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THE APPLICATION OF SELECTED SOCIOLOGICAL CONCEPTS TO CITY PLANNING

A THESIS

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SUMMARY

The purpose of this thesis is to systematize certain concepts of community life so that both the practicing planner and the planning student may have a better understanding of the sociological aspects of community problems and of the social implications of planning programs. These concepts are summarized in this section.

Urbanization

A careful look at the past will show that the urban revolution was made possible by: (1) the agricultural revolution which produced a surplus of food and thus permitted large numbers of persons to engage in non-agricultural activities; (2) the utilization of steam as a source of energy to power the machines which were used in industry and in transportation; (3) the adoption of electricity and the internal combustion engine as sources of energy, both of which permitted cities to decentralize; (4) technological developments which made possible more efficient production and land utilization; and (5) improved techniques of health and sanitation which enabled man to live in large concentrations without fear of disease epidemics.

Community Activities

Communities are made up of interrelated and overlapping social groups engaged in those vital activities which are necessary to satisfy their many needs. These activities may be divided into six groups: (1) educational activities which are designed to transmit the behavior patterns, attitudes, ideas, values, and working skills of the group from generation to generation; (2) recreational activities which are designed to satisfy the leisure-time needs of the community; (3) productive and distributive activities which are designed to satisfy the maintenance needs of the community; (4) transportation activities which serve to move both people and goods; (5) governmental activities which have the responsibility of maintaining order, caring for the city services and public utilities, sponsoring preventive medicine programs, controlling crime, and providing welfare service and public-housing facilities; and (6) housing activities which must satisfy the dwelling needs of the various groups and individuals within the community.

Physical Needs

The physical needs of the various groups within the community fall into three categories: (1) a need for special facilities, (2) a need for close relationships, and (3) a need for segregation.

Need for special facilities.--Each of the various activity

groups within the community requires physical facilities of a more or less unique design to satisfy their particular needs adequately. When it is considered that there are a number of different groups which require facilities for housing, recreation, education, and transportation; the implications of this concept are clear.

Need for close relationships.--Certain types of social groups and certain types of physical structures function more efficiently and more effectively when they are closely associated. The relationship which should exist between an expressway and a complementary street pattern is an illustration of this concept.

Need for segregation.--Within the community there are a number of groups and activities which are mutually incompatible when located together. If these groups and activities are to function properly they must be separated.

Community Change

The space needs of the community may change either as a consequence of a numerical increase in any of the activity groups or as a consequence of the adoption of a new method of meeting an old need. Either of these changes requires a redistribution of space. This is accomplished either by modifying the existing structures or by redistributing the land within the community to make room for additional structures. Redistribution of land is accomplished by either

succession or decentralization. Succession is the process whereby an activity or group takes over an area occupied by another activity or group, while decentralization is the process whereby an activity or group moves into the unoccupied urban fringe areas.

A Planning Perspective

In terms of the concepts which are discussed, it may be assumed that many of the problems of the urban community are due to the inability of the various activities to function properly because of the limitations in the physical structures. These limitations may assume one of three forms: certain of the physical structures may not be adequate to perform their designated functions; the proper association of complementary structures may not have been achieved; or the proper segregation of incompatible activities or groups may not exist. The function of planning, therefore, is to devise methods of overcoming these limitations.

CHAPTER I

INTRODUCTION

The purpose of this thesis is to systematize certain concepts of community life in a manner that will be useful to both the practicing planner and the planning student in analyzing community problems and in formulating planning programs. This introductory chapter will be concerned with a discussion of a few aspects of the urbanization process.

Urbanization

Evolution of Cities[1]

Man has been on this earth more than two-hundred thousand years. For most of his life he was undergoing evolutionary changes in his physical and organic make-up. Some twenty-five thousand years ago, man learned to cultivate plants. As a consequence, permanent settlements became possible, for man now had a stable and relatively permanent source of food. Permanent settlements made possible a more positive program of cultural innovations and these gave rise to new needs and new activities, which in turn, stimulated

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[1]Adapted from Cecil Stewart, A Prospect of Cities, London, Longmans, Green and Company, 1952, pp. 1-3.

further cultural expansion. From these early villages, the large cities of today slowly evolved, the product of over two-hundred thousand years of cultural accumulation.

In practical terms, those events which precipitated the urban revolution have propogated more change in the past three-hundred years than had occurred in the previous several hundred thousand years. Nevertheless the accumulation of culture which gave rise to cities was a necessary prerequisite to their development.

Factors in Urbanization

A careful look at the past will show that those conditions which made possible the urban revolution may be divided into five categories: (1) agricultural surplus, (2) utilization of steam, (3) electricity and the internal combustion engine, (4) technology, and (5) sanitation.[2]

Agricultural surplus.--A necessary antecedent to the emergence of cities was the development of agricultural techniques which could produce a surplus of food in sufficient quantity to permit the concentration of large numbers of persons engaged in non-agricultural activities. In addition, the means of an agricultural production had to be of a design that would permit the release of labor from the soil to engage in these

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[2]National Resources Committee, "The Process of Urbanization: Underlying Forces and Emerging Trends", in Paul K. Hatt, and Albert J. Reiss, (editors), Reader in Urban Sociology, Glencoe, Illinois, The Free Press, 1952, pp. 133-136.

activities. When these two conditions were satisfied the urban revolution became possible. Too often the fact is overlooked that the agricultural revolution preceded and to a considerable extent made possible the industrial revolution and the subsequent urban revolution.[3] Without the agricultural surplus, large concentrations of population were not possible. On the other hand, without improved agricultural techniques a labor supply to engage in non-agricultural activities was not possible. The agricultural revolution was the nucleus of urbanization. From it, all that came after has developed.

The utilization of steam.--Although it has been suggested that the agricultural revolution was the nucleus from which urban civilization has developed, the great cities of today would not have been possible without the series of economic and social changes that has been identified as the industrial revolution. Probably the most important series of inventions to come out of this revolution, as far as civilization is concerned, were those which made possible the utilization of steam as a source of energy for power machines. As these inventions were adapted to transportation equipment, it became possible to transport material and goods great distances in relatively short periods of time. Parenthetically, the immobility of people and goods had been the major factor in

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[3]Warren S. Thompson, Population Problems, New York, McGraw-Hill Book Company, 1953, p. 394.

the restricted size of early cities.[4]

Steam powered machinery was also used to produce agricultural implements which in turn increased the efficiency of agricultural production, and thus made possible the release of additional labor from the soil. This labor force tended to migrate to the industrial centers in search of employment opportunities. This exodus to these centers has been a major factor in and a consequence of the industrialization which was initiated by steam power and then speeded by electricity and the internal combustion engine. When it is considered that only 5.1 per cent of the United States' population lived in cities of 2,500 and over in 1790, while 57 per cent of the population lived in cities of 2,500 and over in 1950, the extent of this exodus is readily seen.[5] Other statistics which point up the increased agricultural efficiency are those concerning employment figures and productivity per worker. In 1890, 71.8 per cent of all persons gainfully employed in the United States were engaged in agriculture; in 1950, the per cent was only 12.8. In addition, each agricultural worker in 1820 provided food for 4.5 persons, while in 1950 he provided for 24.[6]

In order to properly utilize steam power, machinery

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[4] Ibid., pp. 388-389.

[5] Stuart Queen, and David Bailey Carpenter, The American City, New York, McGraw-Hill Book Company, Inc., 1953, Table 8, p. 57.

[6] Ibid., p. 62.

must be close to the source of steam generation. Since steam can be produced more economically in large quantities, industries which made use of this type of power in their operations tended to group in relatively compact areas. As steam could not be economically adapted to local transportation needs, the labor force which served these industries tended to concentrate around this industrial core. This is the explanation for the centripetal development of early industrial cities.

Industrial concentration attracted other industries and stimulated the development of complementary services, all of which were concentrated within the core area of the city. In addition, transportation facilities were necessary to carry materials to the plants and finished products to the market. Hence, the core area of the city was often the converging point of main transportation lines.

Electricity and the internal combustion engine.--While steam had been responsible for the centripetal development of cities, the internal combustion engine and electricity were largely responsible for their centrifugal expansion. When the internal combustion engine was adapted to individual carriers, the distance to work, from place of residence, was no longer a major factor in residential location. As a consequence, the central city population tended to move to the suburbs seeking the amenities which were not possible in the congested central city.

Its increasing use as a source of energy for power

machines gave electricity a significant role in urban decentralization. Where previously it had been necessary for machines to be near the source of energy, electricity made possible the separation of the source from the machine. Thus industry could locate hundreds of miles from an electric generation plant and still benefit from the energy it supplied.

The use of electricity as a means of communication has developed to a high level of efficiency only within the past three or four decades. There can be little doubt that this has been a significant factor in integrating our national culture, for, as Landon has observed, "as distance shrinks, the area of economic interdependence expands, which in turn, changes human attitudes, customs and social institutions."[7]

Technology.--Technology has had a tremendous impact on urban development. The utilization of the internal combustion machine, and electricity, all were its products. These in turn have stimulated other developments which could be used to facilitate production in other activities. Agriculture has improved as a consequence of the numerous technological achievements in agricultural equipment. Automobiles became plentiful and cheap as a result of those technological achievements which made possible the processes of mass production. Airplanes, electronic devices, mass transit equipment, synthetic food processing and an astronomical

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[7]Charles E. Landon, Transportation, New York, William Sloan Associates, Inc., 1951, p. 4.

number of other major and minor technological developments have increased man's interdependence with man. Where once the city was dependent on the agricultural productivity of its hinterland, today because of technology, there exists such a mutual interdependence that neither can afford to undermine the other.

Sanitation.--It is impossible for man to live in large concentrations without proper sanitation facilities, as disease epidemics in various undeveloped nations of the world have shown. Improved sanitation and health techniques have made large population concentrations possible. In addition, such improvements have played significant roles in the growth of population throughout the world.

Future Prospects

These five factors--agricultural surplus, steam utilization, electricity and the internal combustion engine, technology, and sanitation--have been largely responsible for city growth and city land use patterns. However, cities have yet to realize the full potential of technology and improved communication. In terms of the present level of technology, it is difficult to understand why cities persist in maintaining a city pattern that developed in the steam age. This is particularly true of those forces which encourage the concentration of services in the central business district. Those conditions which originally gave impetus to the crowding

in the central business area no longer exist. However, the inertia of this concentration continues to enhance the dominance of this central core. While it is true that industries are now locating plants in the fringe areas of the city, it is also true that such industries still persist in locating their offices in the central business district. This is an anachronism which cannot be reconciled in terms of the present day development of communication facilities. In the steam age, it was advantageous for such offices to locate near the banker and the buyer, but with the advent of the telephone, the telegraph, and air mail, this close proximity of location is not always necessary.[8]

As the city adapts itself to technological change and the advantages it makes possible, there will probably be a large scale decentralization. The threat of atomic warfare may be the impetus that is necessary to remove the inertia that persists, or man may come to realize the futility of concentrating population to the point where the attainment of the essential amenities of life are impossible.

Regardless of the nature of that force which effectuates the process of decentralization, it does appear that such a change is in the making. Only the most visionary men can possibly conceive the future pattern of cities. Nevertheless it appears likely that in the future the great

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[8]Thompson, op. cit., p. 399.

metropolitan areas will tend to develop in a multi-nuclei fashion, with each nucleus performing a specialized function. Thus there will be nuclei of industries; of office buildings; of commercial buildings; of residential structures and complementary services structures such as schools, shopping centers, and churches; of governmental structures; and a multitude of other nuclei engaged in those vital activities of community life.

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CHAPTER II

COMMUNITY ACTIVITIES

Communities are made up of interrelated and overlapping social groups engaged in those activities which are necessary to satisfy certain needs. This chapter will be concerned with a discussion of these activities. First, however, it will be helpful to describe briefly a few of the needs which are basic to all human beings.

Human Needs[1]

All human beings must satisfy certain biological needs which have a direct bearing on the preservation of life such as nutrition, shelter, sex gratification, procreation, and health. In addition, human beings have social needs which must be satisfied including social relations, new experiences, mobility, and self-assertion. Finally, there exist certain psychological needs which have developed as social life has become more complex. These include a need for wealth, power, prestige, and status. Parenthetically, it may be observed that the psychological and social needs play a more important

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[1]William L. Slayton, and Richard Dewey, "Urban Redevelopment and the Urbanite", in Coleman Woodbury, (editor), The Future of Cities and Urban Redevelopment, Chicago, The University of Chicago Press, 1953, Part III, pp. 312-320.

role in the actions of the individual when the biological needs are easily satisfied. For example, when the need for shelter is easily satisfied, the type of shelter, in terms of its prestige value, becomes important.

Community Activities

Within the urban community a number of activities are in progress which are designed to satisfy certain group needs. These activities may be divided into six categories: (1) educational activities, (2) recreational activities, (3) productive and distributive activities, (4) transportation activities, (5) governmental activities, and (6) housing activities.

Educational Activities[2]

Education is designed to transmit knowledge. Without this transmission, the young can not learn those behavior patterns which are essential to group life. If chaos is not to reign, these behavior patterns must exhibit a certain amount of uniformity. This uniformity can only be achieved through a carefully designed conditioning program which is initiated in early childhood.

While it is necessary to educate the young, the importance of adult education should not be overlooked. Conditions change, and thus the means of meeting these conditions

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[2]J. O. Hertzler, Social Institutions, Lincoln, Nebraska, The University of Nebraska Press, 1946, pp. 132-134.

change. Social progress makes old skills obsolete; education must pass on new skills.

If educational activities are to be successful, they must give the individual at least a minimum knowledge of those skills and concepts which are necessary for an intelligent insight into the various problems of group life. Furthermore, this knowledge must bear some relationship to existing conditions if it is to be useful. The failure of society to educate properly its members is one reason for the development of many problems confronting society today.[3]

Education takes place on many levels. It is found in the family groups. It is carried on through the various media of communication. It takes place in a formal manner under the auspices of private groups. It is formalized in the public school system.

In terms of education, the planner is concerned primarily with the public school system and the physical facilities which are needed by this system to perform its designated function properly. Specifically, the planner is concerned with the problem of locating public school facilities throughout the community in a manner that will facilitate the satisfaction of public educational needs. Not only must these facilities be properly located, but they must also be designed to accommodate the school population within the

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[3]John E. Nordskog, et al., (editors), Analyzing Social Problems, New York, The Dryden Press, 1950, Chap. 9, pp. 434-483.

community, in the present as well as in the future.

Recreational Activities

As mechanization developed, as working hours decreased, as population concentrated, as open space declined, and as family size decreased; the need for leisure time activities took on a new importance. Recreational activities are designed to satisfy the leisure time needs of the community.

Physical and mental health depend to some extent on the availability of recreational opportunities. Social maladjustment within localized areas of the community is sometimes due to the lack of proper leisure time activities. This is particularly true in terms of delinquency. In delinquent areas parks, playgrounds and other suitable recreational facilities are often completely lacking.[4]

Recreational activities are an essential part of community life. To be effective, such activities must be adapted to the particular needs of the community. As a consequence, the planner must not only recognize the need for this activity, but should also analyze the recreation problem in terms of all of the various population groups of the community and attempt to satisfy the needs of each of these groups. Thus the very young, the teenagers, the young adults, and the middle-age and the old-age groups, the male and the female,

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[4]Donald R. Taft, Criminology, New York, The Macmillan Company, 1950, p. 652.

all have specific needs both as to type and as to location of recreation facilities. However, it should be recognized that the facility is not enough. Organization of the recreational processes is a more basic consideration. For example, recreational opportunities for delinquents were often found to be inadequate because of the lack of trained recreation leaders, even though the most modern facilities were available.[5]

Productive and Distributive Activities

The economic life of the city is of paramount importance for without it the city could not exist. It involves the production of goods and services which are necessary to satisfy the needs for food and shelter. It involves commerce which distributes these goods and services to the consumer in exchange for money. It includes the various employee groups and employer groups. Economic affairs are largely in the field of private enterprise. However, public enterprises must necessarily engage in economic activities, sometimes for profit, but more often in a non-profit capacity.

As cities have grown, needs have tended to increase, and economic activities have become more specialized in order to meet these needs. The city then becomes a vast complex of interdependent economic groups each striving to satisfy certain needs, but each depending on the other to provide certain

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[5]Ibid., p. 650.

goods and services.

One of the most significant phenomena of modern economic life has been the tendency of business and manufacturing enterprises to consolidate in order to gain a more effective control over the market. In addition, labor has organized in order to achieve certain objectives. Through its various organizations, labor has been able to exert tremendous political and economic pressure. Finally the industrialist and the business men have formed powerful associations. These associations play a significant role in the formulation of economic and political policies at both a national and a local level.[6]

The land-use pattern of the city is largely a consequence of economic competition for location. The land-use pattern has been attributed to the fact that a given activity will occupy that site which more nearly satisfies its needs in terms of its capacity to pay. Each activity, therefore, may be regarded as having in mind a ceiling price it can afford to pay for any given site. Thus it will take that site which is within this ceiling price.[7] Unfortunately, however, this location is not always desirable in terms of the activity, the community or the other activities within the community.

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[6]Noel P. Gist, and L. A. Halbert, Urban Society, New York, Thomas Y. Crowell Company, 1948, 3rd edit., pp. 383-385.

[7]Edgar M. Hoover, The Location of Economic Activity, New York, McGraw-Hill Book Company, Inc., 1948, p. 90.

One of the primary functions of the planning process is to design methods through which the various land-use groups can acquire that land which is best suited to their particular needs. One method by which this objective may be accomplished is through zoning.

The planner is concerned primarily with two aspects of economic life: productive activities, and distributive activities.

Productive activities.--Productive activities are designed to convert raw materials into products which are suitable for human use and consumption.[8] The needs of production are many, but, essentially, they include raw materials, land, labor, power, markets, profit, and transportation.

Production is designed to provide the means through which certain maintenance needs may be satisfied. Hence housing, food products, and many other vital products must be provided through productive activities. The labor force, through employment in these activities, gains the means by which these products may be acquired.

Productive activities usually seek a labor market since the goods which are produced are usually distributed to a much wider market than that of the community within which they are located.

The planning process is concerned with productive

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[8]Hertzler, op. cit., p. 96.

activities in terms of their land-use needs, their environmental affects, their importance to the economic base of the community, their water and transportation needs, their waste disposal needs and so forth.

Distributive activities.--Distributive activities are designed to furnish the goods of production as well as certain essential economic services to the various groups within the community. Within this category of activities would be included retail groups, wholesale groups and service groups.

While productive activities seek a labor market, distributive activities seek a consumer's market. This market may include the region, the metropolitan area, or it may be confined to a localized area within the community. The market area will depend on the type of consumer served in terms of the particular activity involved.

The planner is concerned with distributive activities in terms of their land requirements, their importance to the economic base of the community, their transportation requirements, their environmental affects, and their relationship to other activities.

Productive and distributive activities are carried on within designated areas of the community. The locational needs of these activities will depend on their particular function. Usually these two groups of activities can pay premium prices for land. This is particularly true of distributive activities. Sometimes, however, other uses

pre-empt a site which would be more suitable for either productive or distributive activities.

Transportation Activities

Man must move about to carry on all of those activities which are essential to life and well-being. He must move to and from his place of residence, of work, of commercial activity, of recreational activity, of educational activity, of governmental activity, and place of social contacts. The modern city depends for survival on the means of transportation. If the system breaks down, the entire community is paralyzed.[9]

Urban transportation needs are satisfied through a highly complex system of vehicles and street patterns. The vehicles which carry the individuals of the community may be private carriers or mass carriers. Both require "streets", but the private carrier, being more flexible, is able to move to spots which are usually economically inaccessible to the mass carrier. On the other hand, a break-down in the mass carrier system has a greater disruptive effect on the community.

When the street systems of most urban communities were laid out, no one could foresee the future development of modern-day transportation media. As a consequence, certain activities tended to pre-empt the land which might be used

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[9]Svend Riemer, The Modern City, New York, Prentice-Hall, Inc., 1952, p. 160.

for street widening. When it was finally recognized that certain adjustments were necessary in the street pattern, the cost of acquiring the necessary land was prohibitive to any large scale attempts to make the needed adjustments. This is one of the underlying causes of the present-day traffic problems in many of the large cities.[10]

Transportation problems are much too complex to be examined here. However, it is important to remember that transportation is a vital activity in community life. Therefore, transportation facilities should be of such design as will expedite the movement of people to and from necessary areas.

Governmental Activities

Government within the urban community is given the responsibility of maintaining order, of caring for the city services and public utilities, of sponsoring preventive medicine programs, of controlling crime, and of providing welfare services and public-housing facilities.[11]

The legitimate concerns of government are being continuously expanded. More and more it is becoming evident that government must assume the responsibility of improving the living conditions of the city by contributing services to the less fortunate citizen groups. However, the government must

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[10] Ibid., p. 162.

[11] Ibid., p. 334.

work within the limitations of a tax system and the permissive powers it possesses. It can achieve these welfare objectives only when the majority of the citizens recognize that the needs of a less fortunate group must be satisfied if the community is to be completely sound and that such an objective is apparently unattainable through the activities of private enterprises.

Government is engaged in those activities which give protection to the citizens of the community. Government also provides the means of satisfying certain needs which cannot be satisfied through other activities. For example, water supply is usually a governmental responsibility. Property is protected by government. Streets are constructed and maintained by government. Welfare care is the responsibility of government. In addition a variety of other essential functions are performed by government which cannot be properly performed by the individual or any one group of individuals.

Housing Activities

Each individual and each group within the community requires a dwelling in which to live and to engage in certain types of individual and family activities which are designed to satisfy certain personal needs. From a planning point of view, the problem of housing is one of providing units designed to satisfy these needs. Thus, the particular activities are not, per se, a planning consideration. However, they must be

considered in formulating a housing program.

Housing should be designed with a variety of leisure-time activities in mind. Thus space for family recreation should be provided. Housing should be segregated from certain adverse environmental influences such as heavy traffic, or heavy industrial activity. Housing should be of such design as will prevent overcrowding. Housing should be provided to meet the needs of various economic groups. Housing should be properly located in relation to certain supplemental activities such as schools, parks, and playgrounds. Housing should be located in terms of transportation needs. Thus, a group which depends on mass transit for movement should not be located beyond the lines of the mass transit system. Housing should be designed and located to fit the needs of the various parts of the housing group. Thus a family with children will have needs that are different from those of childless families, or unattached individuals.

Lack of houses which meet the requirements listed above is one of the serious problems confronting most urban communities today. It will continue to be a problem unless it is realized that inadequate housing is one cause of many of the social problems which exist in the urban community.[12]

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[12]Gist and Halbert, op. cit., p. 476.

Need Groups

Within any of the categories which have been listed there exist various kinds of need groups; therefore there may be different methods of satisfying these needs. Housing may be taken as an example.

Housing Groups

Housing groups may be divided into the following categories: families with children, childless couples, and unattached individuals. These groups may be further divided into high-income groups, middle-income groups, and low-income groups.

Generally housing is sought in terms of four factors: (1) convenience of location, (2) character of the neighborhood, (3) design of the dwelling, and (4) cost of the dwelling.[13]

Convenience of location.--Ideally a particular housing group will locate on a spot that is convenient to each of the activities which it considers important to its well-being. Thus a family with children will prefer that the home be convenient to parks, playgrounds, and schools. On the other hand, a childless couple or an unattached individual may prefer that the home be convenient to restaurants and places of commercial recreation. Mass transit riders may depend upon a location convenient to the transit lines. The various other needs of

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[13]James A. Quinn, Human Ecology, New York, Prentice-Hall, Inc., 1950, pp. 105-108.

the particular housing group will determine its choice of residential sites within the community.

Character of the housing area.--For most housing groups the character of the housing area will be the most important consideration. The character of the area is judged on the basis of the physical condition of the buildings, the street pattern and traffic volume, and the types of other individuals within the area and their relationship to each other.

Most groups seek areas which can provide freedom from noise and odors, which can provide abundant light and fresh air, and which can provide privacy both within the unit itself as well as within the neighborhood. Such conditions depend upon the character of the neighborhood and not upon the individual tenant or owner.

Design of individual dwellings.--We have noted that housing groups consist of families with children, childless couples, and unattached persons. Thus the desirable design of the unit may differ for each of these groups. For example, the family with children may desire a detached dwelling unit, while the childless couples may seek an apartment, and the unattached individual a single room.

Cost of the dwelling unit.--Cost factors become increasingly important as the income which is available for housing declines. Thus high-income groups may acquire housing on the basis of any one of the other three conditions which have been listed, while the very low-income groups, although

desiring something better, must usually accept dwellings which will fit their income limitations regardless of the undesirable characteristics of these dwellings.

Housing is usually provided on the open market and thus the highest bidder is able to acquire the more desirable housing. In addition, those productive and distributive groups which are engaged in providing housing usually seek a market in which a substantial profit can be made. With very few exceptions, this market does not include the very low-income groups. As a consequence, these groups must take the "filtered down" housing which has been abandoned because certain conditions have made them obsolete for other groups.

Each of the other activities within the community might be analyzed in much the same manner. The point of this discussion is that within any one activity there exists a variety of need groups, each of which requires a method of satisfaction which is more or less unique to the particular group. It is the job of the planner to identify these groups and to plan for their need insofar as it is possible to do so.

Land Use Pattern[14]

Each of the activities which have been discussed requires certain physical structures which are utilized in processes of satisfying the needs of the community. These

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[14]Chauncy D. Harris, and Edward L. Ullman, The Nature of Cities", The Annals of the American Academy of Political and Social Science, Vol. 242, Nov.,1945, pp. 14-15.

physical structures are necessarily interrelated, and it is on the basis of this interrelationship that the land-use pattern of the community is formed.

All of the activities which have been listed are necessary for community well-being. Nevertheless, certain of these activities are not mutually compatible when located in close proximity to each other. Hence, a land-use segregation tends to occur. For example, it is usually desirable to segregate housing activities from industrial activities.

Economic considerations tend to create a segregated land-use pattern. For example, commercial activities have pre-empted the land in the central areas due to their ability to pay premium prices. This, of course, excludes the use of the area by other activities.

Another important consideration is that certain activities require intermixing of various kinds of facilities. Residential areas, for example, require the availability of schools, parks, playgrounds, and churches. Commercial structures require a site which is convenient to converging lines of transportation. Apartments require a convenient relationship to restaurants and commercial recreational opportunities. Industry requires an intimate relationship with transportation facilities. These requirements influence the land-use pattern.

A final consideration is that the various parts of any one of the major activities are in competition for land. Thus,

those seeking housing are in competition for the most desirable dwelling sites. The wealthier groups can afford these sites while the low-income groups are reduced to minimum accommodations. Segregation of races may also bring about an intra-activity competition for housing accommodations. Thus we find minority groups isolated in certain areas of the city. This intra-activity competition, therefore, influences the land-use pattern.

This is, of course, an oversimplification of a very complex process. Nevertheless, it does illustrate some of the basic forces which are responsible for land-use distribution.

Interdependence

Each individual within the urban community is engaged in some activity which is directed toward the satisfaction of some need which fits into one of the categories which have been listed. While it is true that the needs of any one individual fit into all of these categories, it is also true that no individual can satisfy all of his needs alone. He must depend upon the other individuals within the community to provide assistance in this satisfaction and they, in turn, must depend on him to a certain extent. The maintenance needs of one individual may be satisfied through the income gained from satisfying the shelter needs of another individual. The labor needs of one group may satisfy the employment needs of

another group. In other words, within any community there is an overlapping and interdependence in all activities.

The activities themselves may also be considered as having interdependent parts. First, there are the need parts, and second, there are the need satisfying parts. If either part is not in harmony with the other part certain problems may develop.

A Planning Perspective

From the preceding discussion, it should become evident that planning is something more than a process of designing the physical structure of the community. Planning to be completely successful must first determine the various needs of the community. Then efforts should be made to determine if these needs are being properly satisfied. If not, the reasons must be determined. This can only be accomplished by examining the interrelationships which exist not only within the community as a whole but also within any given activity.

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CHAPTER III

COMMUNITY DYNAMICS

In the preceding chapter, we have analyzed the structure of the urban community in terms of certain vital activities which are essential to community well-being. This chapter will be concerned with a discussion of the physical needs of the community, of certain economic considerations, of those forces which produce change within the community, of those processes through which change occurs, and finally with a discussion of the planning process in terms of these concepts.

Physical Needs of Community Groups

The various groups and activities within the community have certain physical needs which must be satisfied if they are to function properly. These needs may be divided into three categories: (1) a need for special facilities, (2) a need for close relationships, and (3) a need for segregation.

A Need for Special Facilities

Within the community are found a variety of activities and groups, each of which requires certain special facilities to satisfy its needs properly. For example, there are various

types of housing groups such as families with children and unattached persons. There are various types of recreation groups such as the very young, the young adults, and the old age groups. Each of these groups requires a more or less unique facility. For instance, young children will require a "tot-lot" for recreation, while young adults may require an athletic field or certain types of commercial recreational outlets.

Within any one of the activity areas of the community special facilities may be required. For example, the central business district may require a specialized street pattern to carry the large volumes of traffic which is funneled into the area on converging intra-city traffic arteries; a residential area may require a street pattern which discourages heavy traffic volumes; an industrial district may require rail lines in order to expedite the movement of raw materials and finished products; and finally certain housing groups may require transit lines near-by, particularly if transit provides the primary means of transportation.

If these special facilities are not provided, certain problems may develop. To illustrate, if the street system of the central business district is inadequate to carry the volume of traffic which enters the area, congestion results. If the housing facilities which are needed for housing groups are not available so that overcrowding or intermixing occurs within the existing units, a high incidence of disease or

social maladjustment may result.

The problem of planning is to identify the various groups and activities within the community, and to determine the types of facilities which are required.

Need for Close Relationships

A need for close relationships may be divided into three categories: (1) close relationships of housing groups, (2) close relationships of complementary activities, and (3) close relationships of complementary structures.

Close relationships of housing groups.--Within the community may be found distinct areas of similar housing structures. In one area may be found apartment units, in another, detached dwellings, and, in a third, boarding houses.[1] Each of these areas is suited to the needs of a particular housing group. For example, families with children may prefer detached dwellings, childless couples may prefer apartment dwellings, and unattached individuals may prefer boarding houses.

These housing areas may be divided further on the basis of the economic groups which occupy them. Thus there will be found areas of high-income groups, of middle-income groups, and of low-income groups. These groups may be further divided on the basis of their religious preferences, their racial composition, or their national origin.

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[1]James A. Quinn, Human Ecology, New York, Prentice-Hall, Inc., 1950, pp. 108-111.

Within any community, therefore, may be found relatively distinct areas within which are found relatively homogeneous social groups. This homogeneous grouping may be due to social pressures such as those which discriminatory practices would achieve. Usually, however, it seems to occur as a result of the propensity of similar groups to live together.[2]

Homogeneous areas are usually characterized by a minimum of social maladjustment. Apparently this is due to the ability of similar groups to achieve stability and integration.

On the other hand, heterogeneous areas are usually characterized by a high degree of social maladjustment. Apparently this is due to the inability of diverse groups to achieve stability and integration. This is particularly true of slum areas with their high rates of crime, delinquency, mobility, and disease. Within the slum, families with children are intermixed with unattached persons. In addition, there is an intermixing of diverse racial, ethnic, and religious groups.[3]

Heterogeneity is not the only cause of social maladjustment but it does appear to be one of the contributing causes.

While it may not be possible nor, indeed, desirable

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[2]Robert E. Dickson, City Region and Regionalism, London, Kegan Paul, Trench, Trubner and Co. Ltd., 1947, p. 97.

[3]Stuart A. Queen, and David B. Carpenter, The American City, McGraw-Hill Book Co., Inc., 1953, pp. 170-178.

for the planner to try to segregate various racial, religious, and ethnic groups into homogeneous areas, he must achieve some segregation on the basis of economic levels. However, he may divide the housing groups into units by planning facilities to meet the needs of families with children, childless couples and unattached individuals. Assuming that adequate facilities are available, the social groups will usually achieve a desirable homogeneity through a selective process.

Close relationships of complementary activities.--The grouping of complementary activities into a given area expedites the process of satisfying certain needs. This may be due either to the convenience of access which it assures, or to the mutually beneficial effects which may result. Whatever the reasons may be, it does seem desirable to group certain activities together. For example, family housing areas apparently achieve a greater stability if facilities for recreational activities are available in the way of parks and playgrounds. The non-availability of complementary activities appears to have some correlation with the degree of social maladjustment within a given area. Slum areas, for example, with their many social problems are noted for their lack of facilities. It must not be assumed, however, that lack of complementary facilities is the only cause of the problems.[4]

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[4]Wilbur C. Hallenbeck, American Urban Community, New York, Harper and Brothers, 1951, pp. 355-356.

The grouping of clothing, department, and appliance stores in an area tends to increase the opportunity for profit due to the ability of such a grouping to attract large concentrations of customers. This intimate relationship is often achieved and may be readily seen by examining a detailed land use map.[5]

Some housing groups satisfy certain needs by being intimately related to the downtown area. Thus groups of transients and unattached persons apparently are more dependent on the central city to satisfy their recreational and maintenance needs than are groups of families with children. Within the central area or on its immediate fringe, therefore, are usually found the hotels, rooming houses, and apartment buildings which house the transients and the unattached groups. These housing units are, of course, located in other areas of the community, but generally there is a relatively high concentration of such units in and around the central business district.[6]

Close relationships of complementary structures.--Certain of the structures within the community are so intimately associated that a change in the degree of use or in the design of one requires a subsequent change in the use or

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[5]Chauncy D. Harris, and Edward L. Ullman, "The Nature of Cities", Annals of the American Adademy of Political and Social Science, Vol. 242, Nov., 1945, pp. 14-15.

[6]Quinn, op. cit., pp. 474-475.

design of the related structures; otherwise, certain problems may develop. Perhaps the best example of this condition is seen in the addition of an expressway to a street system. The addition of this structure calls for an adjustment in the complementary streets to carry the increased volume of traffic which is generated. If an adjustment is not made, congestion results. Should this increased volume of traffic occur in the central business district certain other adjustments are necessary. For example, the parking facilities should be increased. Adding new commercial structures to the central area may call for a similar adjustment in the parking facilities and street pattern since these structures will probably attract additional traffic.

Need for Segregation

Segregation may be considered on three levels: (1) need to segregate incompatible activities, (2) need to segregate incompatible social groups, and (3) need to interrelate segregated areas.

Need to segregate incompatible activities.--Certain types of activities are mutually detrimental when intermixed within an area and should, therefore, be segregated. Such would be the case with housing activity and industrial activity. This is due to the undesirable environmental conditions which are generated by the industrial activity, for industry often generates noxious odors, dirt, and certain toxic fumes which

are incompatible with residential living. Parenthetically, it may be observed that residential use may also interfere with the otherwise acceptable standard of industrial operation.

Commercial activity often creates conditions which are detrimental to residential areas. These may be a consequence of the large volumes of traffic which flow into the commercial districts during the course of a day.

If the congestion which exists on the city streets is any indication, there appears to be a need for segregation of traffic groups. For example, automobile movement and trolley movement along the same street often create a condition which retards the free flow of traffic. If to these is added commercial trucking, the problem may become even more serious. Street parking aggravates this condition.

Need to segregate incompatible social groups.--Social segregation of a sort does occur in so far as economic groups tend to locate in relatively distinct areas of the community. These economic groups tend to be further segregated into racial, religious, and ethnic groupings, partly because similar groups find it desirable to locate together and partly because economic and social conditions make such segregation mandatory. This does not mean that the groups within any area are intimately associated. It means only that similar groups tend to live together in relatively distinct areas.

Another type of segregation not only occurs but also

is desirable, if the studies which have been made of slum areas are valid. Specifically, this is the segregation of families with children from unattached individuals. One of the characteristics of slum areas is that this segregation is not achieved, and this apparently has some relation to deviant behavior. Perhaps this is due to the fact that unattached groups require recreational outlets which are not in harmony with those required by the youngsters of the neighborhood, or perhaps it is due to the behavior standards of certain slum groups which tends to encourage deviant behavior. Whatever the reasons, there does seem to be some relationship between the intermixing of these groups within the area and social maladjustments. Intense crowding tends to accentuate the problem. Hence, this condition is much more likely to have detrimental effects in the slums than in the less densely populated areas.

Need to interrelate segregated areas.--While it is desirable to segregate certain activities, one should not overlook the fact that these activities must be related to each other in a manner that will facilitate their essential interaction. Residential areas, for example, may require separation from industrial areas, but the prople living in these residential areas may depend on the jobs which are available in the industrial areas. Hence the movement to and from these areas must be of such a nature as to result in a minimum expenditure of time and money. The inadequacy of this relationship may

become apparent through studies of the time and money spent in commuting to the industrial area in relation to the income derived from this area, or the time spent in this area. If these two are out of proportion then it should be obvious that some limitation exists in the transportation system.

Economic Considerations

Economic factors are major considerations in the location of groups and activities throughout the community. Those groups which can afford to pay the price will occupy the sites of their choice. As groups become less able to pay they tend to be restricted to the areas within their income means. Unfortunately these areas are not always adequate to satisfy the needs of the particular groups involved. For example, the low-income family groups who must live in the slum because of economic limitations certainly do not have the same opportunity for a suitable family life, as do the high-income family groups who live in an upper-class residential area. The inability of the low-income groups to acquire suitable housing may be partly responsible for the higher incidence of certain types of diseases in these groups.

Economic factors may be indirectly responsible for a failure to achieve a much needed change. For example, a real or imaginary threat to profit may cause a business group to exert pressure to prevent the removal of on-street parking which is contributing to the traffic congestion in a

commercial area. The fact that the change is not made may accentuate this problem to the point that profit loss is real, since shoppers will tend to patronize less congested areas.

Community Change

When the needs of any one group in the community change in some manner, a redistribution of space is required. Before turning to the process by which this redistribution occurs, it is first necessary to examine the possible changes which might develop. These changes may be divided into two groups: (1) certain needs increase in magnitude, and (2) a new method of meeting an old need is adopted.

Needs Increase in Magnitude

Needs increase in magnitude on the basis of population change. This change may be due either to a growth in population or to a change in the age of the population. Population growth may result in an increase in the housing groups and this will require an expansion of housing facilities. Aging of the population may result in an increase in the school-age groups and this will require an expansion of school facilities.

Either a growth or an aging of the population may require some adjustment in the existing facilities. The particular groups which are affected by the population change will determine the type of adjustment which must be made.

A New Method of Meeting an Old Need is Adopted

In this instance, a need has not necessarily changed in magnitude, but a new method of meeting the need has been adopted. This may be exemplified by industry's adoption of electricity as a new method of meeting an old need for energy. As a consequence of this change the necessity for close association with the source of energy no longer existed. This made it possible for industry to locate away from the central city in space that would permit a horizontal expansion of facilities.

The internal combustion engine was adapted for automotive use. This permitted the population to move about more freely within the community, and since the necessity for being close to place of work no longer existed it was possible for housing groups to disperse.

Certain other mechanical inventions were also adopted and these also changed the space requirements of certain types of activities. Those inventions which permitted the vertical expansion of buildings rather than horizontal expansion are examples.

However, for our purposes, the problem is not so much to identify these inventions as it is to indicate that when an invention is accepted as a new means of meeting an old need it may require some change in the existing structure of the city. The adoption of the automobile and the subsequent need for a more efficient street pattern is an example of this

phenomenon.

Processes of Change

When the needs of a group or an activity increase beyond the point at which the facilities for satisfying these needs are adequate, these facilities must be either modified or expanded.

Facilities are Modified

Modification is that process whereby a change in a need is met by some alteration in an existing structure which does not require additional land space. The conversion of housing structures, the vertical expansion of commercial structures, and the re-routing of traffic over the existing street pattern are examples of this process.

In certain instances, modification of an existing structure may be a desirable method of meeting the changed need, if necessary changes are made in complementary structures. In other instances modification may be a completely inadequate solution. For example, the re-routing of traffic over a street by making the street one-way may be a sound solution, assuming that other activities are not affected. On the other hand, the conversion of housing units to accommodate an increase in population may result in an overcrowding which will give rise to serious problems such as disease, crime and delinquency. In this instance, the need for special facilities for housing groups is not met through conversion.

The vertical expansion of commercial structures is a type of modification in that it does not require additional land space. This offers an example of a possible disruption of certain intimate relationships. Such expansion results in a more intensive use of land and this has the propensity to attract additional traffic into the area. This calls for some adjustment in the parking accommodations, in this instance expansion. In addition, the street pattern may require some modification to accommodate the increased traffic volume. The failure to make the appropriate adjustment in either of these facilities may result in congestion.

Modification, per se, is not always bad, but it may result in conditions which are themselves bad in terms of the needs of the community or of the groups involved.

Facilities are Expanded

Expansion of facilities refers to the process of adding to the existing facilities in such a manner as to require additional land space. New structures do not have to be added, however. For instance, a housing group may take over the dwelling units of another group. This often happens when a housing group becomes overcrowded and seeks additional housing accommodations. On the other hand, new structures may be added. This would be the case when an increased population caused a subdivider to develop an area on the fringe of the city.

Land may be provided for expansion by two processes: succession, and decentralization.

Succession.[7]--Succession refers to that sequence of events by which one activity or group takes over an area occupied by another activity or group. Succession occurs in four stages: invasion, resistance, obsolescence, and equilibrium.

"Invasion". Invasion occurs when a group or activity infringes upon the area occupied by another activity. This may be exemplified by the invasion of a residential area by a commercial group. Similarly, a Negro group may invade a white residential area.

Invasion is an index of a change in the need of a given group or activity which requires that additional space be acquired. Evidence that it is taking place may be found through a study of building permits issued for construction in the various areas of the community. These will show where new structures are being located. If new commercial structures are being constructed in a residential area, it may be assumed that invasion is occuring. In addition to building permits, population studies in the various residential areas of the community may show that invasion has occurred. For example, it may be found that a white area has a few Negro families on the fringe. This suggests that invasion has

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[7]Adapted from Noel P. Gist, and L. A. Halbert, Urban Society, New York, Thomas Y. Crowell Company, 1948, 3rd edit., pp. 152-160.

occurred, particularly if these Negro families appear to be increasing.

"Resistance". The process whereby the old activities or groups attempt to prevent further invasion into an area is known as resistance. Various methods may be employed to block this invasion. A common device is to enter into an agreement called a covenant whereby the property owners agree not to rent or sell to groups or individuals who have been designated as undesirable.

Another form of resistance may be physical violence. This is sometimes found when Negroes invade a white residential area.

Economic forces may be utilized to resist invasion. In this instance property values are increased to a point which is high enough to discourage further infiltration.

With the exception of physical violence, each of these methods of resistance has some merit, particularly if they are designed to prevent the infiltration of activities into an area which would destroy its character.[8] For instance, a residential neighborhood may wish to prevent the addition of dwelling units which are inferior in design to those which exist in the area. The restrictive covenant is a method of achieving this goal. However, when resistance is directed

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[8]This is true with the exception of a case in which the invading need is greater than the existing need for the area. In this instance resistance may be socially undesirable in that it prevents a much needed change.

toward the exclusion of social groups which might conceivably be on the same economic plane as those which live in an area, there may be some question as to the desirability of such resistance. On the other hand, if it is remembered that similar groups achieve a greater stability when living in homogeneous areas, there would appear to be some justification for resistance.

"Obsolescence". If resistance is not successful and further invasion occurs, the area tends to become obsolete for the old group and it moves out.

While it is true that invasion usually refers to a movement of social groups into an area, it is also true that the movement of certain structures into an area may constitute invasion. These structures, particularly those of commerce and industry, tend to make an area obsolete for residential purposes. As a consequence the residential groups may abandon the area and permit the structures to deteriorate.

There are certain indices of obsolescence. Basically, these are deterioration, population mobility, and disease. All three indicate that some condition exists within an area which has destroyed its desirability as a residential area. Deterioration suggests that either the groups in the area cannot afford to make necessary repairs, or that the groups no longer consider it worthwhile to maintain the property. Mobility suggests that some condition exists in the area which makes it undesirable for residential living, hence,

the population is seeking more suitable accommodations. High incidence of disease suggests an unhealthy living environment which may be a consequence of overcrowding.

"Equilibrium". When the invading use takes over the area and imports the necessary complementary services and activities and when the displaced use makes the necessary adjustments, equilibrium is established and succession is completed. Essentially equilibrium is restored when the necessary facilities are provided, certain intimate relationships are restored, and proper segregation is achieved. Any factor which intervenes in a way that prevents the restoration of these physical necessities may result in serious problems. For example, an area may become obsolete for residential living, but, due to certain economic conditions, it continues to be occupied by mixed low-income groups.

Any time that succession occurs without satisfying the physical requirements of the groups or activities involved, problems may develop. For example, redevelopment is an accelerated form of succession. While it may be a desirable method of solving city problems, it can create other problems if not properly utilized. For instance, displaced housing groups must necessarily find housing accommodations elsewhere. Often these groups will invade another housing area. This may produce a strain on the facilities of the second area which may initiate further invasion. Assuming for the moment that it does not, the physical needs of the displaced groups must be

satisfied before equilibrium is restored. As a consequence, redevelopment which displaces one group to make room for another group, but fails to solve the needs of the first group can not be called successful. This would be true either if problems became more acute in another area, or if problems were created in a related activity. Conceivably therefore, redevelopment could create overcrowding and improper segregation in another housing area. In addition, the new use could attract additional traffic and a subsequent failure to make the appropriate adjustments in the street pattern might result in traffic problems.

Decentralization.--Decentralization is the process of dispersing groups or activities away from the central city to its peripheral areas. The early residential areas, for example, were usually concentrated around the central business area. This condition developed as a consequence of the inbility to provide local transportation. With the advent of the automobile, the condition which fostered such a concentration no longer existed. As a consequence residential groups tended to disperse outward.

As a result of those inventions which made possible the utilization of electricity as a source of energy, industry also tended to decentralize, for it was no longer necessary that energy be utilized close to the source of power. In addition the efforts on the part of local real estate men to provide designed industrial sites with streets and rail

patterns specifically planned to meet industrial needs also played a part in this decentralization. The success of these efforts may be seen in the development of the Industrial Boulevard District in Chamblee, Georgia and the Empire Industrial District in East Point, Georgia.

Decentralization is initiated by certain "push" and "pull" forces.[9]

"Push" forces may be defined as those changes within the central city which forced housing groups or commercial and industrial activities to seek land within the fringe areas. The practice of withholding land from the real estate market may act as a "push" force since land developers may be forced to the fringe of the city. Invasion of a residential area by commercial activities may act as a "push" force, particularly if undesirable environmental conditions are created. If it is felt that their provisions are too stringent, subdivision regulations and zoning ordinances may act as "push" forces.

"Pull" forces may be defined as those changes in the fringe areas of the community which have attracted groups and activities away from the central city. For example, the efforts of subdividers to develop the fringe areas attracted residential groups, and these, in turn, attracted various

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[9]Jesse Walter Deese, Jr., Urban Sociology and the Emerging Atomic Megalopolis, Ann Arbor, Michigan, Ann Arbor Publishers, 1950, pp. 313-314.

types of commercial activities. It should be pointed out, however, that these fringe areas did not become accessible until improved means of transportation and communication were developed.

Decentralization, like succession, must result in the satisfaction of the physical needs of the various groups involved. Failure to satisfy these needs is one reason for the development of the so called "suburban" slums.

A Planning Perspective

In terms of the concepts which have been discussed a planning program should be designed to overcome the limitations which exist in the physical structures of the community. The planner should assume that many of the community problems are due to the inability of the various activities to function properly because of the limitations in the physical structures referred to above. These limitations will assume one of three forms: first, certain of the physical structures may not be adequate to perform their designated functions. These structures might include those for housing, recreation, transportation, education, industry, or commerce. Second, the proper association of complementary structures may not have been achieved. The failure to relate a family dwelling unit to an elementary school or to a neighborhood park would illustrate this condition. Third, the proper segregation of incompatible structures may not have been achieved. The

failure to segregate properly residential structures from industrial structures or transportation structures would exemplify this condition.

The function of a planning program therefore, would be to devise methods of overcoming these physical limitations. However, it should be recognized that many of these limitations have developed as a consequence of the social conflicts which exist between the activity groups within the community. Hence, many of these problems cannot be solved until these conflicts are resolved. Since it is, practically speaking, impossible to resolve all of these conflicts it will be impossible to solve all of the problems, many of which may be serious.

Conclusion

The concepts which have been described in the thesis are not new; probably many of them are known to most practicing planners. However, the writer knows of no previous effort to systematize these concepts so that they may provide the planner with a fresh and useful perspective. It is hoped that this thesis has moved in that direction.

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