

Subject: Geography CBCS (HONS)

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CC: C9T

WEBER'S THEORY OF

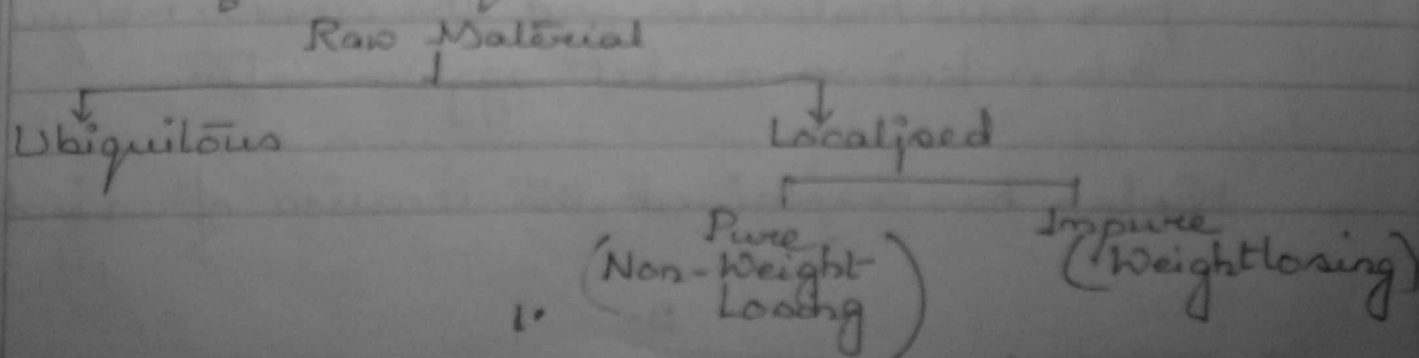
INDUSTRIAL LOCATION

Alfred Weber was a German industrial economist who first put forward his theory of industrial location in 1909. The main object of his theory was to identify the point of minimum transport cost. This theory is called 'Least Transport Cost Theory'.

Basic Assumption:

- 1) A country or a region with uniformly plainland and humid climate.
- 2) Labour forces are geographically fixed.
- 3) Economy is a closed system, economy with localized inputs and distribution of output within the region.
- 4) Transport cost is directly proportional to the goods and distance travelled.
- 5) Individual buyers and sellers do not influence the price of the products by their own actions.

Classification of raw materials



Concept of Material Index:

Material index (m) is calculated as the ratio between the weight of the localised raw material input (R_w) and the weight of finished product (F_w).

$$m = \frac{R_w}{F_w}$$

According to Weber, m can be of three situations

i) First Situation ($M > 1$) - In this case industry uses impure raw materials.

For minimise transport cost industry will be located near raw material source. This is known as raw material agglomeration.

ii) Second Situation ($M = 1$) - In this case, ^{industry} uses pure raw material. In this

situation industry may be located at either raw material centre or market centre or any place between two. This is known as Deagglomeration.

iii) Third Situation ($M < 1$) - In this case industry uses two inputs. One is pure raw materials and the other is ubiquities. This is known as market agglomeration.

Weber has explained the location of an industry

on the least transport cost location using a 'locational triangle'. In a weight-losing manufacturing process such as iron smelting, the least transport cost location is near to the sources of the raw material. In a weight-gaining industry such as baking, a market-oriented location is attractive.

Weber also examined the effects of labour costs on location since he considered that industries would be located away from the point of least transport costs to the point of least labour costs if savings in labour costs were greater than any additional transport costs involved in such a move. For this, he has used 'isodapanes' (cost contours) or lines of equal transport cost per unit of production.

Criticism:

1. His transport rates and the effects of agglomeration is too abstract.
2. He has been criticised for his emphasis upon supply analysing the effect of different costs while holding demand constant at a point, thus preventing it from playing a role in plant location.

Reference:—

- 1) Economic and Social Geography - Made Simple Series → Knowled, Wareing.

VON THÜNEN'S MODEL OF AGRICULTURAL LAND USE

The earliest of the spatial variation in agricultural activity theory is that of the German Johann Heinrich von Thünen in 1826. He was a practising agriculturist. He studied the different agricultural zones around the city, presented an analytical framework for studying various types of cultivation around a city on the basis of economic relationship between a city and rural areas; He considered various problems on spatial exchange economy e.g. the influence of city on the price formation of agricultural goods, influence of distance from city upon the agriculture and net income of farmers and influences of growing cities upon the cultivated rural areas.

Basic Assumptions

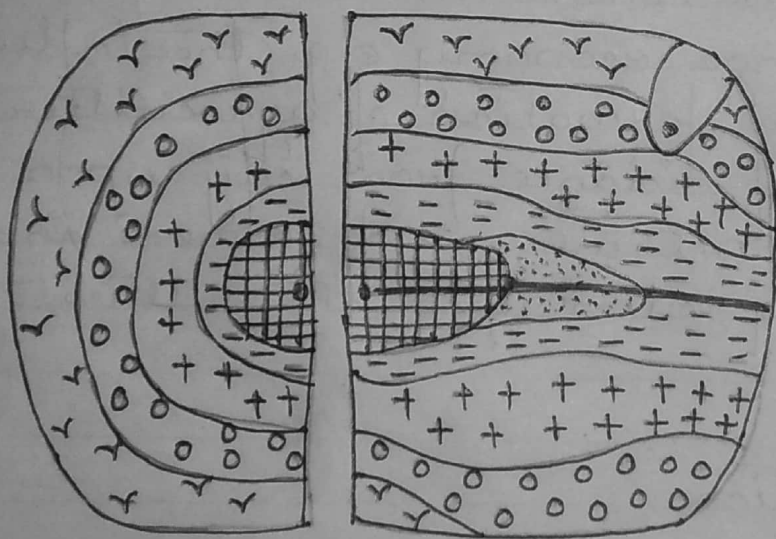
The theory initially makes the following assumptions: -

- 1.) Isolated state, cutout from outside influences
- 2.) Single large city dominates as the sole urban market.

- 3.) The assumption of a levelled featureless plain with equal fertility.
- 4.) Mode of transportation and cost of transportation is uniform.
- 5.) Surrounding plain provide food for city in return for service.
- 6.) Farmer knows how to maximise his profit.

Zoning System of Von Thünen:

Von Thünen postulated that six concentric zones of agriculture would develop around the market city.



- Central City
- ▣ - Market Gardening & Milk Production
- ▣ - Firewood Production
- ▣ - Grain Farming without Fallow
- ▣ - Grain Farming, Fallow & Pasture
- ▣ - Three Field System
- ▣ - Livestock Farming
- ~ - Navigable River

Location of Agricultural Product
(After Von Thünen)

Zone - 1 - The land nearest to the market would be used to produce perishable items, e.g. milk and vegetable. These activities are concentrated in the inner zone because of the slowness of transportation and absence of refrigeration.

Zone - 2 - The inhabitant of second concentric zone would specialize in producing wood, with firewood in much greater demand than timber.

Zone 3, 4 & 5 - These areas would tend to be devoted mainly to grains and other crops. The distinction among these zones need not be spelled out here, except to note that with distance from the city, the intensity of cultivation would decrease.

Zone - 6 - This would be the region of livestock farming.

Modification - Von Thünen theory would be modified by the presence of a navigable river and a smaller market city. The river would provide cheaper transportation, hence its effect would be to lengthen out the zone along its course. The smaller city would serve zones around itself on a smaller scale than those around the larger city and extending further on the side away from the main city.