

Semester V

GEO-A-DSE-B-5-05-TH- Cultural and Settlement Geography

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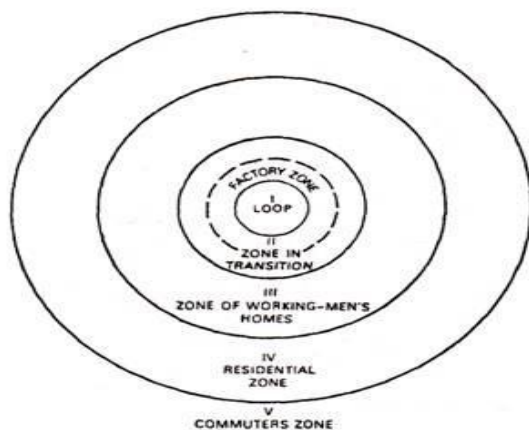
Topic: Urban Morphology The pattern of land use, process of urban growth and accessibility within and outward of a city can be generalized by means of a number of theories. They are known as models of city structure or theories explaining urban morphology.

1. The Concentric Theory:

The concentric model was devised in 1923 by E.W. Burgess. He was a sociologist. The idea behind the concentric model is that the development of a city takes place outwards from its central area in a series of concentric circles to form zones. The model therefore is also known as concentric zonal model. According to Burgess, the American city should take the form of five zones (see figure 8.6A,B).

These zones begin with **Zone I** as Central Business District (CBD), the focus of the city's social, commercial and civic life. CBD is also the focus of transportation.

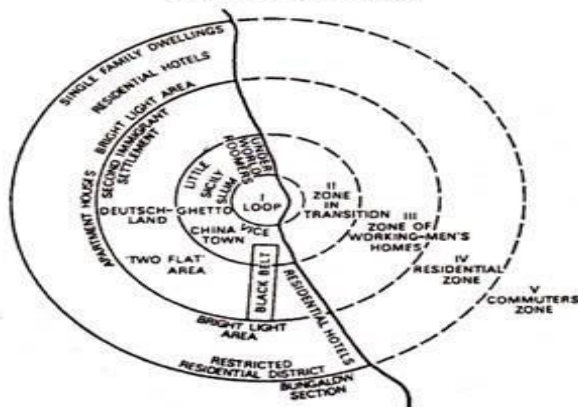
Figure 8.6A
Concentric Theory of Urban Structure



Zone II is the 'zone in transition' surrounding the CBD. It is a zone of residential deterioration of older private houses consisting of largely subdivided dwelling units. The transition area is occupied by immigrants and infested by 'vices'. In this zone rotten business and light manufacturing from Zone I have encroached upon residential areas. Some of the parts of this zone are likely to be found in the city's slums or areas of poverty and crime.

Zone III is the third ring made up of the houses of 'working-men's homes'. This is the zone of old residential buildings occupied by stable social groups of working class families.

Figure 8.6B
Urban Areas in Chicago



Zone IV concentric space still farther from the centre is occupied by spacious dwellings. Here, middle-class groups live. These people are likely to be proprietors of small businesses, professional people, clerks and salesmen.

Final and beyond the city limits is **Zone V** of small cities, towns, dormitory areas to make up the commuters' zone. From the city centre it is almost at the distance of one hour's travelling time. This zone may still be an open country. Most of the people of this zone seem to commute daily for their livelihood in the CBD.

Criticism of the Concentric Theory:

Burgess' theory is popular and widely used by current authors with a few modifications. But the concentric zonal theory is severely criticized on the grounds of local topographical features which affect the location of residential areas.

Davie was the most active critic of the theory who exhibited against the theory in several ways:

- (i) CBD's size irregular and often rectangular than circular,
- (ii) Areas of commerce and business extending radially along streets from the CBD,
- (iii) Industrial units lying along lines of transportation and near water or rail,
- (iv) Low-grade housing near industrial and transportational areas in every zone, and
- (v) Finally, concentric zoning lacking universal pattern.

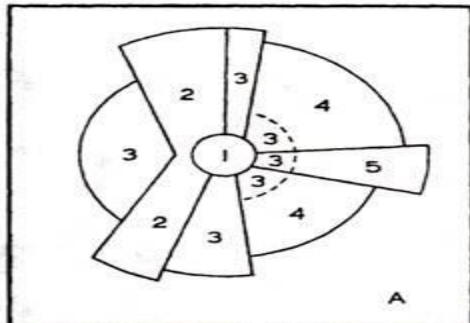
To conclude, Burgess' model was plainly introduced to illustrate the expansion of the city in its comprehensible manner by a series of concentric circles designating both the successive zones of urban extension and the types of areas differentiated in the process of expansion.

2. The Sector Theory:

Homer Hoyt observed, picture of cities had changed and therefore, he advanced in 1939, the sector theory. His idea was that because of rise of automobile, access to the downtown had been improved

and lot of shifting of uses in the CBD had arisen. On major routes of transportation sectors of specific land use were likely to grow with the expansion of city. Residential land uses tend to be arranged in wedges radiating from the centre (see figure 8.7A).

Figure 8.7A
The Sector Theory



- 1 : CBD
- 2 : Wholesale and light manufacturing
- 3 : Low-class residential
- 4 : Middle-class residential
- 5 : High-class residential

Hoyt's theory, of course, deals only with residential land use. Rent areas in cities tend to conform to a pattern of sectors rather than of concentric circles. The highest rent areas tend to be located in one or more sectors of the city. But various rent areas are not static. High quality residential areas tend to migrate outward in the sector, older houses remaining behind to become medium-quality areas.

3. The Multiple Nuclei Theory:

Urban development and growth of a city in different parts of the developed and developing areas is not a simple phenomenon which can be explained by geometric designs – either concentric circles or sectors radiating from the centre. Its land use too, is not simple and singular. It represents intermingling of various functions like commercial, industrial, cultural, administrative and social.

As a result, morphology of a city cannot be unicentred. Its evolution cannot be the product of a zone or sector. Various types of land uses and their patterns develop often around several separate nuclei. Chauncy D. Harris and Edward L. Ullman suggest multiple nuclei for accommodating growth of residential, business, industrial or other elements taking place in cities during the course of time from their inception to the present day. The rise of separate nuclei has been due to factors which influence the distribution of human activities within a city.

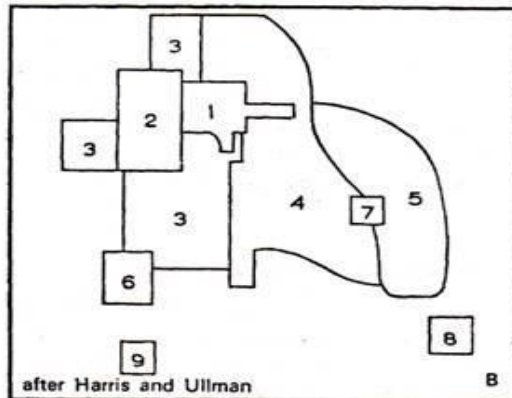
The various factors may be of four categories:

- (a) Certain activities require specialized facilities, for example, CBD can function at the point where maximum accessibility is available.
- (b) There are also group of activities which prefer cohesion. Clothing industry is clustered in the densely packed inner districts of large cities. They profit from cohesion.
- (c) Certain activities are detrimental to one another, and generally seek separate sites. For example, heavy industry and high-class residential areas do not prefer to be near-neighbours.

(d) Certain activities are unable to pay the rents of most desirable sites: residential areas of low-income residents or bulk storage facilities have to seek nuclei in remote corners.

The above factors, and also factors of social, cultural and economic significance give a peculiar urban landscape with separate nodes. Nuclei may be of two categories – those which take their shape at the time of city's origin, and some nuclei develop with the growth of a city. Nuclei existing at the time of origin of the city have a long history behind them.

Figure 8.10
Multiple Nuclei Theory



| | | | |
|-------------------------------|---|----------------------------|---|
| Central Business District | 1 | Heavy Manufacturing | 6 |
| Wholesale Light Manufacturing | 2 | Outlying Business District | 7 |
| Low-class Residential | 3 | Residential Suburb | 8 |
| Medium-class Residential | 4 | Industrial Suburb | 9 |
| High-class Residential | 5 | | |

The multiple nuclei theory reveals two significant observations based on historical and site elements of morphology. One is that the theory produces a model involving complexities of urban structure which may not be easily and immediately discernible because of historical stratification of land uses during the process of urban growth. Although most cities have only one CBD they have a series of sub-centres around nuclei. These are less specialized but enough to provide needs of smaller sections of the city (see figure 8.10).

Second observation which is more significant is about the probability of elements of the concentric and sector models present in its depth. Nothing new is involved conceptually in the multiple nuclei, and, it should not be given the status of a theory.

Actually, land uses around nuclei and in between areas filled in, they display land uses intermixing of concentric and wedge areas. The multiple nuclei approach should be looked upon "as a guide to thought about the structure of the city, rather than as a rigid generalization about urban form".