ALONSO W**, "The Historic and the Structural Theories of Urban Form: Their Implications for Urban Renewal"**. *Land Economics* Vol. 40, No.2 (May, 1964), pp. 227-231. University of Wisconsin Press.

An explanatory theory of urban form has been developing in recent years that provides an alternative to the classic theory developed by R. Haig (1926)[1] and by Park and Burgess (1925).[2] The new theory has emerged so gradually and it differs from the older theory in apparently so slight a degree that it has gone unrecognized as being in conflict with the older theory. Yet the difference is a most importante one not only from a scientific point of view but also for the vast urban renewal program that is so vigorously being pursued by our cities. This program is implicitly based on the older theory, and depends on its validity for its success. Should the new theory prove more nearly correct, there is grave danger that Much of the current renewal effort will fail.

Both theories are interested in a broad range of urban phenomena but it will be useful to focus on a paradox that has intrigued students of American cities since the turn of the century. This is that land values tend to drop with distance from the center of the city, while family income tends to rise with distance. The paradox is, then, that the well-to-do live on cheap land while the poor live on expensive land.

The older theory explains this phenomenon in terms of the passage of time, and may be called an *historical theory*. In brief, it holds that as a city grows the houses near the center of the city become old and therefore unsatisfactory to high-income families. The rich then build new houses where open land is available which, of course, is on the periphery of the city. Those of lower income then move into the vacated houses. The Moving parts of this theory are the aging of the structures, sequential occupancy by income levels, and population growth, for the number of low-income families must increase to provide a demand for the houses vacated by the well-to-do. The urban área grows much like a tree in cross-section, by means of a growth ring which leaves behind old, rigid tissue. Land values do not play an essential part in the argument and seem to receive slight mention in recent statements of the theory although earlier writers placed emphasis on speculation to explain high central land values. Homer Hoyt, whose sector theory is an important variant of the type of theory, explains: "The wealthy seldom reverse their steps and move backwards into the obsolete houses which they are giving up (..). As They

represent the highest income group, there are no new houses above them abandoned by another group. Hence the natural trend of the high rent [high rent for dwellings: it should not be confused with high land values] area is outward, toward the periphery of the city."[3]

In spatial terms the clearest statement of the historical theory remains the "concentric zones hypothesis" of Burgess. The Burgess theory is the spatial equivalent of the filtering process or trickle-down theory of the housing market according to which new houses are built only for the well-to-do but in times pass on to those of lower income. Thus, society provides housing for the poor not by building directly for them but letting the wealthier absorb most of the depreciation costs before the house is handed on.

By the historic theory, then, the location of the rich depends on the availability of land. Residential urban renewal, whatever its original statement of intentions, has taken on a typical form. It clears decayed housing in the center of urban areas and replaces it with more expensive housing, confident that the newness of the buildings will attract those of high income. The previous low-income residentes are thus displaced and move elsewhere, typically away from the center. In effect, it makes land available in the center for high-income housing, while still endorsing the trickle-down view of the housing market. If correct, this means that Americans will no longer follow each other like lemmings from the center to the suburbs and then to the exurbs as population grows and buildings age. Rather, this centrifugal expansion will now be turned inward and the growth ring will be near the center. The suburbs, as time goes by and buildings age, will become available to those of lower income. But of course the new central housing built by urban renewal will in time age also and the wealthy will once again be on the move. If they are not to go to the suburbs again urban renewal will have to provide them with buildable land near the center. Logically this should be the land ringing the areas now being renewed, which will by then be occupied by the oldest structures. Following this reasoning, urban renewal in the long run will be a ring expanding outward *through* the urban mass, leaving behind a gradient of housing that ages toward the center and pushing against the oldest housing of the urban area until the center is once again the oldest and the process starts again. Thus, the simple movement outward of high income to the suburbs will be replaced by a convection flow like that of boiling water in a pot.

This a very simplified view of the distant future of urban renewal. It is clear that the moving ring of renewal cannot always be of the type used today. Institutional devices may be modified to permit renewal by the free market and less direct governmental intervention. Depending on a host of factors, such as the quantity and condition of the housing stock and the structure of the demand forces, rehabilitation may become more important. For the process to work there must be a balance of the rates of population growth, new construction, aging of buildings, and the structure of demand, according to income, age and type of families. If there is, for instance, a very rapid increase of low income demand, the filtering process may not deliver enough dwellings to the lower sector of the market and overcrowding, invasion, and accelerated social obsolescence will result. In the extreme case, as in the developing countries, there would result a complicated alternation of high- and low-income rings. If, on the other hand, population growth slows down or the structure of income rises rapidly at the bottom, there would be a softening of demand for old, central accommodations so that the centrifugal growth may leave a hole in the center, manifested in high vacancies, lower densities, reconversions, and the other phenomena of "gray areas". This appears to be the case in metropolitan areas and of course is the ideal situation for urban renewal according to the historical theory.

But the practice of urban renewal is based on the assumption that if high-cost housing is offered in the center, it will attract high-income people. Recent investigators have suggested that the peripheral position of the rich may be the result of the structure of market forces rather than the consequence of historical development. That is to say, that the rich may be in the suburbs because they prefer to be there rather than because they have nowhere else to go. In the words of Vernon and Hoover, "higher income people use their superior purchasing power to buy lower density housing, but the cost of a longer journey-to-work."[4] Note that in this explanation it is lower density rather than newness that makes the suburbs attractive to the wealthy.

The reason for the preference for ample space over shorter journey-to-work becomes clear by the simultaneous consideration of the value of land, the cost of commuting, and travel and space preferences. Most Americans prefer to have ample land, as shown by the popularity of the single-family home and as anyone can learn merely by talking to people. As with all desirable things that can be bought, the wealthy tend to buy more land than the poor, all other things being equal. Coupling this greater purchasing power with lower land prices away from

the center, it is clear that the savings in land costs are far greater for the rich than for the poor. For instance, if one would buy 10,000 square feet and the other 2,500, a drop in price of 50 cents per square foot would mean a savings of $5,000 for one and only $1,250 for the other.[5] Consider now that such a move would cost $500 per year in added commuting costs: this would represent 20 cents per square foot for the poor man but only 5 cents per square foot for the wealthy one.[6]

If typical American tastes are a liking for ample land and a relative willingness to commute, it is clear that more distant but cheaper per-square-foot sites are more attractive to the wealthy than to the poor. Accessibility, which diminishes with increasing distance, behaves as "inferior good"; that is to say that, although accessibility is desirable, people as they become wealthier will buy less of it because they prefer to substitute for it something else (land). Such inferior goods are not rare: for instance, the per capita consumption of wheat and its products has declined steadily in this country as people in their affluence prefer to substitute meat and other foods for bread.

This explanation of the more-land-but-less-accessibility phenomenon may be called *structural* to distinguish it from the Burgess-Hoyt historical explanation in that it represents the working out of tastes, costs, and income in the structure of the market. It does not rely on the historical process although this process is undeniable and has been a strong influence reinforcing the structural forces. To put it another way, the structural theory says that a city which develops so quickly that the structures have no time to age would still show the same basic urban form: low income near the center and high income further out. The structural theory is not an alternative to the historical theory; rather, they are complementary. Thus far, both have acted in the same direction. But now urban renewal, relying entirely on the logic of the historical theory, has set them at odds for, while it provides central land, it can not afford sufficiently low prices to permit low densities[7] so that the structural forces will continue to pull high-income people (and therefore new construction) to the suburbs.

Under these conflicting circumstances the net result of urban renewal will be nuclear, particularly because the structural forces depend on tastes and these are very difficult to evaluate. For instance, the fragmentary evidence I have seen of societies where apparently no great value is placed on ample land for home (i.e., societies in which the rich do not occupy very much more land than the poor)

suggests that there the rich tend to live near the center. This is in agreement with structural theory because, as there is no attraction in the substitution of space for accessibility, greater purchasing power is used to buy accessibility. Indeed, there is in the United States a substantial minority of the well-to-do that does prefer accessibility to space and this minority lives in luxury apartments or town houses in the central áreas. Much of the demand for the new construction of urban renewal is undoubtedly attributable to previous neglect of this sector. It is also instructive to follow the location of middle-class families through their life cycle: the young couple lives in a central apartment, moves to the suburb as the family grows, and returns to the center after the children leave home, thus reflecting their changing space-preferences with changing family size.

Taste or preference for space are possibly words too weak to denote what is really meant by this key variable of the structural theory. Rather, the nature of the demand for space in this country seems to be a deeply ingrained cultural value, associated not only with such functional needs as play space for children, but also with basic attitudes toward nature, privacy, and the meaning of the family. A preference so deeply rooted in a culture is not likely to change suddenly. But in the last three years there has been a startling increase in the proportion of new dwellings in multiple structures and it has been suggested that this reflects such a change of taste. Whereas from 1954 to 1956, 89 per cent of new dwellings were single-family homes and only some 11 per cent of new dwellings were in multiple structures, the current rate is well over 30 per cent. Have the well-to-do, who are consumers of most new housings, begun to prefer accessibility to space? In a sense this may be the case: as metropolitan areas have grown bigger and roads more congested it may be that some have come to feel that the commuting trip is too long and have returned to central locations. However, the prospective vast road building and mass transit improvement programs may again reduce time-distances (much as the popularization of the automobile did in the 1920's) and re-establish the almost complete preponderance of the single-family house.

But there is another explanation, more powerful than that of distances, for the increase in apartment construction. We have mentioned the convection-flow life cycle of the American middle-class family. The young and the old need apartments while it is those in their thirties that power the demand for single-family homes. Those reaching the age of thirty these days are those who were born in the Great Depression when the birth rate fell dramatically. Thus, in

the 1960 to 1970 decade there is less demand for single-family homes because there are 9 per cent fewer people coming into their thirties than in the 1950 to 1950 decade. But this situation will change sharply in 1970: there will be an increase of almost 40 per cent among those raching their thirties in the 1970-1980 decade over the 1960-1970 decade. Thus, we may attribute much of the shift from single to multiple dwellings to temporary changes in the age composition of the population rather than to fundamental changes in taste and we may expect that these changes will be short-lived.

Urban renewal is a magnificent opportunity to reshape our cities. Today there is money, public support, legal power, and human energy of a scale that could not have been imagined a few years ago. The urgency of urban problems and the many years of frustration of those concerned with them have naturally led to a rush of activity now that the means are available. In spite of the conviction of the planning profession as a whole that comprehensive planning is necessary, too often urban renewal has consisted of one project and then another, with no overall plan. It is precisely this lack of a comprehensive (*i.e*, metropolitan) plan that has obscured the implicit theoretical structure of renewal, for a comprehensive plan is the marriage of the goals of a community with an understanding of the structure of the community. The implicit exclusive reliance on the historical theory (which is incomplete without the structural theory) raises the danger of large-scale failure through a lack of understanding of the workings of the urban system and a misinterpretation of the structure of the demand. It is a false empiricism to scoff at theory as too abstract. Empiricism requires an evaluation of results and it will be many years before the long-range effects of current experiments in urban renewal become clear. At a time when we are so vigorously rebuilding our cities it is important that we be as intelligent as possible about it. We must make explicit the theories on urban structure under which we are proceeding. If the historical theory by itself is correct, current renewal procedures stand a good chance of success. But if it needs the complement the structural theory, current renewal projects are skimming a narrow and specialized sector of demand which will soon dry up. In many cities stand acres of cleared land awaiting development and investors face time lags of years from the inception to the completion of development. The reaction-time of the urban renewal process is too slow to permit a purely pragmatic approach. Vacant land and vacating buildings are frightening possibilities.

1. Robert M. Haig, “Toward an Understanding of the Metropolis”, *Quarterly Journal of Economics*, May 1926.

2. Ernest W. Burgess, “The Growth of the City”, in *The City*, editors, R. E. Park and E. W. Burgess (Chicago, Illinois: University of Chicago Press, 1925).

3. Homer Hoyt, *The Structure and Growth of Residential Neighborhoods in American Cities* (Washington , D.C.: Federal Housing Administration, 1937, p. 116.

4. Edgar M. Hoover and Raymond Vernon, The Anatomy of a Metropolis (Cambridge, Massachusetts: Harvard University Press, 1959), p. 169.

5. Of course, greater quantities will be bought at the more distant location because of price elasticity, bur the essence of the argument is unchanged and it is simpler to view the quantity of land bought by each individual as unchanging with the location.

6. The analysis of the effect of income on location is developed more fully in my Location and Land Use (Cambridge, Massachusetts: Harvard University Press, 1964).

7. Even in cases in which extraordinary subsidies (in excess of 90 percent) afford to redevelope central land at a price comparable to that of suburban land in order to permit low densities, the resulting pattern has been more urban (tem or more families per gross acre) than suburban (four or less families per gross acre). The subsidy per family of providing 100-by-100-foot lots at suburban land prices in a renewal area would be in the order of Twenty to forty thousand dollars.