

# IDEAS OF EDWARD ULLMAN

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- \* **Transportation is the flow of people, goods, ideas and information from one place to another.**

- \* Spatial Interaction is a dynamic flow process from one place to another.

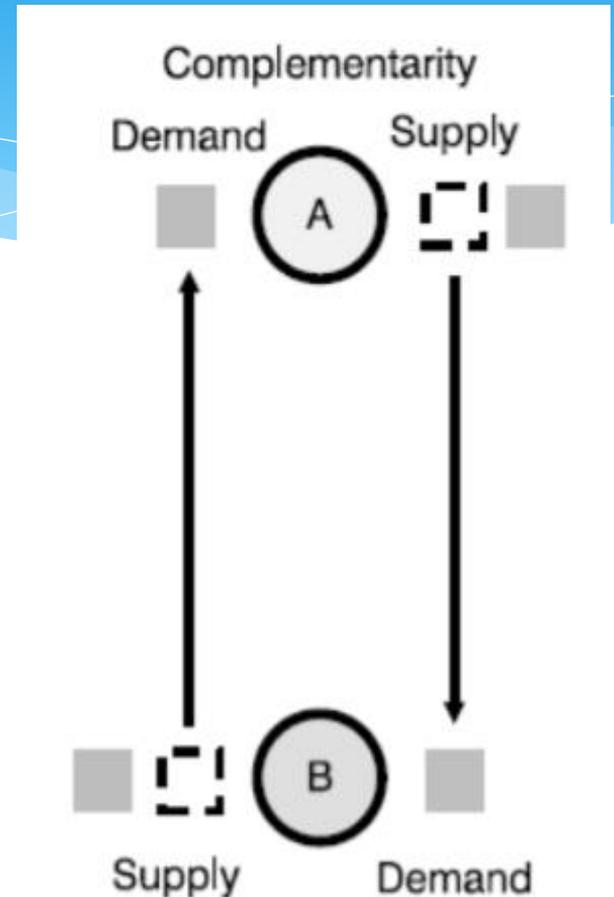
- \* During the 1950s, Edward Ullman considered the three basic concepts of spatial interaction and it is also known as Ullman's triod, which are following:

- \* Complementarity
- \* Transferability
- \* Intervening opportunity

# Complementarity:

Complementarity basically refers to the presence of a demand or deficit at one location and a supply or surplus at another without which there is no economic rationale for any movement.

E.g. A workplace such as a factory or office is an example of place with a demand of labor, while a residential areas are sources of supply of workers.



The complementarity surplus- deficit relationship is commodity specific and if the deficit is precisely specified, the direction and distance of movement will depend on the location where there is a surplus of just that kind of good. This factor causes movement between far off as well as close by locations.

This form of complementarity is causing spatial flow.

# Transferability:

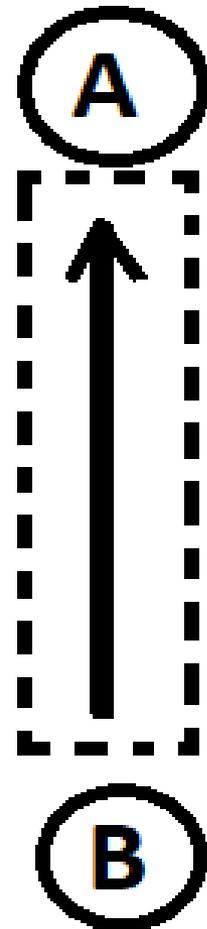
It refers to the cost of overcoming distance measures in real economic terms of either time and travel cost.

The cost of overcoming distance is known as the friction of distance.

If the friction is more, then interaction will not occur in spite of a complementarity supply-demand relationship.

- \* Friction of distance depends on the prevailing transportation technology and the price of energy.
- \* As distance increases, interaction falls. There is an inverse relation between number of interaction and distance.
- \* The ability of the commodity to bear the costs of movements. If it costs too much money to transport or it takes too long time to arrive then interaction will not take place.
- \* High value, low weight goods are transferred imminently and exported on a global scale, while heavy weighted and low value goods are used in a very close from the production site.

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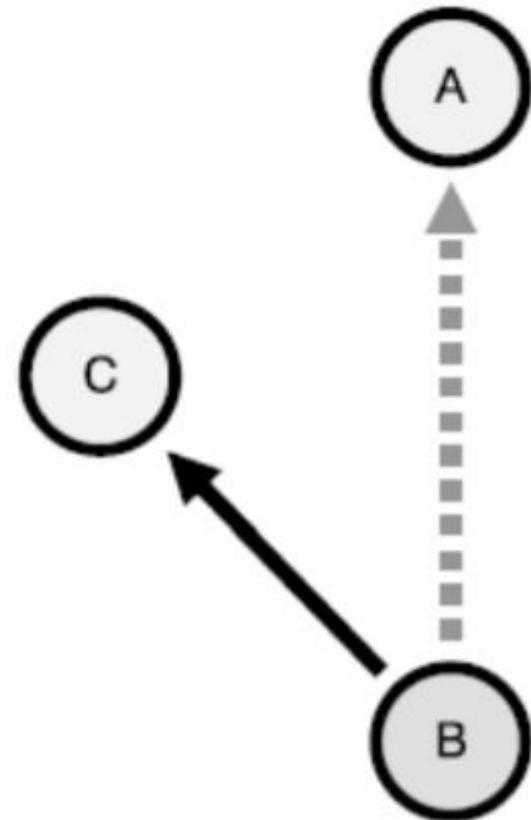
# Intervening opportunities:

- \* Intervening opportunity is the third basis for interaction although it typically is considered as the reason for a lack of interaction between two complementary locations.
- \* So complementarity will only generate same kind of flow, if there is no intervening, or closer, location.
- \* The flow of goods that would otherwise occur between two complementary locations may be diverted to a third location if it represents an intervening opportunity, a closer complementary alternative with a cheaper overall cost of transportation.

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## Intervening Opportunity:

- \* Flows to the more distant complementary location might never have been established the transportation infrastructure not been constructed in a series of incremental extensions to a series of intervening opportunity.



# THANK YOU

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