greek city design had finite sense, and the proportions, sizes, and scale of buildings were related to human scale, the Roman designers achieved proportion in harmonious relationship to the various building components with each other, rather than in relation to human scale. The module (size of a column) became the determinant of proportion by which to achieve grandeur in their buildings and town designs.

Like the Athenian Agora, the Roman Forum also grew by the addition of buildings as the population increased. Difficulty was experienced in their attempts to design buildings into harmonious groups. Economically, the designers had also found it impossible to rebuild their central city. But a more orderly composition of designed spaces became evident in the construction of the new Imperial Forum during the period of the

Empire (27 B.C. - 476 A.D.). Spreiregen has made the following comment:

> The Roman architects had wisely learned the lessons of architectural space. Instead of filling all available space with buildings, they arranged the buildings to form enclosed spaces: true forums. In becoming subservient to the spaces which they enclosed, the buildings gained enormously in setting and quality. Their distinction lay not in individual architectural superlatives. It was achieved in collective architectural accomplishment - the creation of orderly and appropriate civic spaces.[5]

As a distinct contrast with the confusing masses of the earlier Republican Forum forms, the new Imperial Forum was expressed by a design composition of great clarity and artistry.

During the days of the Roman Republic between the decades of 509 B.C. to 27 B.C., Roman city design assumed the non-geometrical approach of the Greeks. The buildings indicated the increase of political power and hence were larger than before.[6] In their design solution to achieve a grand array of buildings, Roman designers, instead of using masses or details, were more preoccupied with grouping in order to obtain urban spaces.

The Roman Forum represented a combination of the Greek Agora and the Acropolis (Fig. 8). The design concept of the Forum revealed a definite tendency toward the use of enclosure as contrasted with the Medieval expression of highly enclosed space, a development which will be discussed later. However,

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[5]Paul D. Spreiregen, "Historic Precedents," op. cit., p. 47.

[6]Paul D. Spreiregen, Urban Design, op. cit., p. 6.

the Roman plan was a logical solution of their spatial problem and was aesthetically pleasing, as Gallion remarked:

> The Romans were calculating organizers. They excelled in technical achievement and were skilled engineers and aggressive city builders. But they had not the philosophy of the Greeks. Preoccupied with conquest, administration was their prime business and they devised political organization which has continued to this day. Intense builders with a flair for gargantuan scale, their works were not graced with the refinement of line and form or the creative spirit of the Athenians. Greek forms were reduced to mechanical formulae which could be readily applied like parts arranged upon graph paper.[7]

The Medieval Town Design.

Contemporary designers can learn many lessons from the medieval designs of town building. We have only to reflect on Aristotle's idea that a city is expected to provide for the happiness and security of its inhabitants to realize how thoroughly and completely these requirements were met in the medieval towns. The success of medieval city building was not an accident, but was carefully designed to achieve the desired goals. Like ancient Greek towns, medieval towns were small. The size of a medieval town was determined by the capacity of a particular land area to support its dependent population. As the population grew, successive new walls were added until the town expanded to its maximum practical size.[8] As the medieval

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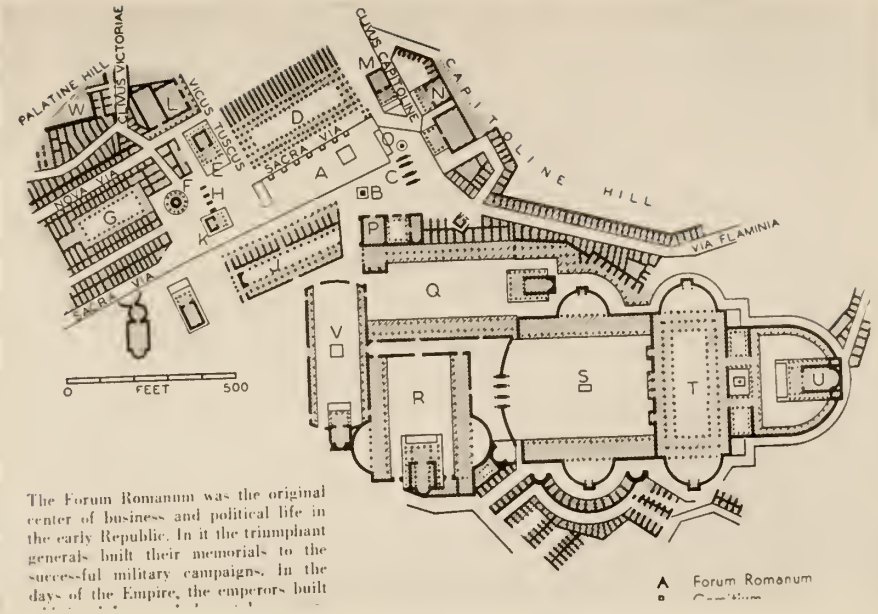
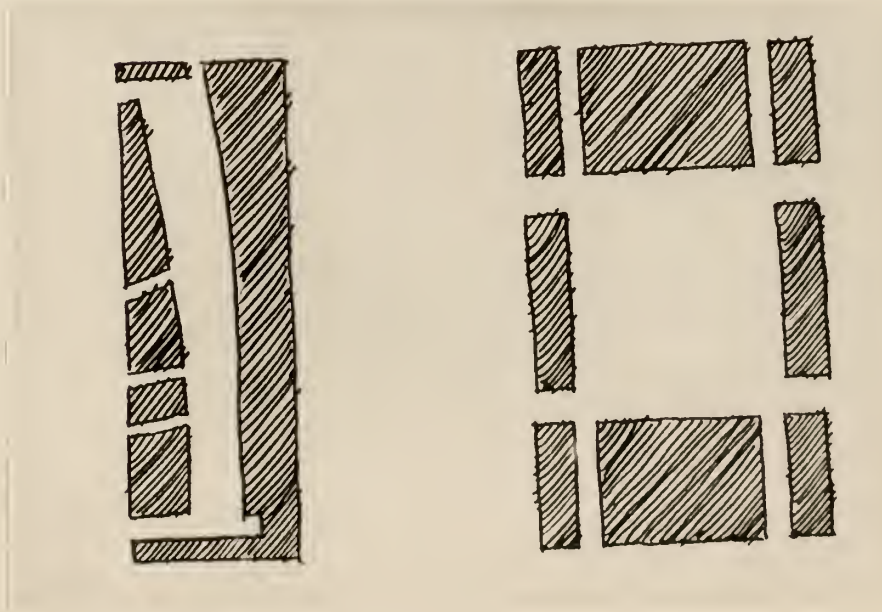
[7] Gallion and Eisner, op. cit., p. 26.

[8] Paul D. Spreiregen, Urban Design, op. cit., p. 9.



The Forum Romanum was the original center of business and political life in the early Republic. In it the triumphant generals built their memorials to the successful military campaigns. In the days of the Empire, the emperors built

Fig. 8. Plan of the Roman Fora.



The Medieval city block plan layout.

Fig. 9. Sauveterre de Guyenne, France, 13c.

Fig. 10. Neustadt, Bavaria, Germany, 13c.

society increased in land area and population, trading became a necessity and imposed the requirement of providing a Market Place (a counterpart of the Greek Agora and the Roman Forum).

The planning and the design approach of medieval towns were dictated by the site's relation to visual orientation for military defense. The streets were narrow, but their layout was functional in relation to everyday life and protection (Figs. 9,10). No preconceived design pattern was imposed on the medieval town, but its form emerged logically and organically in relation to its topographic circumstances, and to the local conditions which life imposed upon those living within the city walls for protection. Their designs expressed the qualities of functionalism and aesthetics in relation to the life, the spirit, and the conditions of the era.

Modern Twentieth Century cities could similarly express such qualities of functionalism and artistry. On the contrary, we find in modern cities the accumulation and misuse of varied stylized forms copied from previous eras which are also often unrelated and totally out of harmony with the time period. In his criticism of American cities, Alvar Aalto has commented:

> ... the inhuman dandy-purism of the American cities... there is a propaganda-born formalism pushing itself with forms and curves which they do not control. It smells of Hollywood.[9]

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[9] Alvar Aalto, "Finn Without Borders," The Architectural Forum, Vol. CXI., (February, 1960), p. 116.

We can learn from medieval designers that when a situation arose requiring the grouping of different building styles, they carefully studied the designs and successfully coordinated them into an aesthetically integrated city. As an illustration, the Piazza of St. Mark, Venice, offers a concrete example (Fig. 11). Of this magnificent fusion of architectural characteristics and building groups, Le Corbusier remarked:

> Here - Venice, Saint Mark's Square, set with the bright diamonds of successive epochs; the Old Courts, the New Courts, Romanesque St. Mark, with its Turkish cupolas, filmed with an independent Gothic tracery; the Campanile - this fabulous Campanile... the Ducan Palace on its pylons. All these techniques, these different materials. But each new-comer had faith in his own adventure, and taking stock of his neighbors, risked... dared....[10]

Perhaps we admire the design of a medieval city because its concept expressed a philosophy influenced, undoubtedly, by religion as the cultural link with the past. By virtue of the closeness and narrowness of pedestrian streets, a building mass seldom was viewed as an isolated entity, and the side facades were only partially seen. This situation gave rise to the development of open spaces, usually plazas. In Siena, Italy, there was a strong link between building form and town form; city builders of those days must have thought of both these forms simultaneously.

The climaxes for both the Gothic architecture and the medieval culture were attained by the Thirteenth century. The design con-

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[10] Le Corbusier, (C.E. Jeanneret-Gris), Concerning Town Planning, (London: The Architectural Press, 1948), p. 16.

Fig. 11. Aerial view of the Piazza of St. Mark, Venice.

cept of the medieval city can be said to have two components: (1) a great variety and contrast of visual elements, and (2) a regard for the relation between building form and town form. Regarding the conscious effort of Medieval city designers to achieve order and beauty, Lewis Mumford made the following comment:

> The aesthetic unity of the medieval town was not achieved any more than its other institutions without effort, struggle, supervision and control. No doubt most of the supervision was personal; most of the agreements probably came from face-to-face discussions of interested parties, which left no record behind. But we know that when the Town Hall of Siena was built in the fourteenth century, the municipal government ordered that the new building put up on the Piazza del Campo should have windows of the same type. And though much work remains to be done in Medieval archives to bring out all the functions of the Town Architect, we know, too, that in Italy the office was an old one. We need not doubt Descartes in his 'Discourse on Method' when he observes that 'there have been at all times certain officers whose duty it is to see that private buildings contributed to public ornament.'[11]

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[11] Lewis Mumford, The City In History: Its Origins, Its Transformations, and Its Prospects, (New York: Harcourt, Brace and World, Inc., 1961), p. 311.

Aesthetics and Design Principles.

From the review of historical city designs, we find that the craftsmen of the past had an intuitiveness about design. Even the uneducated had a feeling for good design, fostered, undoubtedly, by the culture of the whole era. In the present Twentieth century, we still need to retain or to regain an awareness of the nature and concept of design. The elements and qualities that produce good design, the needs of the people, the potentialities, and limitations of materials, all needed to be fused into unity for a purpose - a purpose of functionalism and practicality to create a meaningful society with comfortable living and adequate working opportunities. The knowledge of nature and of deep understanding of humanity had given medieval designers insight to produce meaningful and functional cities. We can attribute such achievements to the conscious application of high design skill and the logical approach for solving even the simplest daily problems. There was no allowance for shortcomings in the ingenuity of their designs. Everything had to be "perfect" in every detail. In regard to the eternal problems of harmonizing the old and the new (cities). Powys wisely stated:

> It is well then to patch a worn surface and to patch so well that a like pleasure may be had from the 'darn' as was had from the newly knit stuff. We are displeased if the darner is too lazy, or too careless to take trouble in the selection of his materials and in the way it is threaded in.[12]

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[12] A. R. Powys, From the Ground Up, (London: J.M. Dent and Sons Ltd., 1937), p. 89.

What We Can Learn From The Past.

> The more we compare ancient methods with modern practices, the more striking is the contrast, and each succeeding comparison, from the point of view of city building art, goes against contemporary procedure. We have in mind the current groundless hesitancy to design impressively large building approaches; a suspicion of curved streets; a dreary uniformity of building heights; a striving after stark severity; endless rows of windows of similiar size and design; an excess of diminutive pilasters... and an absence of expansive and restrained wall spaces, which are not only avoided but even replaced by false windows.[13]

When we reflect upon these statements, we think that they likewise express the philosophical criticism of a present-day architect or that of a planner. But these were the very words of a Viennese architect-planner, Camillo Sitte, in 1889. Sitte's attack on the monotony and drabness of buildings and city design had a profound effect in Europe, but this impact lasted for only a short period. His words were soon forgotten. His literary and philosophical contribution, City Building According To Artistic Principles, was not translated into the English language until the end of the Second World War. The delay represented an elapse of nearly sixty years after its first German publication. Under this circumstance, the golden opportunity of being guided by Sitte's philosophy was lost by America, for it was at the beginning of the Twentieth century that a creative instinct for city design was urgently needed. Had Sitte's book been available in English and widely read in America at the time when American cities began to grow rapidly in population and geographical areas, there would certainly have been a deeper understanding

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[13]Camillo Sitte, The Art of Building Cities, (New York: Reinhold Publishing Corporation, 1945), pp. 57-58.

of the principles of city design (Figs. 12, 13). The comprehension of aesthetics in American planning seemed to have been lost as Le Corbusier remarked:

> Our American friends have erected skyscrapers and made them work. They are constructions of an astonishing technique, tangible proofs of present possibilities. But, from the planning point of view, their skyscrapers are tiresome and their towns wretched to live in (though vibrant and meriting the closest attention).[14]

City Design In America.

During the Nineteenth century, America became the land of golden opportunity. The migration of Europeans soon assumed a steady flow, and they made a significant contribution by introducing their culture into the American way of life. Each distinct wave of Europeans brought with them their individual culture and influence. Thus New England was predominantly influenced by the English; New Amsterdam the Dutch influence; the French influenced Louisiana; the German and Slavic influences prevailed in the Midwest; and the Spanish and the Mexican influenced the culture and architecture in California. However, the cultural streams of these various aesthetic developments were soon to be diffused by the Industrial Revolution, as Arthur Gallion vividly described:

> Art became a commodity to be bought, sold, and collected; it moved from the streets of the people into the salon. The muralist who once adorned the walls of buildings stepped down from his scaffold, retired to his studio, and painted pictures to be framed and hung in galleries. Works of art were no longer integral with the environment of the people.[15]

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[14]Le Corbusier, op. cit., p. 118.

[15]Gallion and Eisner, op. cit., p. 381.

Fig. 12. New York City, 1851.

Fig. 13. Effects of development: New York City, 1951.

Such a change in social values had a significant impact concerning the attitude of the people toward city aesthetics. Beauty, until then, had always been regarded as a civic responsibility of political leaders, and occasionally of the builders themselves. Accompanying the Industrial Revolution, the new methodology of construction and new materials have greatly changed the visual appearance of the cityscape. The use of steel and later "curtain wall" in place of the traditional massive, heavy, masonry, load-bearing construction introduced a new freedom in the organization of space. Concerning this new spatial concept, Mumford reflected:

> The fact is that one cannot have good architecture, either functionally or aesthetically unless buildings and open spaces are conceived together. The right interval is as important as the right note, or the right succession of notes.[16]

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[16]Lewis Mumford, From The Ground Up, (New York: Harcourt, Brace, and Company, 1956), p. 151.

CHAPTER III

CITY FORM

To physical designers, a city may be classified as a community with highly differentiated building structures and social pattern. To arrive at a more meaningful concept of a city, we must understand its inherent quality -- forms. It can be said that any urban form that has taken place has been influenced in some measure by the society in which it took shape. With this in mind, physical designers must be acquainted with the city's social values and the moral obligations they owe to society in shaping the urban form. So that the contributions of designers will have meaning and integrity, they must be related to their society in terms of the social and cultural values. Because the function of physical designers is only part of a team effort in the building or rebuilding of cities, they must work harmoniously with other professions in order to understand evolutional relationships, design principles, problems of execution, and the logical solution. To date, there has been no consensus on an ideal city form. In fact, there cannot be a standardized city form, since social values -- human lives, patterns of living, cultural background, aspirations -- vary a great deal. Moreover, the landscape, topography, and climate vary significantly in all areas of America. Also the city itself is subjected to the influence of ecology -- geography, vegetation, climate, and building materials. A city in which we can discern

its form is more meaningful; hence we need know its threshold of urbanity and its hierarchal order.[1]

The Past: Although the earliest consciously evolved town-planning system is attributed to Hippodamus, the earliest "ideal city form" has been described by Plato in his treatise on the "Republic."

> It would seem that our city, being new and houseless hitherto, must provide for pratically the whole of its house-building, arranging all the details of its architecture, including temples and walls. The temples we must erect all round the market-place and in a circle round the whole city, on the highest spots, for the sake of ease in fencing them and of cleanliness...[2]

The fact that philosophers like Aristotle and Plato did concern themselves with city design indicated that the concept of a city was more than a conglomeration of buildings. A city was conceived as a spiritual entity just as politics was the dominant factor throughout the Greek and the Roman eras. In the Middle Ages, a town was a definite part of the medieval society and the insistence of towns on being separate institutions indicated the idea that the medieval "Civitas" indeed was a spiritual entity.

The philosophical basis for town-planning during the Renaissance had been well established and had a three-fold effect:[3]

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[1] Joseph Russel Passonneau, "The Emergence of City Form," ibid., pp. 9-13.

[2] Dr. S. Lang, "The Ideal City," Architectural Review, Vol. CCXII, (August, 1951), p. 91.

[3] Ibid., pp. 92-95.

1. The architectural contribution. Drama was a form of activity which contributed to the development of town-planning. The performance of mystery plays in the streets and squares aroused the spectator's consciousness toward the qualities of urban space. Equally important was the art of painting. In pictures and frescoes, the townscape frequently occured as background and setting. These in effect demonstrated to the architects and planners the possibilities of spatial unity and formal coherence in their actual town-planning approach.

2. The architects. Foremost among Renaissance architects was Alberti whose treatise, Dieci Libri, in 1484, showed expression of aesthetic qualities of urban space:

> A town should be beautiful... a city is not built wholly for the sake of Shelter, but ought to be so contrived, that besides more civil Conveniences there may be handsome Spaces left for Squares, Courses for Chariots, Gardens, Places to take the Air in, for Swimming, and the like, both for Amusement and Recreation.[4]

3. The Ideal City. Filarete had proposed a city shape comprising two square superimposed one above the other so that their angles were equidistant (Fig. 14). His search for the origin of this geometrical scheme involved magic and astrology. Filarete's city form had profoundly influenced the Italian ideal cities, and in 1593, Scamozzi's Palma Nuova, became the first town to achieve realization. The influence of the Renaissance ideal city concept was soon to be found through European

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[4] Ibid., p. 93.

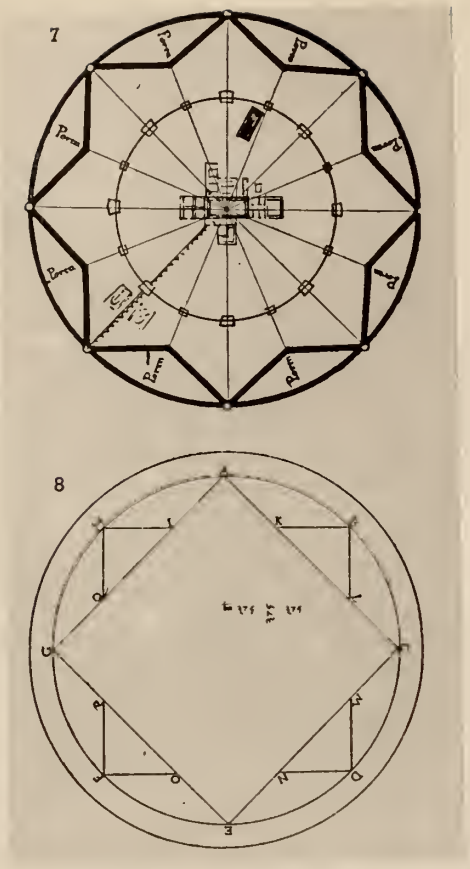

Fig. 14. Filarete's Ideal City: Plan of Sforzinda.

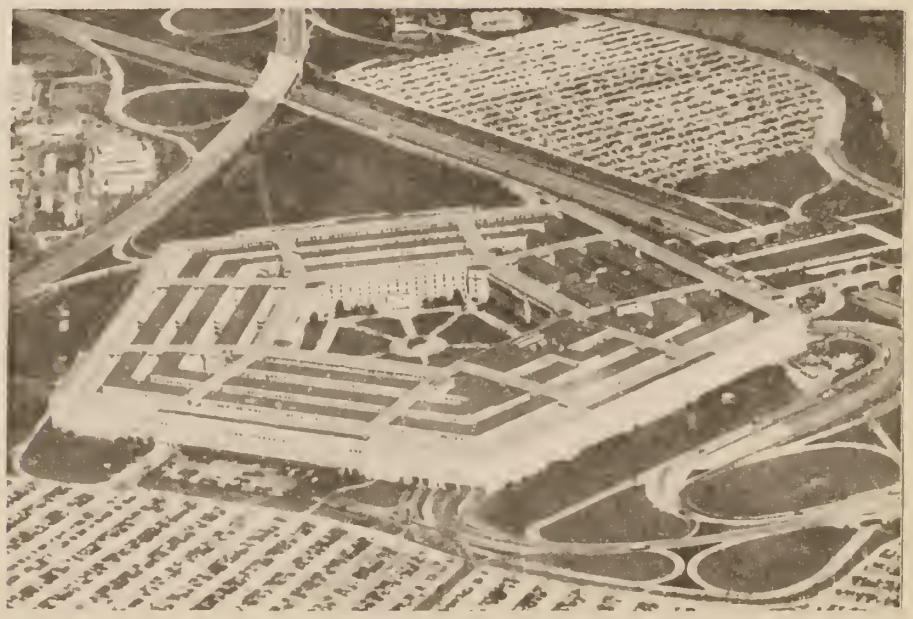

Fig. 15. Pentagon, Washington, D.C. A modern version of office buildings reminiscent of the ideal city layout.

countries, as in the radiating streets of Versailles, the Rond Points, and the Piazza del Popolo, Rome.

Unlike socio-economic planning, physical city design deals with the spatial framework for the life of an urban society. In this context, we tend to argue whether urban design or city building is a fine art? In the past, designers had usually approached city planning from the aesthetic viewpoint.

The structure and the nature of a city is a vast complex in terms of its socio-economic, political, and cultural entities. Hence in every city there are bound to be some elements of planning that have never followed the original design in detail. Canberra, the capital city of Australia, though originally designed by Walter Burley Griffin, has since undergone some changes proposed by England's Sir William Holford. Planning becomes then a question of the degree of consciousness to determine which elements have been planned beforehand, and which elements have later been adapted to meet any unforeseen societal needs that may arise out of a slow process of evolution.

In city planning of the past, the Greek temple, Roman villa, and the medieval castle and monastery were large units conceived as a whole and divided into functionally different parts. As an example, we can cite the "ideal" fortress Renaissance city, Palma Nuova. On the other hand, we might find a collective of settlements representing the sum of undifferentiated individual forms which added up to a village. Thus in theory we can find two distinct polarizations: (1) the city

as one whole big unit, and (2) the city as a collective sum of many small units.[5]

Historically, the city served as the domain of political power. Here, the ruling aristocracy dominated the surrounding countryside from behind city walls. This process of concentration, Synoikismos ("together-housing"), was the basis of the founding of Athens by Theseus.[6] While the wall was important in the earlier days, its function was lost with the invention of gunpowder. The walls then were replaced by star-shaped ramparts as in the older cities of Turin, Vienna and Copenhagen.

Defence originally was the strongest factor in city formation, but the site location later became a main determinant of a city's shape. Hilltops were often selected as for the Acropolis; or islands as in Paris; or it may be a harbor as in the case of New York and Boston.

Though security remained a prime consideration for site location, this became less important as fortification developed, and accessibility received priority in site location. The development of various man-made transportation media had reduced the importance of natural routes. Thus instead of caravan routes and rivers determining city location, the city in turn determined the network of highways, railroads and airports.

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[5]Hans Blumefeld, "Theory of City Form, Past and Present," The Modern Metropolis, (Cambridge, Massachusetts: MIT Press, 1967) p. 20.

[6]Ibid., p. 21.

With such interaction of site and function, towns may survive and continue to grow even after their original reasons for existence may have disappeared. An example is England's Manchester which once served as the seat of the textile industry. It had attracted many other industries and factories. Soon the textile industry could not compete with the wages offered by these new factories and was forced to move to Lancashire. Such was the procedure by which a city lost its original reason for existence, but which had created new functions for itself.

Such interaction of site and function ultimately determined the form of the city, but two basic schemes became predominant: (1) the radiocentric, and (2) the gridiron.

The radiocentric plan. In the past, the circle had been the logical city form where security was important and natural boundaries were lacking. As cities dominated the surrounding countryside, important roads converged toward their gates. With improved modes of transportation, the combination of city wall and converging streets eventually created the radiocentric plan (Fig. 16).

The gridiron plan. The gridiron plan had originated as block plans (Figs. 9, 10). In ancient Crete and early Greece, the streets and alleys were areas left over between the houses to form the rough rectilinear city form. In the strictly rectangular scheme of Hippodamus, the blocks had definite proportions, but not the streets. The squares laid out also showed that the streets were not regarded as the determining elements

Fig. 16. The Radiocentric city plan of Middelburg, Netherlands.

Fig. 17. The gridiron plan of Verona, Italy.

The radiocentric city plan starts from the common enclosure of the city territory, which is thereafter subdivided into blocks and lots. Consistent with this development from the outside in, the outer contour is clearly defined, while the interior pattern is indefinite.

The gridiron plan starts with the individual lots that add up to blocks; the blocks, in turn, add up to the city. Consistent with this development from the inside out, the interior pattern is clearly defined, but the city contour is indefinite.

of the plan. The medieval squares also were never centered on the streets, but were formed either by widening a street or by leaving a block unbuilt (Fig. 17). This concept has dominated Western city planning since the Renaissance, together with monumentality to express the unity and the majesty of the state. The fronts were related more to the streets they enclosed than to the buildings they sheltered. This development can be seen on the Piazza del Popolo in Rome, where the entrance to the main street is flanked by two churches with their bell towers.

In the present day gridiron layout, the distinction between the block plan and the street plan is somewhat indistinct. The gridiron layout was chosen mainly for the convenience of land division, for erecting buildings, laying pipes and railroads, and making possible easier traffic regulation (Figs. 18, 19).

Unfortunately the Nineteenth century gridiron plans of most American cities were designed without any mental image of the cities, and the buildings were constructed without relationship to any design of a city as a whole. Hence it is difficult to discern from a map in which field on the checkerboard layout the silhouette of the city's skyscrapers lies.

However, we can identify the development pattern of our present so-called modern city which has gradually superimposed itself on the gridiron. Fundamentally this pattern has been the result of varying transportation systems which have produced centralizing and decentralizing tendencies. Initially inter-urban traffic was revolutionalized by steamships and railways.

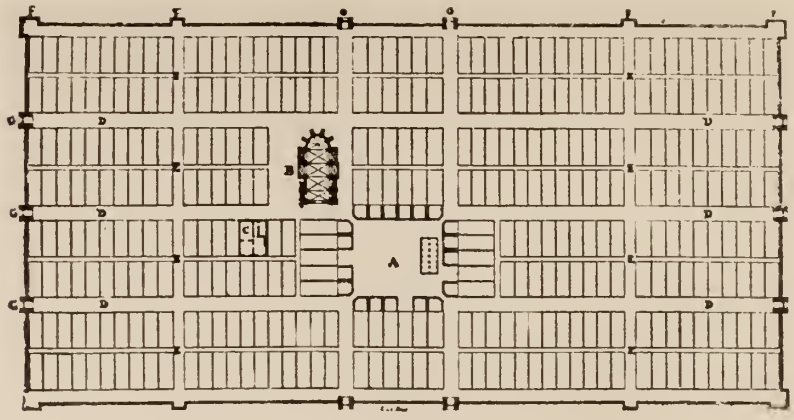

Fig. 18. A gridiron layout, Monpazier, France, 1284.

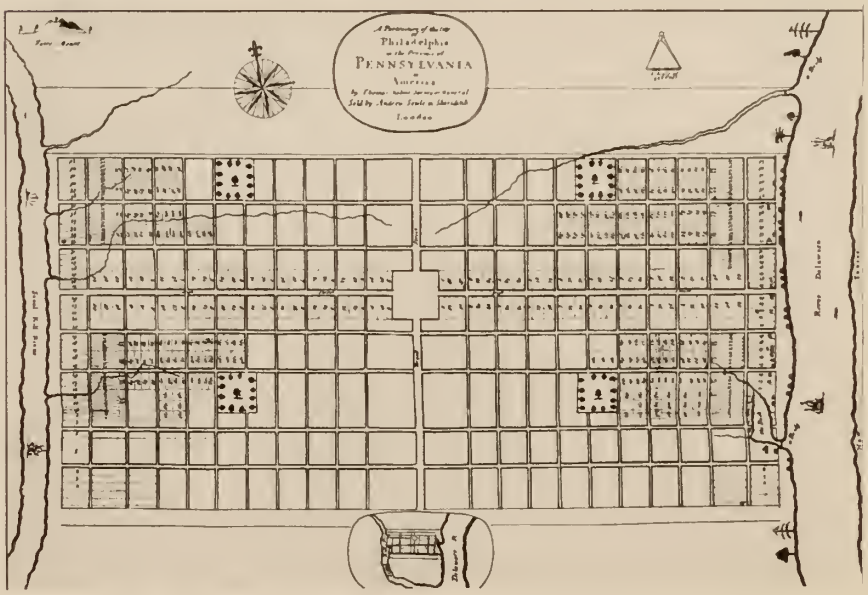

Fig. 19. A copy of the gridiron layout: William Penn's plan for Philadelphia, 1683.

Around these economic and convenient (distance-wise) termini, industries had located to ship their products to distant markets. These industries attracted labor forces. The abundance of labor pools of skilled and unskilled workers in turn created a chain reaction to attract more factories.

While interurban traffic acts as a centralizing force to concentrate business and population in metropolitan areas, intra-urban traffic also serves as a decentralizing force toward sub-urbanization (Fig. 4). Within this process of interaction, three trends of growth can be found:[7]

1. The horizontal expansion which occurs in the process of suburbanization along the street-car and bus lines, surrounded by wide open spaces. The advent of the automobile enabled the interstices between the sub-urbs to be filled making the outskirts as shapeless as the central areas though less densely populated (Fig. 20a).
2. The vertical expansion undoubtedly occurs with the advent of the elevator and steel frame and modern skyscrapers leaving the interstices of half developed and vacant lots (Figs. 20b, 21).
3. The interstitial growth occurs so long as intra-city movement is by foot or the horse-and-buggy

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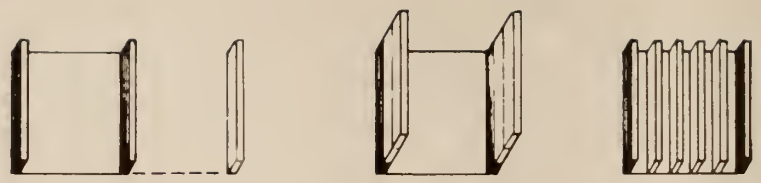
[7] Ibid., pp. 31-34.



a. Horizontal growth; area increased; height and coverage not changed.

b. Vertical growth; height increased; area and coverage not changed.

c. Interstitial growth; coverage increased; area and height not changed.

Fig. 20. Three forms of growth.

Fig. 21. An example of vertical growth: Manhattan, New York.

carts. This kind of growth fills up every square yard of vacant land left between buildings until the city becomes a solidly built-up mass of buildings (Fig. 20c).

Every new means of transportation causes a horizontal or a vertical growth. A greater differentiation occurs between the developed and the undeveloped parts so that a city appears to be a unit structurally divided into distinctive parts. The further development of transportation will gradually fill the interstices, and the city will seem to consist of the addition of many identical elements. Any analysis of a city form will tend to describe only a cross section of this constant flux of evolution. In theory, at least four basic urban patterns can be found: (1) the concentric circle, (2) the sector development, (3) the multiple nuclei, (4) the linear theory. Any one of these theoretical concepts should be considered only as a "model" of a city's physical development, rather than being viewed as an absolute physical growth pattern, because, in most cases, a community will represent a composite of these growth characteristics, and not any one single pattern.[8]

The distance factor: The relationship between residence and work place within the city is not determined by the relative proximity, but by the polarity between the place of production and the place of market. Dispersed production requires a

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[8] Eugene T. McGraw, "The Physical Aspects of Urbanization," The Process of Urbanization, (Kansas State University, Center for Community Planning Services, April, 1967) pp. 5-14.

central market, and dispersed markets can best be served by centrally located producers. We may illustrate this symbiosis by the fact that white-collar workers whose skill find a market in the business center will tend to choose their residence in the outskirts from which they commute. A good example is the vast number of white-collar commuters who live in New Jersey and work in New York.[9] On the other hand, the unskilled workers who sell their labor at unsteady jobs in factories anywhere in the city's outskirts and in central cities must seek a central location as a place of residence from which any part of the area can be easily reached.

If we accept this process as a general pattern of the city life these days, we can easily understand why as early as in 1882, Soria y Mata had abandoned the theory of concentric form of the crowded city to propose the theory of the linear city -- La Ciudad Linear.[10] Basically, the linear city seeks to expand the city along the highway. It consists of rows of houses built in the open country on both sides of a trolley line that takes workers to their places of work. Other urbanists, like Le Corbusier and many others, had believed that the automobile combining with the express elevator, formed a rational solution of the problems of the modern metropolis. The Radiant City of

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[9]Field Observation by the writer while working on a planning intern at the office of Boorman and Dorram, Inc., New Jersey, Summer, 1965.

[10]Gallion and Eisner, op. cit., p. 358.

Le Corbusier (International competition of 1933 for the replanning of Nedre Normalen, Stockholm) was a rationalization of the typical concentric city form. It consisted of skyscrapers in the center, elevator apartment houses in an inner belt, and lower houses on the periphery.

The Garden City. Contrary to growth by gradual acretion, Ebenezer Howard, in 1898, had proposed growth by deliberate planning in his garden city concept. Each city was to be a self-sufficient unit containing both residences and work places within easy walking distances and surrounded by a permanent agriculture belt. Since it was essentially limited in size, any need for expansion was to be accomplished by creating new satellites. Howard's idea was not without influence. Among its advocates was Eliel Saarinen whose organic decentralization concept proposed the gradual transfer of industries and population from a big city to satellite cities each to be a self-contained unit of definitely limited size with the surrounding open country to accommodate its traffic arteries. Its basic approach was similar to that of the early Middle Ages and of the Nineteenth century both of which had used the gridiron plan. The city once again was conceived to be the sum of identical units with indefinite relations to each other. But these units were not city blocks. They were highly organized communities, with open spaces between them.

In practice, most garden or satellite cities are mainly "dormitories" for the central city. The basic idea of the gar-

den city as a balanced and protected community has deeply influenced plans for constructing existing cities by dividing them into several self-contained neighborhoods. This procedure has been the modern planning approach which aims to disintegrate the vast agglomeration of city blocks into organized units of man's daily life -- schools, playgrounds, shopping facilities -- which are protected from through traffic. From this approach evolved the concept of America's "superblock" or the English "precinct."

Opposed to these concepts that existing cities should be gradually transformed in harmony with a preconceived pattern is Robert Moses. Moses denounced any attempt at long-range comprehensive planning, since according to Moses, human foresight cannot prevent the unavoidable social problems that must occur in every city. The philosophy of Moses advocates only the solution of immediate problems with practical objectives.

Certainly, our modern societies have undergone rapid changes in terms of social values and economic advancement. Whatever may be the pattern of city form that planners and designers will choose to adopt, the choice requires foresight and the logical application of new planning techniques to meet the ever changing social trends. In this respect, the following remark of Hans Blumenfeld has an important suggestion:

> A city plan cannot be a definite rigid scheme such as the architect designs for an individual building. It must be based on constant observation of ever-changing trends and an anticipation of their future strength and direction.[11]

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[11] Hans Blumenfeld, The Modern Metropolis, ibid., p. 37.

Elements of city form: A city's physical form has a sensuous impact that conditions the lives of its citizens often ignored in city-building.[12] Since many people now live in cities, designers have become increasingly aware of the effects of a city's physical form on human activities to those living in them. Thus in deciding how to build, enlarge or renew cities, they are faced with many controversial issues and questions for which they have yet to find solutions and answers.

In the "Form of Cities," Lynch has discussed the important elements of a city's structure -- size, density, grain, and shape.[13]

Size. The optimum size for a city is difficult to determine and must be based on the city's purpose and character, its location and the society for which it is built. While a small city may lack many amenities, the large metropolis often is faced with acute problems of congestion and social disorganization.

Density. An important factor related to a city's size is its population density. The relatively high density may afford more vacant land and open space close to its central area as it has in Florence, Italy. An extremely low density with a large population often results in the endless sprawl as in Los

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[12]Kevin Lynch, "The City As Environment," Scientific American, Vol. CCXIII, No. 3, (September, 1965) p. 209.

[13]Kevin Lynch, "Form of Cities," Scientific American, (April 1954) pp. 55-62.

Angeles (Fig. 25). Density, therefore, directly affects the life of city-dwellers since it controls both bulk and building heights and the living space, including the amount of light and air. We cannot then assume which density should be adopted. Too low a density produces acute difficulties for physical and social communications. Too high a density causes problems of congestion.

Grain. The arrangement of a city's structures is as important as are its size and density. Any city will reveal the special way in which its structure and space are arranged. Hence there are separate places for residence, trade, industry, and recreation. The extent and distribution of such specialized land uses in a city gives it a characteristic texture and pattern.

Shape. Besides size, density and grain, there is the shape of the city. The circular or the rectangular forms were the most common in the past. As the population increased, growth occured by crowding within or by annular accretion of land area. A critical problem was how the cities could best serve the increasing population and the urban sprawl. The linear city shape has the advantage since all structures are close to the main transportation line, and hence expansion can continue indefinitely. Examples can be found in many Louisiana parishes and New England settlements. The stellar shape has been a natural form for cities which have grown outwards along fast rail-lines or high speed roads. The outline of the city of Chicago falls into this form.

The Corrective Measures.

In the design of cities, form has been the objective of designers' efforts. A city cannot be a work of art, but is a creation whose form represents a multi-dimensional consideration of contributions that reflect the lives of individuals and of society in which they live. Unfortunately, the forms of many American cities have been copies of the Medieval, Renaissance and Baroque designs flavored with Twentieth century developments.

Our contemporary urban planning has used advanced techniques, sciences, and social thought, to reproduce cities whose forms can be traced back to the past. But these forms that expressed the older ideas no longer represent the process of our modern life. We should then consciously inquire whether the design concepts, such as axial lines, dominant landmarks, unified materials and details, and vistas could likewise be utilized to give us a logical solution that would reflect present-day city development. The city's physical and visual structure must contribute to and express the logical relationships of those living within the city. Because a city is a product of growth, a series of motions, actions, and events, and is continuously changing and limitless, designers then should attempt:[14]

1. to create physical forms conforming to the social processes they will accommodate.

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[14] Jessa Reicheck, "On the Design of Cities," Journal of The American Institute of Planners, Vol. XXVII, No. 2, (May 1961) p. 142.

2. to create physical design that is structured in accordance with the designers' logical conception of order.
3. to find new design concepts enabling designers to solve their present problems in accordance with their time element.

CHAPTER IV

THE AESTHETIC APPROACH TO URBAN DESIGN

The work of an urban planner-designer involves the visual details and often the image of the city. Perhaps we should ask ourselves what constitutes the process involved in urban design and what we want to achieve in the design process? Design is a conscious anticipation of a possible effect in relation to the environment brought about by means of expression in the visual form. Urban design relates to problems of the three-dimensional form, and cannot be reduced to the two-dimensional notion, or by ignoring the time-element.[1] Hence the design process is a sequence of decisions, both conscious and unconscious, varying in complexity and depending on the objectives and methods of application. The ultimate aim of an urban planner-designer is to give the most possible pleasant experience to an observer visiting a city and, furthermore, a sense of belonging to a city by the people living in it. A city is visually experienced by people in its physical state and not in terms of land-use maps and statistical graphs. Hence the end product of a design must be both visually pleasant and functionally laid out.

Since urban design involves the shaping of a city's environment, it may be viewed physiologically. In this context, the

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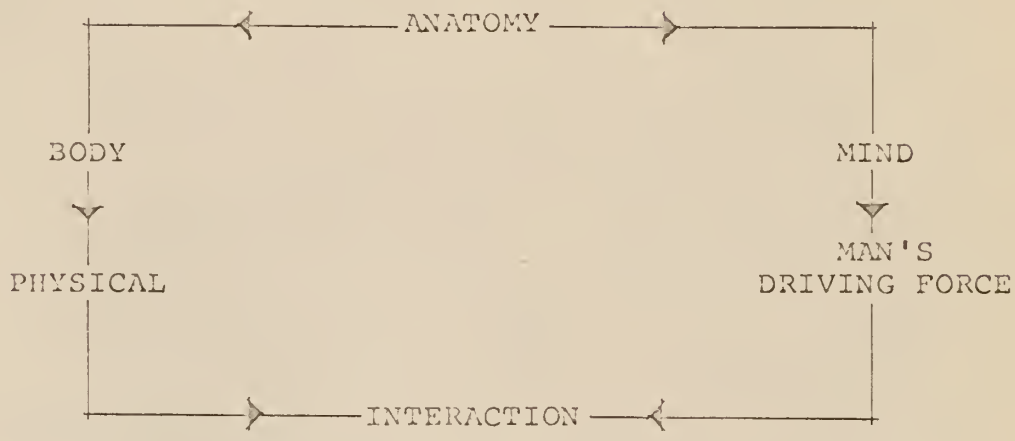
[1]Karl Otto Schmid, "Philosophy of Urban Design," Perception and Environment: Foundations of Urban Design, (Chapel Hill: Institute of Government, University of North Carolina, 1966), p. 77.

structure of a city can be regarded as being like the anatomy of a human being as shown by the following simple sketch:[2]



The Physiological Components of a City

The physical environment of a city involves a multitude of (1) Intangibles. such as unity, scale, order, harmony, and grandeur, and (2) Tangibles. such as roads, street-furniture, bridges, and building structures.

Our conscious and subconscious awareness of a city's visual elements imparts to us a sense of familiarization with the surrounding objects in relation to their order and usage. Without the recognition of this relationship, the design of a city would lose its meaning. The urban designer is thus concerned with the manifold details of visual elements occupying the "void" places of a city's framework. These elements need to receive prior consideration before any contemplated change is made in a city's

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[2]Eugene Thomas McGraw, "Lecture Notes," City Planning Lab. (630), Kansas State University, September 16th, 1966.

visual characteristics. Professor Kevin Lynch in his book, The Image of The City, has discussed rather in detail a city's various elements of identification, such as paths, edges, landmarks, and nodes.[3] These elements compose the environmental image, and are the strategic link to the mental picture of the external physical world observed by an individual. We can interpret this experience as an emotional response of the observer when he visits a city. Jacobs and Jones have both discussed the theory of emotional responses as having a three-fold effect: (1) a sensory or psychological emotional response to the physical stimulus, (2) the emotional response to form, (3) the intellectual emotional response in which the physical stimulus is interpreted in the light of past experience.[4] It becomes evident then that objects may vary accordingly to the category in which they fit. An important criterion, however, is that the objects need to be recognized as belonging to the essential aesthetic structure of a city.

What do we mean by aesthetics? Henry Churchill implies that aesthetics and beauty are synonymous.[5] Aesthetics is both an intangible and tangible quality experienced through one's emotional response. It depends on one's intellectual level, field

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[3]Kevin Lynch, The Image of The City, (Massachusetts: Harvard University Press, 1960), p. 4.

[4]Stephen W. Jacobs and Barclay G. Jones, City Design Through Conservation, (Berkeley: University of California, 1960), mimeo.

[5]Henry S. Churchill, "Urban Esthetics," Journal of The American Institute of Architects, Vol. XXX, No. 4, (October, 1958), pp. 21-22.

of education and mode of perception to agree in general on one specific definition. Concerning the perceptive analysis in "The Sense of Beauty," the philosopher, Santayana, remarked:

> It would be easy to find a definition of beauty that should give in a few words a telling paraphase of the word. We know... that beauty is truth, that it is the expression of the ideal, the symbol of divine perfection, and the sensible manifestation of the good.[6]

In general, aesthetics implies the study of visual elements that are beautiful - a sensitivity toward art, design, and the philosophy of beauty.[7] It is difficult to determine the elements that produce visual satisfaction in all phases of design work. Though civic art and urban design are primarily visual in content, John Burchard, however, warns us that the total impression a city leaves with us is not merely the visual qualities, but is compounded with other characteristics such as sounds, smell, and the feeling of atmosphere.[8] Because people vary in nature and mood, their admiration for and reactions to a city may therefore differ widely in degree and mood.

The Search for Beauty.

In the caption, "The Aesthetic Approach to Urban Design," the writer implies that besides other considerations of subject matter, there is a need to include "beauty." This search is legitimate especially since the urban planning movements in

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[6]Henry S. Churchill, Urban Esthetics, ibid., p. 21.

[7]For further definition on aesthetics, see Appendix A.

[8]Henry S. Churchill, op. cit., p. 21.

America gained their impetus from the City Beautiful Movement of the late Nineteenth century. Town-planning then was regarded by the professionals as both an art and a science.[9] Planners and designers were deeply interested in and concerned with the objectives that a rebuilt city or a newly built city should both be beautiful. The City Beautiful Movement of 1893 and the Industrial City Movement grew up simultaneously. "Make No Little Plans" was the motto of the City Beautiful Movement. Thus many grand plans were conceived such as D. H. Burnham's plan for Chicago in 1909, and others for grand avenues and monumental civic centers.[10] These grand plans represented a negative approach because they had no objective other than beauty. Because too much emphasis had been placed on policies and plans, the really significant aspects of the urban environment had been totally neglected. The social problems of the growing metropolis were not solved. Crowded cities of commerce emerged and further complicated the urban pattern.[11] A positive approach would be the solution of problems which caused urban ugliness, instead of attempting to control ugliness itself.

Beauty must appeal to both our senses and our minds in order to stimulate and to inspire us. In our search for beauty in the

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[9]The term, town-planning, is synonymous with the American concept of city or urban planning. It is widely used in the United Kingdom and throughout the British Commonwealth Territories.

[10]Gallion and Eisner, The Urban Pattern, op. cit., pp. 81-84.

[11]Ibid., p. 83.

urban environment - recreational areas, parks, civic centers, and buildings that are tangible and perceivable by an observer in a city - we are, indeed, dealing with the highly specialized field of urban design. Like all design disciplines, urban design is a form of "art" exercised in the process of city building for a specific project. Like some of the others of life's highest values - happiness, comfort, recognition, social attachment - this intangible quality of beauty which is part and parcel of good urban design is to be realized (not sought after) in our attempt to build a good city. This objective is what makes preconceiving and recognizing the criteria of plan-design goals and objectives more meaningful and important. However, as a concluding remark in regard to our aspiration for attaining "beauty," let us be warned by Jane Jacobs' following statement:

> A city cannot be a work of art... To approach a city, or even a city neighborhood, as if it were a larger architectural problem, capable of being given order by converting it into a disciplined work of art, is to make the mistake of attempting to substitute art for life... City designers should return to a strategy ennobling both to art and to life, a strategy of illuminating and clarifying life and helping to explain to us its meanings and order... to illuminate clarity and explain the order of cities.[12]

The search for beauty in architecture and planning has continued since the Egyptian civilization to our present time though with different emphases. Whereas in the past, beauty emphasized the qualities of convenience, solidity and lasting

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[12]Jane Jacobs, "Visual Order: Its Limitations and Possibilities," The Death and Life of Great American Cities, (New York: Vintage Books, 1961), pp. 372-375.

strength, our modern equivalents to these are perfect functioning, sensitivity concerning design, and imaginative creativity.

We have only to ask ourselves whether people will appreciate visual experiences that are ordered and attractive, or confused and repellent (Fig. 22), to grasp the importance of the search for beauty. Beauty, as a quality itself, is the domain of aesthetics involving both the scientific and the metaphysical processes.[13] Any urban scene or cityscape will create a positive or a negative reaction by the observer depending upon whether he is favorable to, or repelled by the environment he is experiencing. Clearly, there is a psychological stimulus involved. According to the psychological theory of Einfuhlung, beauty is the result of feeling one's self into a pleasant response or reaction. The Gestalt psychology expresses the theory that the sense of beauty is a mixture of feelings, associations, memories, and perceptions. All of these speculations must necessarily be present, interact, and reverberate throughout the entire experience.[14]

The Aesthetics of Perception.

When we deal with the aesthetics of a city, we find that urban design must be related to the perception of a city as a whole. A city must be viewed as an overall entity and, for this reason, cannot be dealt with in parts and pieces. Even so, the

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[13] Talbot Hamlin, "An Introduction To Architectural Aesthetics," Forms and Functions of Twentieth Century Architecture, (New York: Columbia University Press, 1952), p. 3.

[14] Ibid., pp. 11-20.

Fig. 22. An example of aesthetic problems of a modern city.

parts of a city when perceived by the observer must be recognizable as parts of a whole entity. What then is more important than a city's central core where all its aspects of life intermingle - the commerce, economy, political machinery, social life and problems, and furthermore, the city's sins and virtues, ugliness and beauty - are fully expressed? We can illustrate these metamorphoses with concrete examples from the Piazza San Marco where all the religions, civic ceremonial, and social activities of the city were concentrated. Likewise, in our own century, we witness these situations in Times Square, New York (Fig. 23); Trafalgar Square in London; Collin Street in Melbourne, and many other places where the surging crowds throng, and the cities' lifestreams flow daily. This relationship of the parts to a whole, of a single center to the greater organic complex of the urban scene, is a major criterion by which we can better understand the whole of a city.

The perception of a city today comprises more than a consideration of the tangible physical components or objects of the cityscape. Here the time-element is present and a new concept of realism - consistency - becomes all too apparent.[15] Consistency must be present in urban design together with the other influential urban forces at work. It must harmonize the social, political and economic forces in order that the end products of the city will be imbued with the qualities of naturalness, complete-

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[15]Karl Otto Schmid, "The Philosophy of Urban Design," op. cit., p. 77.

Fig. 23. An example of an urban scene: Times Square, New York.

ness, inevitability and acceptance. Physical designers must therefore utilize innovation. The pure emulation of other great cities will not fit into either our time or societal structure. Not only is such emulation illogical but is also totally meaningless. Although there are many inherent qualities in the philosophy of city design of the past which we can and should incorporate into our present-day plan-design approach, the best design, however, will result from a positive and sensitive reaction to historical trends rather than being a blind copy of their successful achievements.

Physical designers should realize that the design process can be a harmonious echoing of nature. Such a harmony would give rise to more allowance and departure from the traditional formalized or standardized design concept. The achievement of beauty is not obtained through incongruous, superfluous features and ornaments. The qualities of good proportions, functionalism, simplicity, and the proper use of materials are some of the important media of which a designer must be conscious. As Ralph Emerson commented:

> The simplicity of nature is not that which may be easily read, but is inexhaustible.... the perception of the inexhaustibleness of nature is an immortal youth.[16]

The Forces of Influence on Aesthetics.

To understand the significance and the proper place of aesthetics in shaping a city of today, and perhaps a city of

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[16]Ralph Waldo Emerson, The Complete Essays and Other Writings of Emerson, (New York: Random House, Inc., 1960), p. 194.

tomorrow, designers have to understand first the forces of influence that compete for consideration.[17] Because a city is continuously changing with rapid urbanization and advancement of modern technology, we are disturbed by the statement made in the Report to the President in 1962:

> Barring a war or other catastrophe, it seems very likely that the population will virtually double -- from about 180 million today to approximately 230 million by 1976, and to 350 million by the year 2000. It will be a more concentrated population, compared to 63 percent in 1960, about 73 percent of the people will be living in metropolitan areas by the year 2000.[18]

Such fantastic population growths coupled with the rapid advancement in technology, economic and industrial expansions have caused many big cities to decentralize into the urban fringes and across the open country. Commercial divisions have become massive, split and suburbanized. As a city grows up around these divisions, a polynuclear structure results that produces more than one central city. This metabolism further complicates the patterns and relationships among the component parts of a city. If we argue within this context, we can notice distinctly that two basic influential forces of design are inherent: (1) the

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[17]The writer is somewhat cautious in making a generalized statement that the techniques and corrective measures we employed to improve today's cities, may equally be applicable in twenty year's time. This is based on the premise that modern technology has been advancing so rapidly that a totally different approach and design concept may necessarily dictate the urban design of future cities.

[18]Outdoor Recreation Resources Review Commission. A Report to the President and to the Congress, (Washington: U.S. Government Printing Office, 1962).

horizontal dispersion toward the urban fringes and suburbs (Figs. 24, 25), (2) the vertical concentration in a city's central core areas. Concerning these causes, Catherine Bauer Wurster lamented:

> There are visible trends and forces pushing in different directions today. The dominant push certainly seems to be centrifugal, toward dispersal, low density and scatteration. The simplest way to state this force is a demand for industrial production, shopping centers, schools and above all for middle-class and upper-class family life. This escape from the complexities of the big city represents private values. It is made possible by another kind of private value: automobility, moving from one place to another...[19]

One of our foremost urban critics, Grady Clay further commented:

> In the downtown and near downtown of any big American city one sees so much that is ugly, shoddy, unkempt, unsightly and even abhorrent and despicable... Walking in downtown America is usually a chore, dangerous and sometimes appalling... the overall impression is an almost overpowering sense of confusion, odd mixtures and drabness. There is great vitality everywhere, of course... Isolated spots of beauty often remain from an earlier generation... but too often they suffer from the inroads of progress...[20]

If we were to analyze carefully the great cities of the past, we would find that their unique spirit and their success in the use of continuity of form were produced under an entirely different social structure and civilization because their philosophy, thinking process, and design disciplines were conditioned to conform with the dictates, requirements, and the spirit of the era. The success of many great cities was in the main due to:

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[19]Catherine Bauer Wurster, "By 1976 What City Pattern?" The Architectural Forum, (September 1966), p. 109.

[20]Grady Clay, Downtown Uglification, Inc., "Is This The City of Tomorrow?" The Louisvillian, March, 1958.

Fig. 24. An example of a freeway intersection, Detroit.

Fig. 25. An example of urban sprawl due to the impact of transportation: Downtown Los Angeles, California.

(1) the comparatively homogeneous principles of construction, planning and appearance, reinforced and dictated by the homogeneous ways of life, (2) the sole command of a supreme ruler under an autocratic society, (3) an elite architectural style developed from experience and common agreement, carefully practiced by successful designers, and emulated by many others.[21] These factors often overlap in time and place, and served to reinforce and to enrich one another in an orderly aesthetic variety which many designers of later epochs have so often admired and copied.

However, in urban design, there is a need to allow for intellectual perceptions and satisfactions. We must understand the city in all its social entities with regard to the historical continuity, the vitality of urban centers, functional coherence, urbane forms and planning in order to reflect our civilization. Every plan-design decision that involves the physical form of a city entails a social impact and implication because the slums, decay; furthermore, the ethnic ghettos, social problems, and the ugliness of highway billboards are real and exist in many of our cities. The late Sir Winston Churchill once remarked that though we shape our buildings, the buildings in turn shape us. We can interpret Churchill's statement to mean that any urban designer is, to some extent, influenced by the immediate social forces and the surrounding environment. Hence we find in the formal

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[21]David Crane, "The City Symbolic," op. cit., p. 282.

conceptions of cities the qualities of image, symbol, edges, landmarks, and nodes that Lynch referred to, and also the emotional values - of grandeur, exaltation, intimacy and privacy - indicated by Jacobs and Jones. Urban design thus amplifies the social functions of the individual; however, functionalism cannot be the sole determinant of any physical design concept, let alone of urban design, because our modern societal structure demands that its designers have creative imaginations.

A city is also associated with its cultural heritage. We can illustrate this by great cities of London, Paris, Rome, and ancient Peking. As the Chinese philosopher, Lin Yutang, remarked:

> Great old cities are like tolerant grandmothers. They represent to their children a world vaster than one can explore or exhaust, and one is happy merely to grow up under their all-embracing protection.[22]

Except on rare occasions when a new city is to be completely planned and built (such as the Australian Capital City, Canberra, designed by American architect, Walter Burley Griffin; Brasilia, planned by Lucio Costa and designed by Oscar Niemeyer; and Le Corbusier's Chandigarh), most urban designers work with the fragmentations of a city such as urban renewal designs and downtown revitalization projects. Hence there exists a complex set of political, economic, and aesthetic criteria for which designers must provide solutions if anything concrete at all is to be achieved.

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[22]Lin Yutang, Imperial Peking, (London: Elek Books, 1961), p. 11.

Aesthetic Control. The standards and regulations also influence design in such ways as the proportion of land that can be covered by construction, the setback and the building heights, the landscaping requirements, and the population density per acre of land. The principle of aesthetics can be achieved by thoughtful and careful process in design. Many American communities have the power to control not only the land within their boundaries, but also the aesthetic appearance by means of zoning ordinances. The methods by which to control aesthetic appearance and which are used throughout this country are given in Appendix B. There are no hard and fast rules of control. While the existing design elements can be conserved and protected, little can be done to ensure the visual appeal of a new development on a community-wide basis. A rigid control of aesthetics will produce only a negative result of monotonous and sterile designs. Control, to have validity, must be based on a firm knowledge of a city's traditions. However, much of the responsibility rests upon the civic consciousness of the citizens, together with the co-operation of the businesses and industrial concerns to achieve a city's orderly appearance.

Advertisements and billboard signs are among the major elements that can create a pleasant or a confused urban scene.

Advertisement Signs. The businesses and offices in a city must use advertisement signs to give directions and other information. The well designed advertisement signs can be a source of delight to an observer. Their varieties in color and design can add liveliness to the cityscape. But too often the signs

Fig. 26. An example of a chaotic advertisement scene.

Fig. 27. An example of well-controlled and orderly advertisement signs.

are misused, poorly planned and become too numerous. Though one aspect of a sign is to attract attention, too much competition in this effort only confuses the observer (Fig. 26). A good method to improve a city's appearance is the adoption of a zoning ordinance. Different cities have different requirements concerning sign control with regard to types of signs, the height limit, and location of display. While there is no one perfect sign ordinance, a city must always have some means by which to control a chaotic overabundance of signs in order to create a more attractive urban scene (Fig. 27).

Billboard Control. The hazards of billboards have been tested and proven in many studies (Figs. 28, 29). It has been found in Tennessee that, on a highway where four or more signs appeared within 200 feet of an intersection, the automobile accident rate was three times greater than that at an intersection without signs. In Michigan, a study revealed that a stretch of road containing no advertisement signs had an automobile accident rate of 3.74 per one million vehicle miles. On highways where there were up to four roadside signs per 1000 feet, the accident rate had significantly increased to 9.06, and to 13.48 where the signs exceeded four in number.[23]

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[23] Billboard Restrictions, The Tennessee Planner, Tennessee State Planning Commission, Vol. XVIII, No. 4, (1959), p. 112.

Fig. 28. San Francisco Freeways. No formal landscaping and uncontrolled billboards.

Fig. 29. Downtown Los Angeles, California. Landscaped and orderly look of freeways, and controlled billboards.

Some Reasons of Failures Among Contemporary Designers.

The failures to achieve satisfactory designs today present a serious problem. Thus something needs to be done quickly to eliminate our urban "ugliness." The importance of corrective improvements concerning our shortcomings is stressed by Grady Clay's following statement:

> The overall sense of ugliness which pervades so many downtowns... comes from a mixture of many things; the torn viscera of old walk-up apartments... the ugly backsides of industrial buildings now thrown open to the public gaze by newly-cleared parking lots... the confused mixture of things.... utility poles, trash baskets, litter boxes.... telephone booths.... bus-stop markers, newstands.... which make the sidewalk scene one of utter disarray.
>
> What has continually amazed me is that these rich and powerful cities, these wealthy and influential 'down-town' men should be willing to live in such visual squalor.[24]

The task of the city designer is to satisfy a basic human need - that of a pleasant, orderly urban environment. Unfortunately, many of our cities still fall short of reaching these objectives. Are we then to infer that designers of today are less capable than those of the past? If so, we must carefully determine whether this dilemma is due to our difference in social values and structure, or that our lives have now become so conditioned by automation, mechanical devices and material comfort, that present-day designers lack inspiration, and are lax in their design creativity. The fact that current urban planning and design have failed to achieve the desired goals is

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[24] Grady Clay, "Is This The City of Tomorrow?" op. cit.

due to: (1) the physical chaos in cities and the lack of public participation, (2) too much negative designing due to over-regulation, (3) the excessive non-physical concepts of planning, (4) too much emphasis on mere city beautification, anti-city utopias, and tenets of modern architecture.[25] Simply stated, the development of a chaotic city is then due to the confusing overlays of individual creativity, competing business interests, and rigid governmental regulations. In support of the preceding criticisms, Robert L. Durham, the new president of The American Institute of Architects, has made the following statement:

> We are building more ugliness now than we tear down. The United States cannot afford to use up 3,000 acres a day doing this.

Furthermore, Durham's bitter attack on the expansion of highways deserves our consideration:

> Highways are a major bugaboo... We have yet to do a completely attractive highway through a community. We are not interested in just planting petunias along a highway or street. A road dictates commercial buildings and housing in a town. That is why it is important to change our attitudes in city planning.
>
> The reality of a population explosion is here and it is time to stop highways from creating chaos in our cities because of a basic lack of design from the time a road is thought of until it winds its way out of or around a city.[26]

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[25] David Crane, "The City Symbolic," op. cit., p. 281.

[26] Robert L. Durham, "Urban Design Requires Thought By Every Man," The Manhattan Mercury, Kansas, July 15th 1967.

The Corrective Measures.

In view of all these shortcomings, what should then be our pragmatic approach to achieve a better end product of urban planning and design? The ugly or blighted districts of today's modern cities are not recent problems since any large city always has had them and will continue to have such areas. It is their occurrence over extensive areas, or being in too close succession that must be prevented.[27] Hence our aim must be to achieve the following objectives:

1. To infuse a sense of civic awareness into the citizens of tomorrow as early as at the high school age in recognizing quality and in creating an interest in good design.
2. To encourage design-oriented professionals to achieve a better relationship with the public at large.
3. To reorganize the community power structure into a meaningful working political machinery in the true sense of American democracy.[28] A city should exist for the well-being of the citizens. Community organizations

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[27]Jean Gottmann, Economics, Esthetics, and Ethics in Modern Urbanization, (New York: The Twentieth Century Fund, 1962), p. 34.

[28]Floyd Hunter, "Postulates on Power Structure," Community Power Structure: A Study of Decision Makers, (New York: Doubleday and Company, Inc., 1953), p. 6. In the discourse on power structure, Professor Hunter explains that:... Power of the individual must be structured into associational, clique, or institutional patterns to be effective. Collary 1: The community provides a microcosm of organized power relations in which individuals exercise the maximum effective influence. Collary 2: Representative democracy offers the greatest possibility of assuring the individual a voice in policy determination and extension.

therefore should exert substantial political influence on all responsible authorities (city-officials, planners, designers etc.) to ensure that the basic needs of human comfort and decency are provided.

4. To maintain a better co-ordination from the early stages of the plan-design process among engineers, sociologists, architects, economists, physical designers, and city officials, in their collaborative efforts to achieve a better city.
5. To encourage developers and mortgagers alike in demanding a better quality and design standard concerning any contemplated projects, and not merely in regard to rapid profit-making.

WHAT DESIGN ELEMENTS?

Having discussed in the early part of this chapter the various aspects of aesthetics, the social forces, the shortcomings of designers, and the corrective measures to improve the dilemma, the writer shall try to indicate what the urban design elements need to be in order to correlate them with the preceding discourse.

In this age of modern technology and rapid urbanization, good design is of prime importance. A successful design cannot be achieved by the mere application of principles, established standards, and rigid regulations. It is the end product of designers who must understand the aesthetic principles and who possess a broad and sympathetic outlook concerning the overall characteristics of a city. While Lewis Mumford gladly accepted the innovations regarding the forming and reforming of communities, he did not hesitate to provide a corrective contradiction:

> More light yes, but some darkness;
> More openness, yet some enclosures;
> More volume, but some mass;
> More flexibility, yet some rigidity.[29]

From this statement, we realize that there is always a two-sided attitude of "give-and-take." Because in a city we deal with human elements, any approach to urban design must take into consideration the purposes and ideals of the man. The approach to the forming and reforming of communities thus becomes more than merely an economic or a purely administrative process. The element of vision must be present.

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[29]Lewis Mumford, City Development, (New York: Harcourt, Brace and Company, 1945), p. 210.

Correlation, Expression and Organic Order.

The elements of design, correlation, expression and organic order are associated with nature and are important for both urban planners and designers. Planning should not be confined merely to the solution of the technical or social problems, and be entirely devoid of artistic expression and aesthetic qualities. In nature, true expression manifests itself in a form that reveals the characteristics and function of the objects presented. In man, true expression is found in his inner life, his philosophies, emotions, and aspirations. All these qualities represent a correlation and rhythmic expression of organic order, derived from and shaped by man's own environment. Concerning expression, the master architect of organic architecture, Frank Lloyd Wright, once said:

> In the realm of organic design, human imagination must render the harsh language of structure into becomingly human expression of form instead of devising inanimate facades... Poetry of form is as necessary to great design as foilage is to the tree, blossoms to the plant, or flesh to the body....

Physical and Spiritual Harmony.

If the product of any design is to culminate into eventual recognition, acceptance, and originality, designers must have a margin of freedom for logical self-criticism and self-expression of their inherent skill and talent. While the administration, economic, political, social and technical aspects of urban planning and design cannot be ignored, too great an emphasis on any one of the disciplines will nullify the efforts of designers

concerning the achievement of aesthetic expression. The late Albert Schweitzer bitterly criticized our generation, because the mental and spiritual lives of man were not only below that of past generations, but were living only on their achievements.[30]

In our attempt to capture and to foster physical and spiritual harmony, we need to develop a sense of logic and a love of beauty. Both these qualities must be present and co-existing to produce the spiritual harmony for which we seek.

Dynamic Vision.

In any aspect of physical design, apart from the functional approach, logical solution, and design creativity, the designer must possess imagination (Figs. 30, 31). What should be the end product of design? What should be the proper urban environment? These objectives lie in one's capacity to envision. Oscar Wilde has argued that in an ugly insensible period, the arts do not copy nature, but tend to copy from each other. Where there is no vision, the conceptualization of a design becomes hazy and blurred, and the design tends to disintegrate. In the realm of vision, our imagination must be allowed to explore. "Could this be possible?" should often form part of our functionary inquiry as a basis for our discretion. Without the vision of many far-sighted thinkers and designers, many of the commonplace things we see today would

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[30] Albert Schweitzer, Out of My Life and Thought, (New York: Henry Holt and Company, Inc., 1933), p. 187.

Fig. 30. An example of monotonous and mundane government office buildings.

Fig. 31. An example of creativity and spatial composition. Headquarters of the Department of Housing and Urban Development, Washington, D.C.

never have materialized.[31] Hence we must constantly extend the horizon of our mentality in the search for truth and fresh innovations, for the "impossibilities" of today may materialize into the "usual" of tomorrow.

Thus in urban planning and in urban design, any progressive ideas and conceptions of those individuals imbued with the quality of vision need to be encouraged. Without fresh innovations, our ideas will soon become sterile, will remain archaic, and be out of context with the technological advancement and the time-element.

Coherence.

An important design characteristic of a city is coherence which implies more than the visual order, because order alone will be monotonous and provide no opportunity for imagination. A city is dynamic and alive. Hence the living quality must come through the articulation of the various parts of a city regarding its adaptations and its growth. A city reveals to us its culture and its social aspects of life. Our senses must react to the perception of the environment irrespective of a city's state of condition and time. Our responses must then be supplemented by our

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[31]Frank Lloyd Wright, The Future of Architecture, (New York: Horizon Press, Inc., 1953) pp. 301-302. We can illustrate this point by the earthquake-proof Imperial Hotel of Tokyo (1915-22) designed by Frank Lloyd Wright. Wright had successfully used numerous "concrete pins" under the building to sustain the "shock waves" of the earthquake. This method (at that time) was an innovation, and had received bitter criticisms among the professionals as being impossible.

thorough understanding, knowledge and experience concerning the city. An important aspect in design requires a logical relationship of a city's various land uses - the interaction of its transportation, commerce, industry, housing and recreation. Such a recognition reflects an understanding of a city, and man's relationship to it which imply coherence.

Symbols are important in urban design, because a city is revealed to us directly as a place where opportunity is extended or denied, where life is valued or suppressed, where the common good is recognized or ignored. We must also understand a city as a place of exaltation, or of seclusion, of restlessness, or repose, of boring monotony or of exciting variety. Hence, a city reveals whether it is true or false to life.

CHAPTER V

HUMAN SCALE AND SPATIAL CONCEPT

Panorama, Skyline and Vista.

Many people are pessimistic and are inclined to believe that the modern city is "obscene" and that its repulsive character is even less acceptable because it is a man-made thing.[1]

In analyzing the visual perception of any urban scene, the "picture" before us must be divided into various parts so that each component can be more closely observed and carefully evaluated. When many of the newer New York apartment developments began to appear, Mumford inquired why they were dull and bleak, were planned without regard for the human scale, and with so little consideration for aesthetics.[2] This situation arose because the planners and architects had failed to consider the visual characteristics of the design that had been created. No analysis had been initially made to determine what the effect upon the overall urban design would be.

The panorama, skyline, and vistas of a city are normally viewed from a distance. Such views of the inner details of buildings become blurred and the observer's visual perception of the whole environment is that of a mass in form. In this situa-

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[1] T. K. Fitspatrick, "In The City of Tomorrow," Journal of The American Institute of Architects, Vol. XXV, (November, 1959), p. 17.

[2] Lewis Mumford, From The Ground Up, (New York: Harcourt, Brace, and Company, 1956), p. 151.

tion, the texture of prismatic forms is most obvious in the central core of cities and the forms produce an interesting array of shapes and masses. Such an effect cannot be obtained from looking at a plan view of the whole area. Hence planners and designers cannot deal successfully with the two-dimensional plane, without giving consideration to the vistas and panoramas that will eventually occur.

The Open Space.

The term, "open space," applied to a city refers to the outdoor spatial relationships (Fig. 32). Whatever its size and shape of enclosure, the open space is an observer's visual experience. It envelops the observer and, therefore, has a significant effect on him by allowing him either freedom or confinement of movement. Urban designers must therefore understand and appreciate the treatment of open space, for it is one aspect of land-use very important to a cityscape. In most American cities these days, there is a tendency to build skyscrapers and high-rise apartment "towers" because of the comparatively high cost of land in a city's central core. In contrast, the European settlements such as Versailles, France, and the Piazza of St. Mark (Fig. 11), Venice (which have taken centuries to grow up around their city sites), were created by designers who respected the site, the regional topography, and the whole land terrain itself.

In urban design, a spatial link can be created concerning the environment between buildings and spaces. The human scale

Fig. 32. An example of open space in the urban scene, Dallas, Texas (by Skidmore, Owings and Merrill).

should be related to the scales of the cloisters, colonnades, porticos, buildings, and the uses of trees in landscaping. We can illustrate such spatial concepts - one from the inside extending out - by the colorful, inviting, and restful sidewalk cafes of Paris, Melbourne, and even in New York (Fig. 33).

Spatial Relationships: Intimacy, Function, Infinity.

Intimacy. Intimacy and privacy are among the privileges in our lives. However, many people deplore the lack of privacy in space, yet the elimination of privacy and disregard for intimacy often are possible and provided to create a feeling of a relaxed and carefree atmosphere.

Function. On functional space, the environment created may either be restful and tranquil, or alive and sparkling (Fig. 34), depending on the purose for which the area has been designed. Whatever is the purpose, the spatial relationship must be developed aesthetically in treating the open space with regard to the building structures, street-furniture, and the landscaping around it. Function and beauty must together form part of the city's design elements to create a harmonious integrated atmosphere and neither one can be absent.

Infinity. The universe is infinite. Subconsciously, one seldom visualizes the sky as being infinite. When viewed from an enclosed space formed by a building, the sky is experienced as if it were a roof overhead or as part of the enclosure itself. The

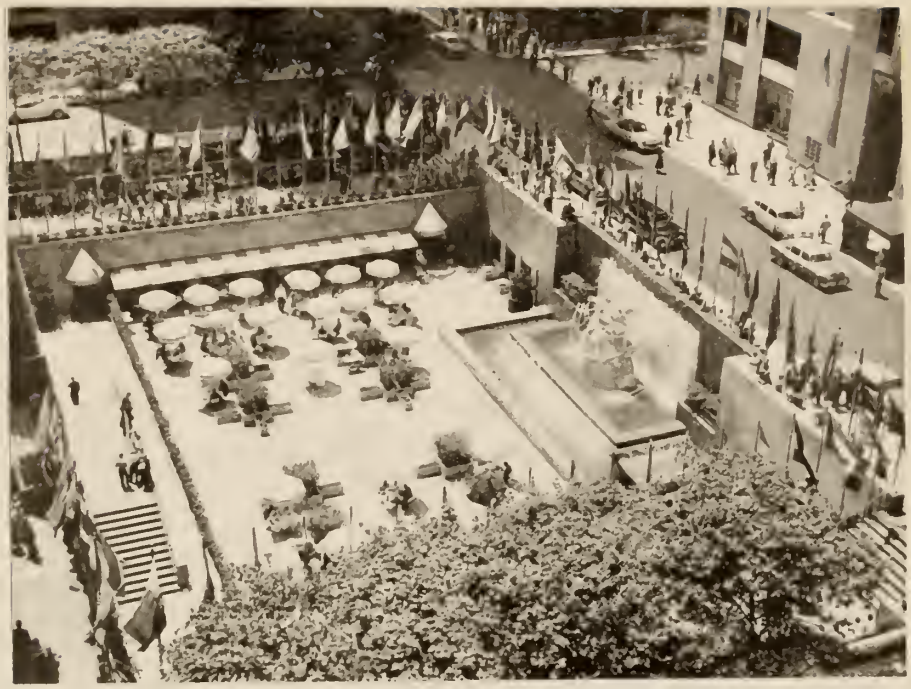

Fig. 33. An example of an open-air cafe. Rockefeller Plaza, New York.

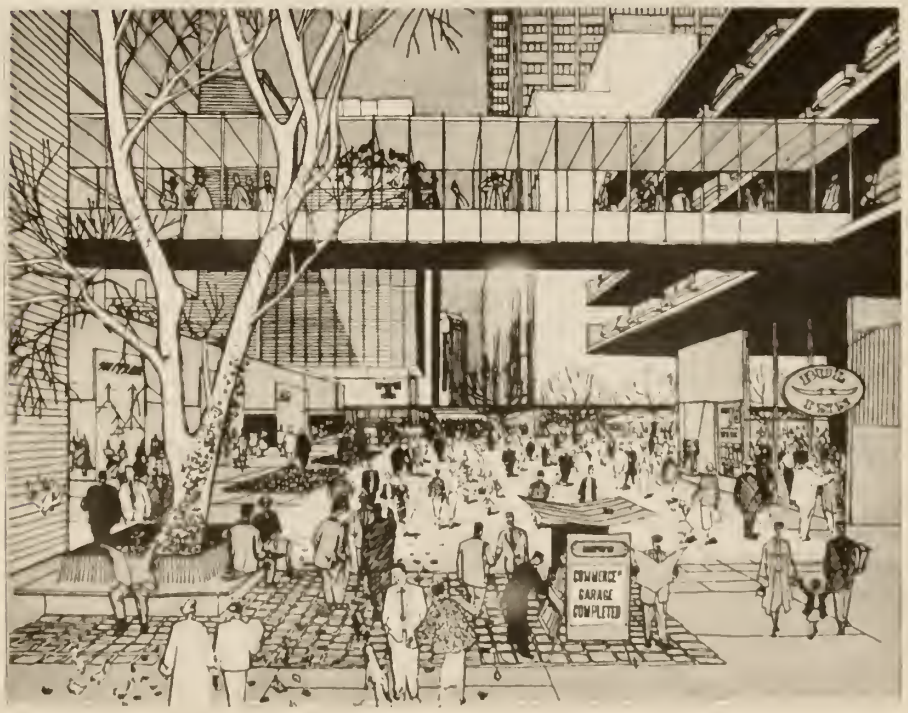

Fig. 34. An example of function in the urban scene.

conception and perception of spatial infinity therefore requires one's constant and conscious observations in order to experience it.

CHAPTER VI

THE ROLE OF PHYSICAL DESIGNERS

If designers accept the fact that urban design is an essential element shaping the urban environment, they are confronted with the question on whom this responsibility should lie. Any design which affects the urban scene, whether on a macro or micro scale, is a component part of urban design. This statement is not meant to contend that just anyone can be an urban designer. Since the city is of a complex nature, the urban designer must be someone who is specially trained in the field. In discussing the development of design, Norbert Gorwic made the following statement:

> By its very definition, urban design occupies a position somewhere between city planning and architecture... Let the city planner do all the master planning, let the architect busy himself with the individual buildings and the urban scene will look after itself. The disastrous results of such an arrangement can be seen in every city, large or small. Our feverish building activities are perhaps impressive in terms of size and volume, but the quality of the end product is very disappointing. We have been fully effective in destroying old urban values, but failed to create new ones.[1]

Though city planning in the early days was executed by artists, philosophers and architects, it now tends to confine itself to the aspects of land use control, zoning, density, standards and regulations. At the present time, much attention is being given to problems of urban development in areas of rapid decay, of older

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[1]Norbert Gorwic, "Urban Design," Paper delivered at the Annual Meeting of the Michigan Academy of Science, Arts and Letters, March, 1957.

urban sectors, and of extensive urban sprawl. In the effort to create a better city, there is confusion among the various physical designers regarding which discipline would be the proper role to shape the urban environment. In The Scope of Total Architecture, Walter Gropius seriously commented on this problem:

> As we envision the strategic goals of planning in its vast complexity, it indeed embraces the civilized life of man in all its major aspects, the destiny of the land, the forest and the waters; the cities and the country side; the knowledge of man through biology, sociology and psychology; law, government and economics; art, architecture and engineering. As all are interdependent, we cannot consider them separately in compartments. ... the sickness of our present environment, its often pitiful ugliness and disorder, have resulted from our failure to put basic human needs above economic and industrial requirements.[2]

It becomes obvious then that the present failure to evolve adequate concepts of the future cities is due to the failure of contemporary urban society to bring together successfully the architects, landscape architects, planners, engineers, and urban designers into an effective joint working relationship. Hence the expanding visual chaos and disorder in our cities is the responsibility of environmental designers who must deal successfully with the complexity of urban problems. Any hope of achieving unity and order will require the collaborative efforts of designers and social scientists. Irrespective of whom the urban designer may be, Sydney Williams summarized in the following passage a clue to its solution:

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[2] Charles A. Blessing, "The Architect and the Planner," Journal of the American Institute of Architects, (March, 1960), p. 85.

> Intelligent analysis of the aesthetic characteristic of cities, and the practice of civic design, must rest firmly on a knowledge of the social, economic and physical characteristics of urban life. Civic design is undeniably a creative art, and as such, it is dependent at many stages on intuition; but the intuition must be used by individuals who really know as much as possible about cities. For this reason, it is my conviction that the final responsibility for the design, in aesthetic terms of the city as a whole, belongs to the city planner. But, of course, the city planner cannot carry out this responsibility without the close collaboration of architects, engineers, landscape architects, and many others.[3]

Though the urban designer may be one who comes from the architecture, landscape architecture, or civil engineering discipline, the architect and the city planner appear to be the predominant designers.

The role of the architect. The architect's ability to relate structure to space imposes on him an important burden in creating the future urban environment. Unfortunately, there are many areas in which the architect cannot hope to be an expert. He is limited in making economic and political decisions, and technological advancements. Hence his vision tends to become limited. This situation is often reflected in a failure to produce the potential richness of urban social life on the basis of true and human understanding of individuals. If the architect is to prepare himself adequately to participate in decision-making upon the basis of this respon-

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[3]Sydney H. Williams, "Urban Aesthetics, An Approach to The Study of the Aesthetic Characteristics of Cities," Town Planning Review, (July, 1954), pp. 59-113.

sive role, he must understand all the disciplines demanded of him in shaping the urban form. As Le Corbusier has remarked:

> The architect by his arrangement of forms realizes an order which is the pure creation of his spirit. By forms he affects our sense to an acute degree and provokes emotions. By the relationships which he creates, he awakens profound echoes in us. He gives the measure of an order which he feels to be in accord with our world. He determines the various movements of our heart and of our understanding. It is then that we experience the sense of beauty.[4]

The role of the architect in this age of rapid population growth, mass production and consumption, must now assume a different attitude. In this respect Victor Gruen has observed that the dynamic growth of American cities is not a mature one, but is uncontrolled, sprawling and scattering around the urban fringes, thereby destroying much of the beauty of landscape and nature. The architect then must widen his horizons giving attention to the total man-made environment rather than to individual building structures. This change in point of view is necessary, since within the complex society, the individual structure has lost its significance, and now depends on the environmental conditions surrounding it.[5]

The increasing urbanization together with the failure of piecemeal approach in urban planning and design to solve problems have brought a realization that physical planning and designs of cities must be organized as a co-ordinated activity. The role of

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[4]G. Holmes Perkins, "The Architect and the City," Journal of The American Institute of Architects, (November, 1962), p. 96.

[5]Victor Gruen, "Environmental Architecture," Journal of The American Institute of Architects, (December, 1962), pp. 96-97.

the architect as an urban designer should include the following responsibilities:[6]

1. to relate the buildings to the surroundings functionally and aesthetically in such a way that the buildings and open spaces will give a city its form.

2. to redevelop and renew blighted urban districts, and in the arrangement of structures, open spaces, and traffic circulation in such a way as to produce good city design rather than merely individual good building designs.

3. to use architectural skill and judgement in the preservation of historic buildings.

4. to function as a member of the planning commission or the zoning board.

5. to be an active participant and designer in the planning process as administrator, and as long-range designer.

6. to function as part of a team effort since an architect alone cannot function effectively as an individual designer. This situation gives him the opportunity to exercise to the maximum his design creativity within the framework of a greater discipline.[7]

7. to be responsible to the local government and to observe the design decisions within the government requirement.

In conclusion, we should reflect on the statement made by David Crane:

> Architects to become effectively involved in urban development and renewal will need... new and more dynamic philosophies and principles of city form and design. These must emphasize movement, time and process in the growth of cities and character and emotional conditioning for an unfamiliar role in the administrator-created environment. The architect as we have known it is dead and need be replaced on a new art of 'ubitecture.'[8]

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[6]Arch. R. Winter, "The Architect-Planner as City Designer," Journal of the American Institute of Architects, (March, 1961), pp. 93-95.

[7]Edmund N. Bacon,"Designing Urban America," Journal of The American Institute of Architects, (March, 1961), pp. 31-33.

[8]David Crane, "Alternative To Futility," Journal of The American Institute of Architects, (December, 1962), p. 94.

The role of the planner. Stimulated mainly by the Federal urban renewal programs, increasing attention has been given to urban design as an extension of urban planning and as an enlargement of the traditional role of architecture. Many cities are now involved in the clearing and rebuilding of their central areas. These efforts have enabled urban design to assume a major significance -- involving a sense of urgency, compulsion, policy formulation, establishing goals and principles, and developing effective methods of implementation.

In the designs for urban renewal in American cities, three factors should be noted:

1. the advance in all modes of public and private transportation and of parking facilities.
2. the increased demand for leisure-time activities and community facilities (recreational centers, swimming pools, libraries etc.).
3. the advance in building technology and methods of construction.

The need for sound and logical urban design increases with each new renewal project. Thus the urban designer, irrespective of whether he is an architect, city planner, landscape architect, or engineer, has an important role in the rapid and complicated process of rebuilding old and building new cities, of guiding and developing urban regions. The city's total environment is the end product. As such, the economic aspects, obsolete regulations and control, and the social problems all require serious attention because they are all reflected in a city's physical chaos. A city

must have order and unity, as Charles Blessing has said:

> Intelligent order implies purpose, and purpose grows out of the freedom to choose among imaginable alternatives...[9]

The need to integrate urban design with the city planning process cannot be ignored as David Crane pointed out:

> We were all frustrated with the non-designing preoccupations of the planning profession... The search for knowledge of urban form and design theory touches on every current interest of the planning field...[10]

If the design of human settlements is regarded as a continuum of specialized efforts, then the end product of urban planning and design would imply more than mere city and shop-front decorations (Figs. 35, 36). Urban design must form an indispensable part of the planning process since its end product is very much the end product of the planner whose policy decisions will undoubtedly affect the shape and environment of a city. This relationship occurs because planning is regarded as a culturally oriented activity which reflects a society's current system of goals and problems.[11]

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[9]Charles Blessing, "The Planner's Role in Bringing Better Urban Design into City Rebuilding," Journal of Housing, No. 7, (September, 1962), p. 371.

[10]David Crane, "The Image of the City," Journal of The American Institute of Planners, (May, 1961), p. 152.

[11]Francois C. Vigier, "An Experimental Approach to Urban Design," Journal of The American Institute of Planners, (February, 1965), pp. 21-28.

Fig. 35. An example of a Chicago Slum, Federal Street, 1944.

Fig. 36. An example of a renewed urban environment through proper planning and design.

Urban design as a decision process.

Community goals and objectives may change with the process of time; furthermore, the programmatic aspects of design objectives require constant revision. The process of plan decision often proceeds from the general to the specific and finally toward finite details. The growing and changing characteristic of a city, therefore, demands that any change be closely interrelated to and interacting with its physical, economical, demographic, social, cultural, and financial aspects. The planner-designer needs to understand the nature of these changes, and the underlying influence of these forces.

At any level, design is a decision-making process. Depending on the scale and complexity of the problem, a designer will need to make various interrelated decisions to achieve the solutions of the problems involved. The measure of a designer as a decision-maker depends upon how he utilizes past data. Barclay Jones has discussed two important aspects: (1) the rational process by direct and deliberate reference to one's experience, empirical knowledge, and the experience of others, (2) the intuitive process, that is the subconscious reference to our experience and accumulated knowledge without our being aware of the means employed.[12] The following sketch shows the relationship of such a design approach where the relevant data of the past are used to form the input of raw materials for the present decision solution. The results are finally fed back into the predictive system for any future decision-

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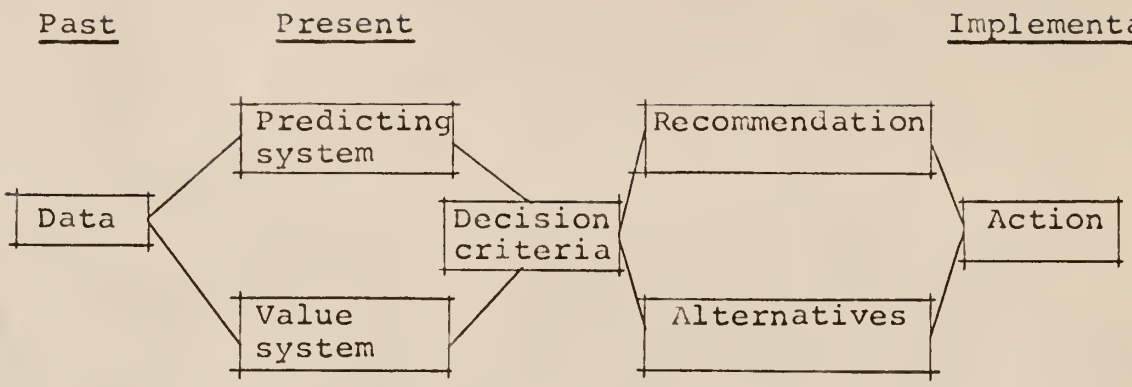
[12]Barclay G. Jones, "Teaching Urban Design As A Decision Making Process," Education For Urban Design, Conference held at Washington University, January, 1962, pp. 121-139.

making.



Block diagram: Design as a decision-making process[13]

SUMMARY

The design and building of a city involves the multifacets of human lives and must therefore form an indispensable part of the planning process. Whatever the level of abstraction is at which planning decisions are made, they must materialize into the physical form to avoid mere paper planning and to become meaningful. The end product of urban design concerns very much the planner whose policy decisions will affect the final form of the urban environment and quality. Therefore design should relate all urban elements to one another, to the natural and man-made environment, and to the dynamic aspects of urban form. The city's buildings, open spaces, and land uses, all must form a perceptible pattern.

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[13] Barclay G. Jones, op. cit., p. 129.

Urban planning and design values are expressions of the aesthetic, the social and the pragmatic interests and concerns. Two important factors must be recognized here: (1) the predominant economic activities that have a generalizing effect, and (2) the geographical, topographical climatic conditions and also the human values that have individualizing effects.[14] These factors give the city its unique qualities and perceptible form. They also imply that urban designers must understand the number and types of people using an area, and their overall social patterns. The creative mind must operate within a broad planning process of research analysis and implementation to be effective at all levels of planning and design decision. Only when conceived as a totality can the economic, social, political and physical goals be achieved. The role of the planner-designer then, must aim for a basic design framework that is simple and flexible enough to make possible any required changes in the process of rapid urbanization.

The urban designer must therefore (1) possess creativity, (2) possess a personal commitment to the city as a way of life and of urbanism as an expression of man's aspiration; these objectives require a positive attitude toward a city's involvement, (3) be exposed to the various interrelated disciplines of social and physical sciences, (4) have experience through maturity the value

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[14] Morton Hoppenfeld, "The Role of Design in City Planning," Journal of The American Institute of Architects, (May, 1961), pp. 41-44.

refined in the constant involvement and process of design and decision-making. So that the plan-design product will be an acceptable approach, it should follow a logical sequence (Fig. 37).

Correlation. The elements of a city are to some degree interrelated and nothing is absolute. Accepting this view, one realizes that all creative arts must bear correlation to the immediate environs and to the city as a growing and constant changing organism.

Completion. A good design entails completion and unity within itself, and its ability to grow, change, and to merge with previous developments.

Process function. An effective designer must understand the part of the changing process in which the product of his work represents a phase. The continuous process of city building and design requires knowledge of the various interrealted disciplines.

Symbolism. Conscious symbol making is important since it enables a city to represent a state of civilization.

Programming. A designer must be part-and-parcel of a program-making process combined with a feed-back based on empirical knowledge.

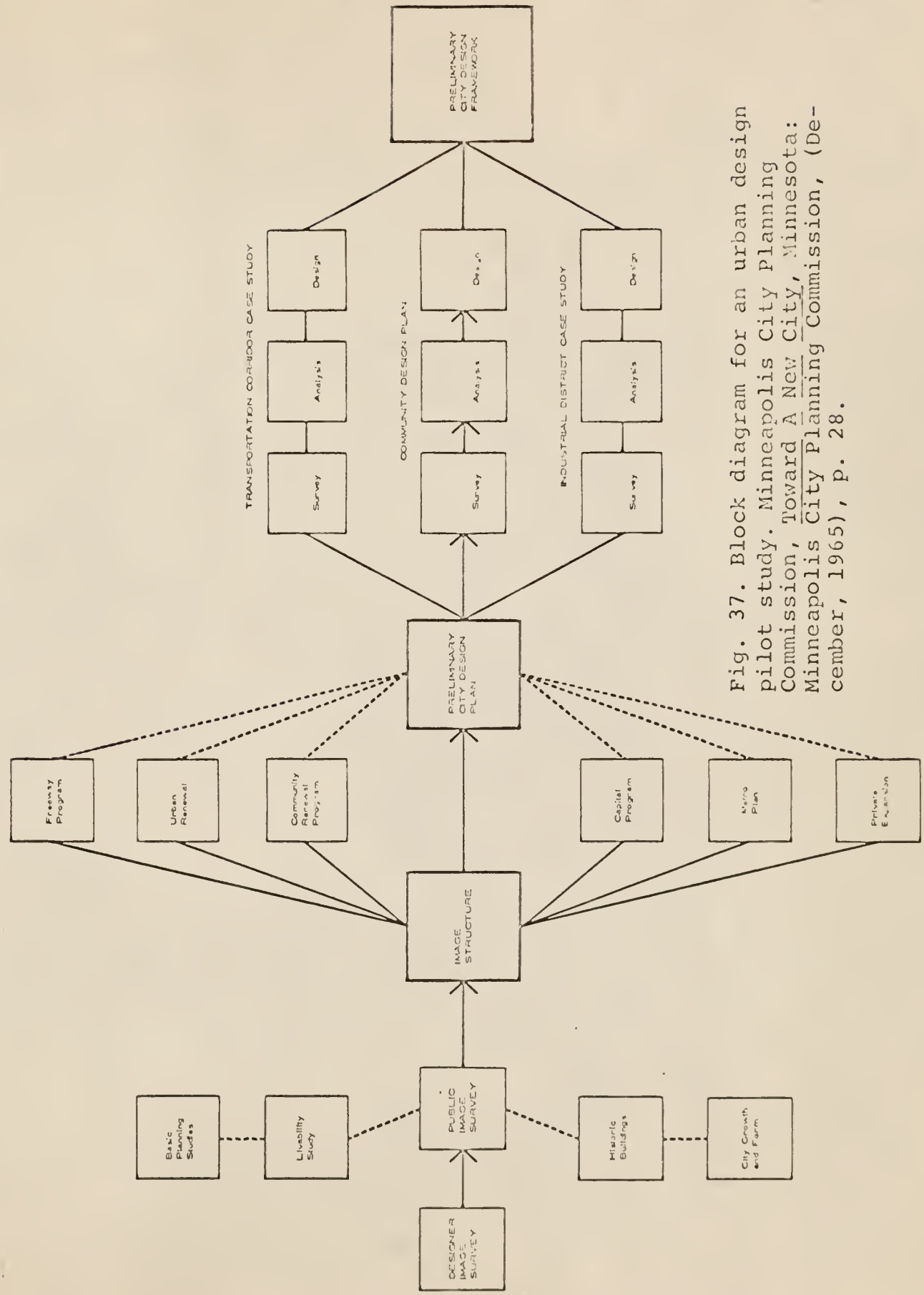

Fig. 37. Block diagram for an urban design pilot study. Minneapolis City Planning Commission, Toward A New City, Minnesota: Minneapolis City Planning Commission, (December, 1965), p. 28.

CHAPTER VII

CONCLUSION AND RECOMMENDATIONS

Throughout the research for this report, the writer has found that much attention is now being paid to our current urban problems. The Federal government has played an important role by providing financial grants and technical aids through urban renewal programs, Demonstration City, and other city rebuilding projects. Independent non-government-aided programs carried on by the cities themselves have also taken a significant step forward in improving the living standards of their citizens.

It is the conviction of the writer that the varied aspects of urban problems should not be based merely on long-range economic and population projections. Although long-range planning must be encouraged, a period exceeding twenty years does not seem to warrant drawing any logical conclusion concerning such rapid population growth, urbanization, and the multiplicity of social problems. Ira M. Robinson has wisely proposed a middle-range planning system to replace this traditional and somewhat unrealistic approach. A period of five to ten years appears to offer the possibility of a more effective solution with subsequent updating during the intervening years.[1] On the other hand, in the rebuilding or building of a city, many important aspects of design principles cannot be achieved if we become over zealous merely for the sake of improvement without having any concrete objectives in mind.

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[1]Ira M. Robinson, "Beyond the Middle-Range Planning Bridge," Journal of the American Institute of Planners, (November, 1965), pp. 304-309.

So long as a city continues to grow, it will encounter many problems. While not denying the fact that many other factors are equally important, the physical development and environment of a city must be an integrated and unified whole to meet the requirement of our present ways of living. But physical design alone cannot hope to achieve a pleasant, a progressive, and an economically well-balanced city. It is the collaborative efforts of all the professionals -- architects, planners, landscape architects, engineers, sociologists, economists, political scientists, and administrators -- who must be solicited.

Today, many American cities suffer from visual blight and decay in spite of the magnificent settings and historical growths. In an affluent society, cities are rapidly changing and growing. Since the well-being of citizens is affected by the conditions of a city's surrounding environment, and since the physical character of a city has a great bearing on the economy, designers have a major role in creating a healthful urban scene (Figs. 38, 39).

In our age of mass production and mass consumption, technological advances have provided us with many new materials. New planning techniques have enabled us to build more buildings and faster than ever before. In our haste to build for the immediate future, there must be fresh innovations and ideas used to promote interest and to develop aesthetic qualities in urban design. Thus quality must replace quantity for design excellence. Urban design, besides being aesthetically pleasant and functional, must be imbued with democracy, sensitivity, and restraint. With the

Fig. 38. Aerial view of Fort Worth before rehabilitation.

Fig. 39. Aerial view of Fort Worth Tomorrow.

present various forms of governmental aids available, there has never been a better opportunity to develop new planning methodology and design techniques. The quality of urban design must aim to:

1. ensure comfort, diversity and efficiency.
2. harmonize the natural and man-made forms in order to achieve a vivid, coherent, and meaningful image, for the residents and visitors alike.
3. be specific enough in terms of solving the immediate problems, yet flexible enough to meet any future changes and requirements.
4. be imaginative, logical, fresh in ideas and design approach.
5. enable public improvements to serve as an incentive for encouraging private investments, both industrial and non-industrial.

About the quality and spirit of a city, Mumford has this to say:

> The culture of cities is in no small part the culture of man...

Perhaps, an important motivation will be for designers to ask themselves what the citizens expect of their city's living environment; what measures should be taken to create a visually attractive and economically sound city; what basic design issues now face the city; what the city's cultural and historical values are; and how the public agencies and private interests can best work together to effectively achieve a satisfactory end product?

Designers and planners must learn from their previous shortcomings how to prevent future reoccurrences. Indeed, today's urban problems present a serious threat to a city's healthy growth, to the welfare of its citizens, and to the nation. The future of a city - its survival and decline - is partly the responsibility of physical designers and social scientists who must better understand one another in their collaborative effort to perform this responsible role. With this understanding in mind, the urban design process must then function within such a framework that will:

1. ensure the co-ordinated effective decision-making process undertaken by public agencies and private developers.
2. prevent urban ugliness and dilapidation, and strive to attain beauty and aesthetic qualities.
3. effect a better communication (relationship) among city officials, physical designers, and the citizens at large.
4. establish a definite set of goals as guide lines to achieve the objectives.[2]

Until such a time as these proposals can be realized, the possibility of improving the quality of urban design in American cities is rather remote.

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[2]For further explanation on "The Formulation of Goals," see Appendix C.

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APPENDIX A

Definition of Terminology

As is common in the use of the English language, ambiguity in meaning often arises, complicated further by "technical jargon." Since many of the terms used in this study will necessarily carry a broad interpretation in meaning, those that are of greater importance will be briefly discussed as follows:

Aesthetics: Collier's Encyclopedia defines it as:

> The systematic study concerned with art and beauty in their essential meanings, values, and relations. In traditional and popular thought, art and beauty have often been closely linked with each other, the common belief that artists are the makers of beautiful things and that good taste reserves the term art for works that are beautiful.[1]

In general, aesthetics means the study of elements that are beautiful. It implies then a sensitiveness toward art, design, and the philosophy of beauty. Also present must be a balance of proportion, rhythm of material, color harmony and consciousness of space. All these are the qualities that produce an aesthetic feeling of which the designer must be aware.

City Planning: Planning is a decision process concerning the immediate and long-term decisions which affect the overall structure of the community. It is the end product of co-ordination of the various disciplines of sociology, economics, demography, politics, and physical sciences. As defined by the American

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[1] Collier's Encyclopedia, (New York: P. F. Collier & Son, 1956), Vol. I, p. 136.

Institute of Planners, city planning implies that:

> Its particular sphere of activity shall be the planning of the unified development of urban communities and their environs, and of states, region, and the nation, as expressed through determination of the comprehensive arrangement of land uses and land occupancy and the regulation thereof.[2]

Community: Hallenbeck refers to the community as being part of a city.[3] However, Lloyd Allen Cook states that:

> A community is a population aggregate, inhabiting a contiguous territory, integrated through common experience, possessing a number of basic service institutions, conscious of its local unity, and able to act in a corporate capacity.[4]

Correlation: Webster defines correlation as meaning the bringing of things together that have reciprocal or mutual relations.[5] In Collier's Encyclopedia, correlation is defined as a term used for a variety of measures to indicate the extent of relationships, or degree of correspondence between two or more sets of observations.[6]

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[2]Harold MacLean Lewis, Planning The Modern City (New York: John Wiley and Sons, Inc., 1949), p. 8.

[3]Wilbur C. Hallenbeck, American Urban Communities (New York: Harper & Brothers, 1951), p. 32.

[4]Lloyd Allen Cook, Community Backgrounds of Education (New York: McGraw-Hill Book Company, 1938), p. 27.

[5]Webster's Third New International Dictionary, (Massachusetts: G. & C. Merriam Co., 1961), p. 511.

[6]Collier's Encyclopedia, op. cit., p. 31.

Expression: The term expression means any revelation in one of the many forms of communication. It is an act, a symbolism, or a process of representing or making manifest by means of language, opinion, feeling, and action in the plastic arts.

Integration: Integration may imply a social process. Generally it is taken to mean a tendency to form into one complete whole, or to harmonize and to unify in terms of design expression.[7]

Organic Order: The term, "organic", is explained by the late Frank Lloyd Wright as follows:

> 'Organic' should be a daily working concept of the great 'altogether' wherein features and parts, congenial in form and substance, are applied to purpose as congenital. Such then is the true significance of the word 'organic' we often refer to as 'entity.'[8]

Organic order or intrinsic order then denotes the whole, integrated, entity, in peaceful harmony. This is a quality which designers must strive to obtain.

Region: The broad concept of a region implies that it is an area having homogeneity in terms of land, farming, people, commerce, or the general sphere of influence of a city.[9]

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[7]Webster's Third New International Dictionary, op. cit., p. 1174.

[8]Frank Lloyd Wright, The Living City, (New York: Horizon Press, 1958), pp. 145-146.

[9]Robert E. Dickinson, City and Region, (London: Routledge & Kegan Paul Limited, 1964), p. 3.

Simonds defines a region as:

> a large and generally unified, but loosely defined, geographical area that provides the supporting base for one or more centers of population concentration.[10]

Spiritual Harmony: Spiritual harmony is an inner quality which comes from within oneself in the pleasure and agreement produced from work. Simonds infers that harmony need not necessarily imply that everything should blend with or be lost in the environment. However, if the end product seems to blend or harmonize with the natural environment, it is then the happy result of an inspired design.[11]

Urban Area: Generally we tend to imply that an urban area is a large developed territory or geographical area consisting of one or more municipalities. We should also bear in mind that an urban area is a large complex. It consists of various heterogeneous characteristics in terms of population, socio-cultural background, and diversified life-styles.

Urban Design: Many variations of definition have been given to urban design. A fairly clear statement has been given by Garret Eckbo:

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[10]John Ormsbee Simonds, Landscape Architecture, (New York: McGraw-Hill Book Company, Inc., 1961), p. 209.

[11]John Ormsbee Simonds, Ibid., pp. 22-23.

> Urban design concerns and deals with the whole urban complex, the entire range of urban patterns, ranging from downtown congestion to ex-urban scatteration. It embodies a way of thinking and feeling about the physical environment that is essential to counteract the fragmentation of facilities and existing design disciplines.[12]

Paul Spreiregen further clarifies the meaning of urban design by saying:

> A city is an assemblage of buildings and streets, systems of communication and utilities, places of work, of habitation, of leisure, of meeting. The process of arranging these elements together functionally and beautifully is the essence of urban design. Urban design is therefore a plastic art concerning how things appear and operate.[13]

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[12] Garrett Eckbo, "Urban Design-A Definition," Journal of the American Institute of Architects, Vol. XL, No. 3, (September, 1963), p. 38.

[13] Paul D. Spreiregen, "Land-Form, City Life and Urban Design," Journal of the American Institute of Architects, (March, 1963), pp. 59-74.

APPENDIX B

THE METHODS OF AESTHETIC CONTROL

THE METHODS OF AESTHETIC CONTROL

1. City Wide Architectural Control: As found by the Cincinnati City Planning Department, the legislative control of design on a city wide basis produces a negative effort and contributes little toward aesthetic control.[1]

2. Fine Arts Commission Approach: This form of control comprises a commission that reviews all proposed design on public projects and special districts. The members of the commission have no legislative power other than persuasion. This method of control is not satisfactory since fellow architects usually are reluctant to criticize the work of other architects.[2]

3. Municipal Design Programs: The Municipal Design Programs are control methods which vary from public education programs to those of street-furniture, and to street-tree programs conducted by private and public agencies.[3] An active program was undertaken by the Boston Street Furniture Program in which a team of specialists comprising architects, landscape architects, engineers and industrial designers all

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[1]Cincinnati City Planning Commission, General Aesthetic Control Survey, (1963), p. 12.

[2]St. Louis Planning Commission, General Aesthetic Control Survey, (1963), p. 57.

[3]Metropolitan Dade County Planning Department, General Aesthetic Control Survey, (1963), p. 36.

collaborated to produce detail designs and working drawings for the street-furniture program.[4]

4. Planned Development Districts: The "Planned Development Zoning" approach allows a margin of design freedom outside a city's zoning restriction. Within this framework, a design achieves more reality in relation to the required objectives.[5]

5. Special Districts: Special districts are the adoption of "special" scenic, historic or entrance districts within the zoning ordinance. A private or public commission is formed to review all proposed designs to ensure better results. One disadvantage is that mediocre and stereotyped designs are often produced, since the method is based on the value judgement of the commission whose members may differ widely in aesthetic taste and appreciation.[6]

6. Visual Surveys: This method entails a careful and detailed field observation. All information and data gathered are recorded on maps and supplemented by notes, sketches and photographs. Such a visual survey is a means of determining a city's existing visual elements and what other elements may

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[4]Boston Redevelopment Authority, General Aesthetic Control Survey, (1963), p. 7.

[5]Harry M. Weese, "Random Thoughts on Architectural Controls and Their Effects on Cities," Journal of the American Institute of Architects, (June, 1962), p. 56.

[6]San Francisco Planning Commission, General Aesthetic Control Survey, (1963), p. 52.

be added to improve further the aesthetic character of a city.[7]

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[7]City Planning Commission, "Analysis of City Image," Toward A New City: A Preliminary Report on Minneapolis' Urban Design Pilot Study, (Minnesota: Minneapolis City Planning Commission, 1965), p. 7.

APPENDIX C

The Formulation of Design Goals

GOALS

The last and not the least important procedure of urban design is to establish a set of goals regarding what kind of city do the citizens want. Without definite goals, there is no means of judging how well a plan or design solution has been made for alternative courses of action and to select the most logical approach of solving the problems. Without well-defined goals, there is the inherent danger of planning and designing merely for an expedient solution and not for the best interests of the people. In a democratic society, the formulation of goals should not be determined alone by the professional planners and designers, but in collaboration with the public upon whose behalf a city's design or plan is being prepared.[1]

In the search for these goals, planners and designers again must ask themselves what is the purpose of the city, how should the city serve its people, mankind and even the nation? The Twentieth century cities have become so complex, large, urbanized, that they have grown out of control. The development of a city must include variety, individuality, culture, and personality. Hence, even before one attempts to plan or design a city, the formulation of goals must first be established to serve as a guide in the decision-making process.

The establishment of goals requires careful consideration of the pros and cons. They cannot be too specific in excluding any

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[1]Eugene T. McGraw, "Economic Aspects of Urbanization," Summer Institute, Kansas State University, August 22nd, 1967.

potential possibilities, and must be flexible, logically consistent, and comprehensive enough to represent all the required values from the smallest scale design project to the general form of a proposed future metropolis.

What then should these goals be? The following proposals are a few which the writer feels are currently lacking, and can be incorporated in an urban design project:

Adequacy. At any state of a city's development, there should be adequate land areas and the required community facilities to meet any future demands as a city continues to grow.

Accessibility. A city should be so designed for convenient intraurban and interurban communication through better designed and more efficient transportation networks.

Diversity. A well designed city should offer a variety of choices to cater for the citizens' pattern of living, needs and wants. Diversity implies variety of housing types to rent or to buy; differences in architectural style and in the surrounding atmosphere of residential neighborhoods to suit the individual taste and means; diversity in entertainment, shops, and recreational facilities.

Identification. A city should distinguish itself from a mere group of building structures or population concentration. It must form a center where the people can have a feeling of belonging, and a sense of participation in community welfare.

Legibility. A city should possess an environment for easy visualization and orientation. Legibility can be achieved by means of dividing a city into recognizable areas with physical features and man-made forms.

Singularity. Singularity can be achieved by protecting and preserving a city's natural features and topography to enhance its physical image.

Stimulation. One quality a city should have is being able to excite a man's mind and spirit. The mere activity and busy life of a city, without stimulation, serves only to create confusion and fatigue. Thus planners and designers must avoid the aspects of negative influence, and must promote greater comfort and adequacy in the material aspects of our modern city life.

Health, Safety, and Comfort. A good city life should ensure adequate provision of community facilities and safety through legislative enforcements to minimize air and water pollution. Safety can be improved through well-lighted streets, well-designed roads and intersections for safe travelling. A healthy living environment can be secured through zoning and code enforcements to restrict dangerous and noxious industries to the specified areas. Comfort for the citizens is a result of the rising living standard and economic level. Zoning should protect residents against nuisances, noises, and disturbing activities.

Efficiency. Efficiency is achieved when we have all the other desired goals previously mentioned. However, in any set of established goals, there are bound to be some shortcomings necessitating a give-and-take attitude between achieving the goals desired and the goals that can be afforded. A satisfactory city plan and design will itself produce greater efficiency.

Beauty. The successful pursuit of the foregoing objectives will produce qualities in a city essential to achieve beauty in the end product. In beauty there must be meaning and order. It must be capable of appealing to our senses and our minds in order to inspire and to stimulate.

It must be understood that some of the goals may overlap and reinforce one another. In other areas, they will tend to conflict. Hence we have a priority choice among goals. The choice in priority presents a problem since no consensus can be achieved that will generally satisfy everyone.

AN EVALUATION OF URBAN DESIGN: ITS CONCEPT AND THEORY AS APPLIED TO CITY PLANNING

by

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AN EVALUATION OF URBAN DESIGN: ITS CONCEPT AND THEORY AS APPLIED TO CITY PLANNING

With rapid population growth within the city itself and in-migration, many American cities are experiencing two forces of influence:

1. the centrifugal force tending toward decentralization evidenced by the out-migration of the middle-income group to the urban fringes and the suburbs causing extensive urban sprawl.

2. the centripetal force causing concentration in a city's central core areas predominantly occupied by the lower socio-economic group. Acute traffic congestion, physical decay of building structures, areas of blight and slums are the ultimate results. Many cities therefore lack adequate community facilities and working conditions in these areas.

Based on the premise that a congenial urban environment of a well-integrated, unified, and orderly city exerts a profound psychological effect on the well-being of the citizens, this study attempts to analyze the various aspects of urban design and to determine what design elements need be used to achieve or to improve further a city's healthful development. Although the successful cities of the past offer many design principles and philosophies, these qualities cannot all be blindly emulated by modern designers, because the Twentieth Century man lives in a machine age, lives in a different societal structure and a different life pattern.

Today's cities have become complex in terms of the social, economic, demographic, political, administrative and physical implications. Although urban design is one among these many important aspects, a city's physical well-being by itself cannot provide a satisfactory solution to the multitude of urban problems. These problems must be approached consciously and collaboratively by all the professionals - the sociologists, economists, architects, lanscape architects, engineers, political scientists, administrators, city officials, and the government.

From the standpoint of urban design, how designers can achieve a better end product has been the main challenging issue of this report. Who should the urban designer be? What are his professional qualities? What is his role in this important mission? How should he function as part of a team? These are the stark realities an urban designer must face.

In dealing with the city, human lives and social values are involved. Physical designers must therefore possess a deep understanding for the needs and wants of the ordinary man. A city plan or design should then be executed on behalf of the people of the community for it is these people who will live in the city and who will share the experience of the urban environment that has been created for them.

The Industrial Revolution, the advancement of new construction methods, and the use of new building materials have greatly altered the cityscape. Yet, how many people actually understand the city, its structure, social and physical implications? Can it be assumed

that the urban environment is in part a conditioner of our urban society? Today, there are several reasons for the failure to achieve a visually and emotionally satisfying urban environment. Part of this responsibility for the "ugly American city" rests upon physical designers. What then should be the pragmatic approach to achieve better urban design?

The current urban renewal programs and Demonstration City projects have indicated an awareness and are a significant step forward to provide a better city life. The citizens' welfare is of direct concern to the nation. A healthy city development both aesthetically and functionally is one avenue toward achieving this goal. Quality in design must be emphasized. This process requires the continual interplay between synthesis and analysis. The most important aspects of good urban design are its logical and functional approach toward predetermined goals combined with the boldness, talent, intuition, imagination, and creativity of physical designers.