

Human Geography Models and Theories

Table of Contents

Unit I

1. Space-time compression
2. Environmental Determinism
3. Possibilism
4. Gravity Model

Unit II

5. Malthusian Theory
6. Ravenstein's Laws of Migration
7. Demographic Transition Model
8. Push/Pull Factors & Barriers to Migration

Unit III

9. Backward Reconstruction
10. Model for adoption and diffusion of innovations
11. Renfrew Hypothesis
12. Indo-European Language hearth

Unit IV

13. Evolution of boundaries
14. The Heartland Theory
15. Organic Theory of Nations
16. Rimland Theory
17. Territorial Morphology

Unit V

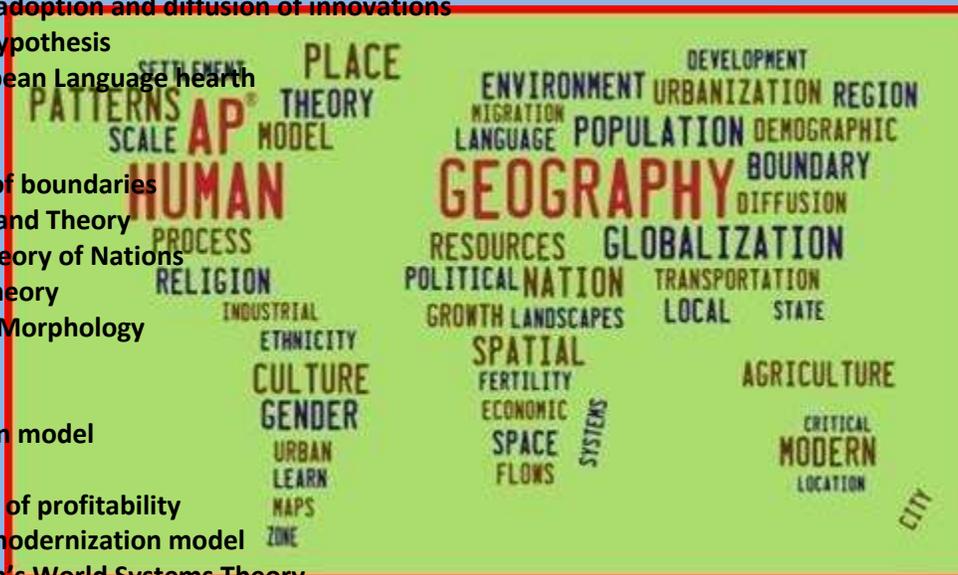
18. von Thunen model

Unit VI

19. Losch zone of profitability
20. Rostow's modernization model
21. Wallerstein's World Systems Theory
22. Weber's Least Cost Theory
23. Hotelling's Locational Interdependence Model
24. Brandt Line (North South Divide)

Unit VII

25. Burgess Concentric Zone Model
26. Central Place Theory
27. Multiple Nuclei Model
28. Sector Model
29. Rank Size Rule vs. Primate City
30. SE Asian City Model
31. Urban Realms of a City Model
32. Edge Cities
33. Latin American City Model

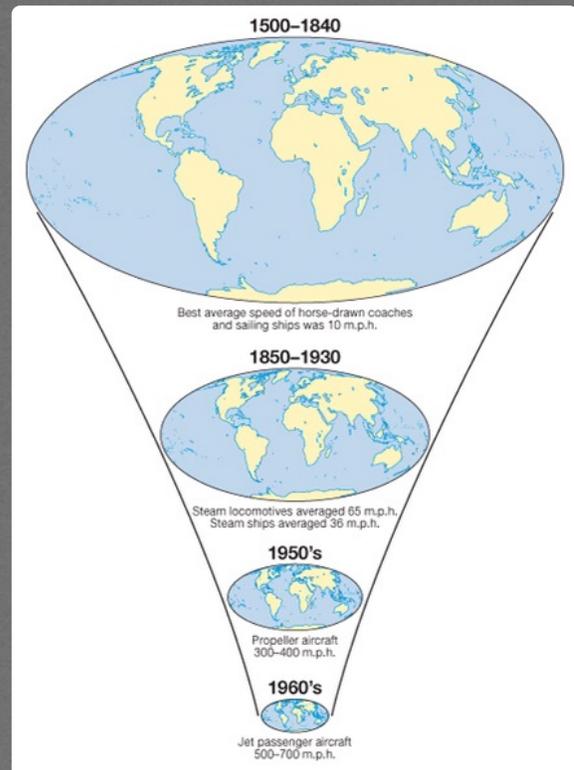


SPACE TIME COMPRESSION

- Time-space compression is a term used to describe processes that seem to accelerate the experience of time and reduce the significance of distance during a given historical moment
- first articulated in 1989 by geographer David Harvey

Time-space compression often refers to technologies that seem to accelerate or elide spatial and temporal distances, including the following:

- Technologies of communication (telegraph, telephones)
- Travel (rail, cars, trains, jets)
- Economics



This Picture is an example of how big Earth has gotten for travel over the years because of space time compression.

Environmental Determinism:

The view that the physical environment sets limits on human social development. A nineteenth- and early twentieth-century approach to the study of geography which argued that the general laws sought by human geographers could be found in the physical sciences. Geography therefore became focused on the study of how the physical environment affected, or even caused, human culture and activities.

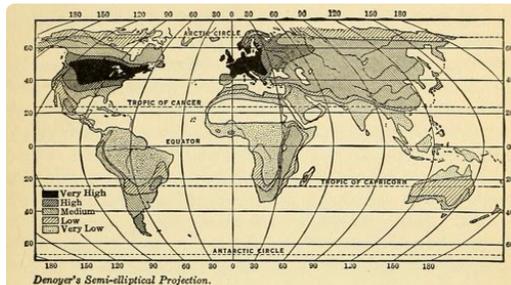


FIG. 14. WORLD MAP OF CLIMATIC ENERGY.

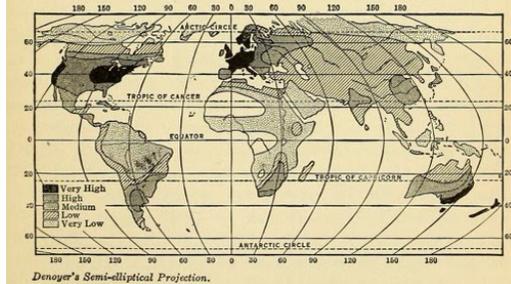
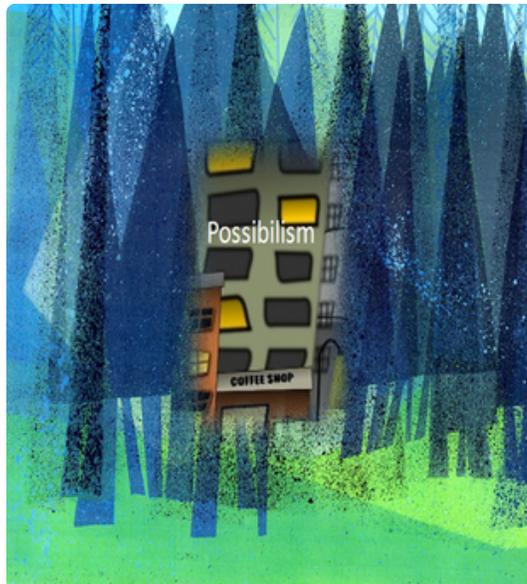


FIG. 15. WORLD MAP OF CIVILIZATION.
From *Business Geography*. Courtesy of John Wiley & Sons.

Environmental determinism is important to the cultural landscape because it is believed to play a key role in the development of every place on the planet. It is believed to have influenced many things, from population density, economic activity, and relationships between areas. People used to be limited to the things around them when producing goods, and thus this idea had much more merit years ago when communications and transportation were far less advanced. '

Possibilism

Definition: The theory that the physical environment may set limits on human actions, but people have the ability to adjust to the physical environment and choose a course of action from many alternatives.

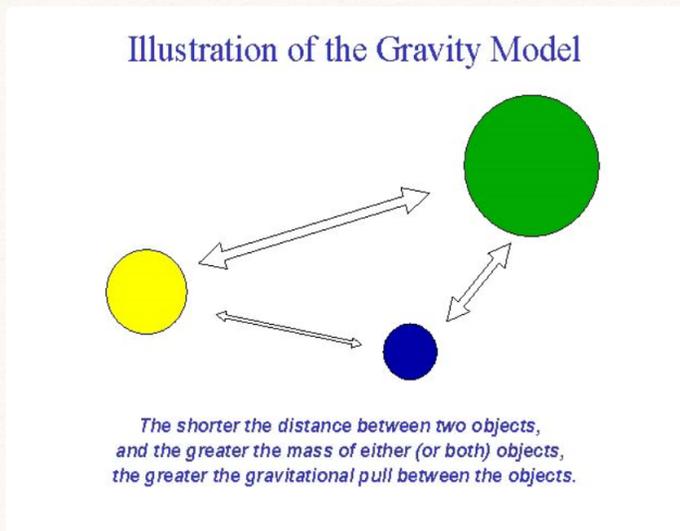


People have limits on what they can build based on their environment. For example, mountains make it extremely difficult for people to affect the landscape.

Gravity model

Definition: uses size of location and distance as factors of travel .size of the location rules over distance most of the time.

Gravity model applies to cultural landscape since the population gets denser as we get closer to major cities. This affects the type of



retails and the surroundings to accommodate for the large masses traveling to the area. Some cities for example will focus on adding tourist attractions if they get a lot of visitors. People are willing to go to a major central city than to a small city even if the smaller city is closer.

Examples :

Traffic flow

Migration between two cities

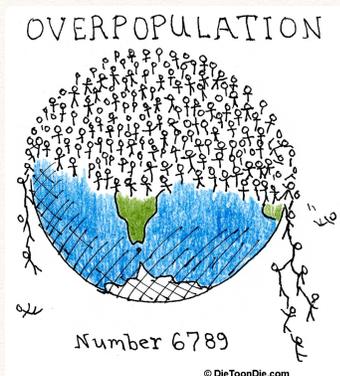
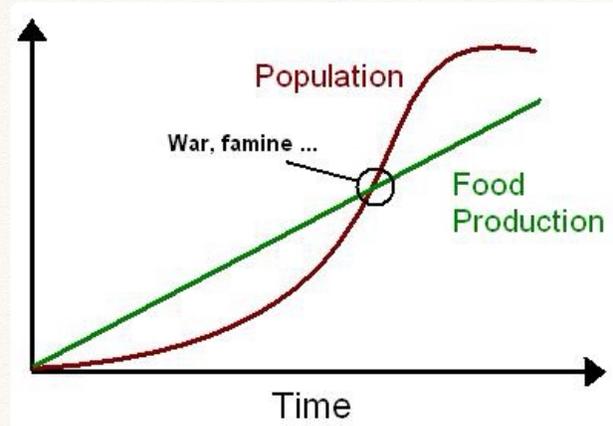
Number of people likely to use on central place

Malthusian Theory

Thomas Malthus was the first economist to propose a theory of population. He proposed that human populations grew exponentially while food productions grew at an arithmetic rate.

When the two graphs meet each other, it represents a point of disaster (war, famine, etc).

Malthus also predicted that if the population grows at a faster rate than the food production, eventually the world would run out of food to feed the whole population.



These Malthusian catastrophes have not taken place on a global scale due to progress in agricultural technology. However, many argue that future pressures on food production, combined with threats such as global warming, make overpopulation a still more serious threat in the future.

Ravenstein's Laws of Migration

1885; Ernst Ravenstein (studied internal migration in England.

Definition: E. G. Ravenstein (1885) stated that:

1. Most migration is over a short distance.
 2. Migration occurs in steps.
 3. Long-range migrants usually move to urban areas.
 4. Each migration produces a movement in the opposite direction (although not necessarily of the same volume).
 5. Rural dwellers are more migratory than urban dwellers.
 6. Within their own country females are more migratory than males, but males are more migratory over long distances.
 7. Most migrants are adults.
 8. Large towns grow more by migration than by natural increase.
 9. Migration increases with economic development.
2. Migration is mostly due to economic causes.

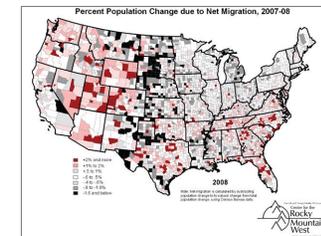
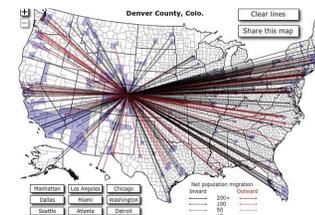
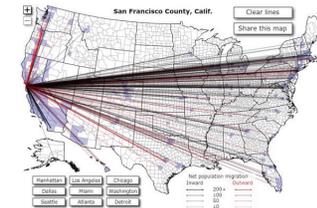
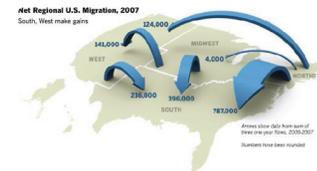
Ravenstein's laws of migration can be summarized into 5 general rules

- A. Net Migration amounts to only a fraction of the gross migration between 2 places
- B. The majority of migrants move short distances
- C. Migrants who move longer distances tend to choose big city destinations
- D. Urban residents are less migratory than people in rural areas
- E. Families are less likely to make international moves than young adults

Connection to cultural landscape: Ravenstein's findings stimulated an enormous volume of work, and, although the 'laws' have been adjusted by succeeding researchers, they have not been totally rejected. Observations of each 'law' as applied to Britain in the 1980s, for example, show that with respect to point 1, over half the moves made annually in England and Wales were in the same local authority area; and to point 3,

that the largest urban centers received the highest number of immigrants.

Images/Applications:



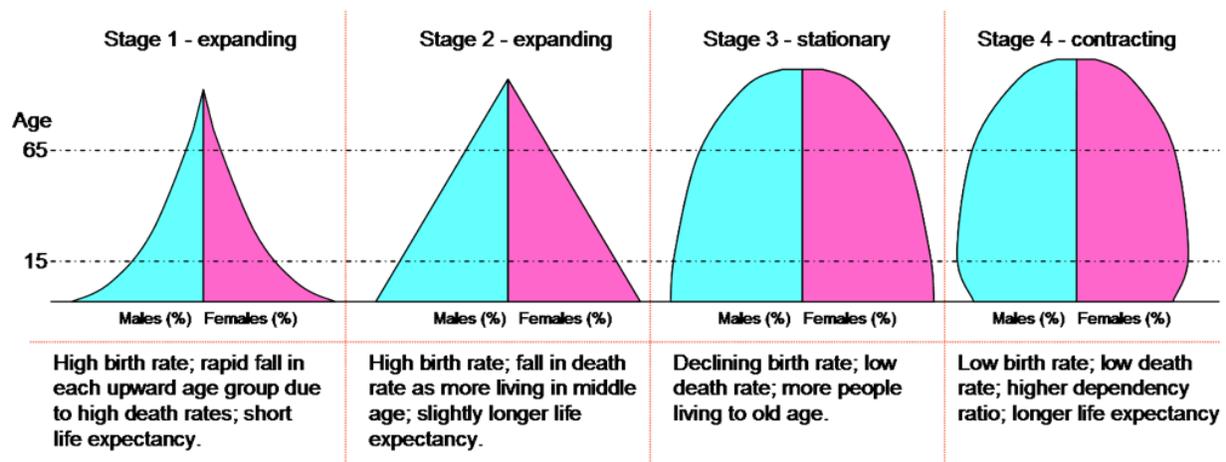
Countries with highest annual net migration 2010-2050		Most crowded countries in Europe	
Country	People per sq/km	Country	People per sq/km
U.S.	1.1m	England	395
Canada	214,000	Holland	393
Britain	174,000	Belgium	341
Spain	170,000	Germany	232
Italy	159,000	Italy	195
Germany	110,000	Luxembourg	177
Australia	100,000	Czech Republic	129
France	100,000	Denmark	126
		Poland	118
		Portugal	114
		France	111

Source: UN Population Division: World Population Prospects, 2008 Revision

Malta (1,274 people per sq/km), is not included as it is regarded as a special case. Source: Office for National Statistics

The Demographic Transition Model

Definition: This model displays the shift in population growth in a given region. The model splits countries up into five stages. Stage one is associated with low growth, stage 2 is increasing growth, stage 3 accounts for a population explosion, stage 4 is decreasing growth, and stage 5 is declining population.



Country Examples

Stage 1: Uganda

Stage 2: Afghanistan

Stage 3: China

Stage 4: United States

Stage 5: Japan

This relates to the cultural landscape since the Demographic Transition Model tracks changes in population according to changes in economic development. The more developed countries in stage 3 and higher are leaving more of an impact on the landscape due to technological advances and shift from traditional practices.

Push/Pull Factors and Barriers to Migration

Pull factor

- Positive conditions and perceptions that effectively attract people to new locales from other areas.
- Pull factors are exactly the opposite of push factors; they are factors that attract people to a certain location.
- An examples of these push factors are job opportunities; better living conditions; political and/or religious freedom; enjoyment; education; better medical care; and security. To migrate, people place so attractive that they feel pulled towards it.
- Push factor
- Negative conditions and perceptions that induce people to leave their abode and migrate to a new locale.
- Push factors are conditions that can drive people to leave their homes, they are forceful, and relate to the country from which a person migrates.
- An example of push factors are: not enough jobs in your country; few opportunities; "Primitive" conditions; desertification ; famine/drought ; political fear/persecution ; poor medical care; loss of wealth; and natural Disasters.



Barriers to Migration

- The reasons that people migrate would be due to push and pull factors. Push and Pull factors are forces that can either induce people to move to a new location or oblige them to leave old residences; they can be economic, political, cultural, and environmentally based.

Factors of Migration Push Factorsand Pull Factors

• ECONOMIC:

Push: People think about emigrating from places that have few job opportunities. Because of economic restructuring, job prospects often vary from one country to another and within regions of the same country.

Pull: People immigrate to places where the jobs seem to be available. An area that has valuable natural resources, such as petroleum or uranium, may attract miners and engineers. A new industry may lure factory workers, technicians, and scientists.

• CULTURAL:

Push: Forced international migration has historically occurred for two main cultural reasons: slavery and political instability. Millions of people were shipped to other countries as slaves or as prisoners, especially from Africa to the Western Hemisphere. Wars have also forced large-scale migration of ethnic groups in the 20th and 21st centuries in Europe and Africa. Another push factor would be the fear of prosecution and these people would be refugees (people who have been forced to migrate from their homes and cannot return for fear of persecution.)

Pull: Political conditions can also operate as pull factors, especially the lure of freedom. People are attracted to democratic countries that encourage individual choice in education, career, and place of residence. After Communists gained control of Eastern Europe in the late 1940s, many people in that region were pulled toward the democracies in Western Europe and North America.

• ENVIRONMENTAL:

Push: Migrants are pushed from their homes by adverse physical conditions. Water-either too much or too little-poses the most environmental threat. Many people are forced to move by water-related disasters because they live in a vulnerable area, such as a floodplain. A lack of water pushes others from their land. Hundreds of thousands have been forced to move from the Sahel region of northern Africa because of their drought conditions. The capacity of the Sahel to sustain human life has declined because of growth and years of low rainfall.

Pull: Attractive environments for migrants include mountains, seashores, and warm climates. Proximity to the Rocky Mountains lures Americans to the state of Colorado, and the Alps pull French people to eastern France. England, France, and Florida attract migrants, especially retirees, who enjoy swimming and lying on the beach. Regions with warm winters attract migrants from harsher climates.

Backward Reconstruction

Definition : backwards reconstruction is the tracking of sounds shifts and hardening of the constants "backward" toward the original language

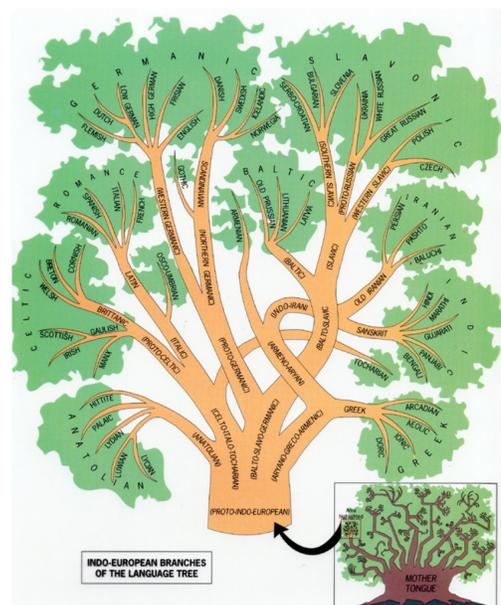
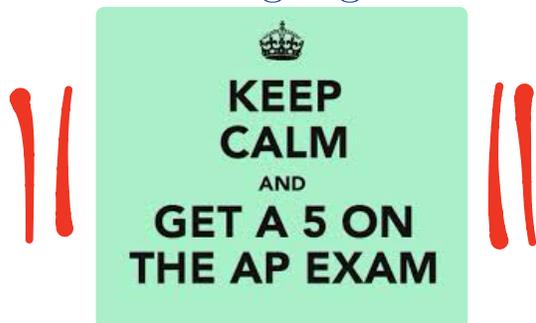


known to recreate ancient languages , this is also known as deep construction

historical linkages can be found within other languages

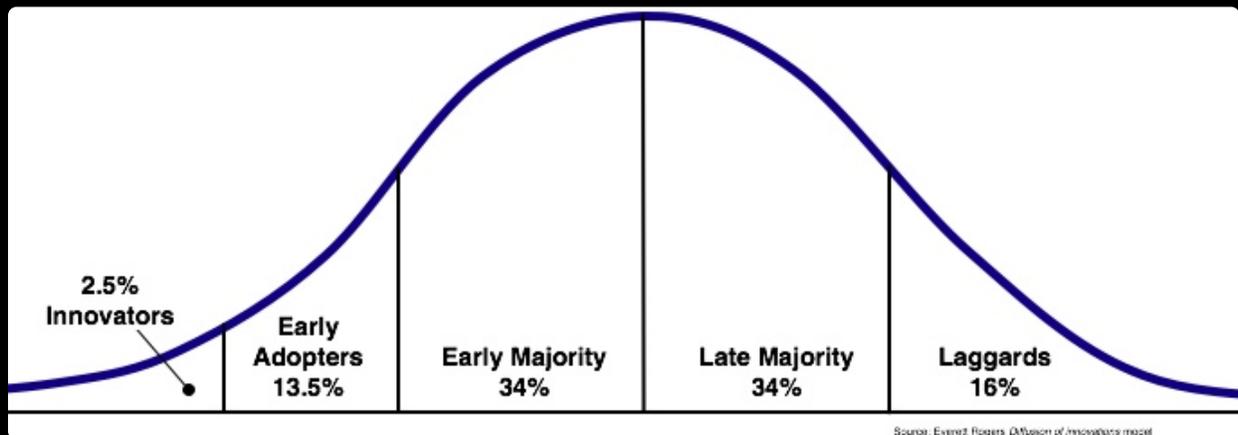
examples include :

- Indo-European language family
- proto-Indo-European language
- nostratic language



Model for adoption and diffusion of innovations

Diffusion of Innovation Theory, developed by Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (i.e., purchase or use a new product, acquire and perform a new behavior, etc.). The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.



There are five established adopter categories, and while the majority of the general population tends to fall in the middle categories, it is still necessary to understand the characteristics of the target population.

Innovators - These are people who want to be the first to try the innovation. They are venturesome and interested in new ideas. Very little, if anything, needs to be done to appeal to this population.

Early Adopters - These are people who represent opinion leaders. They enjoy leadership roles, and embrace change opportunities. They are already aware of the need to change and so are very comfortable adopting new ideas.

Early Majority - These people are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it.

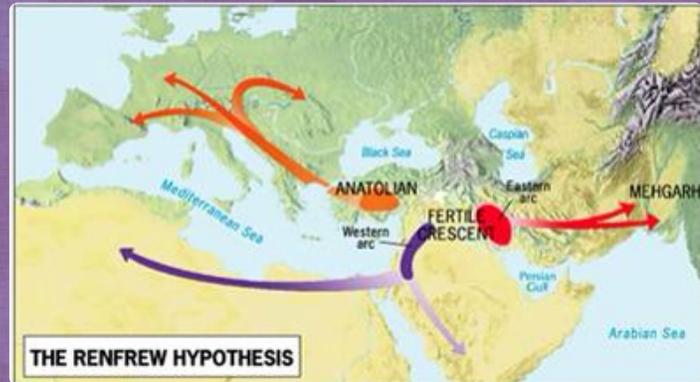
Late Majority - These people are skeptical of change, and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully.

Laggards - These people are bound by tradition and very conservative. They are very skeptical of change and are the hardest group to bring on board.

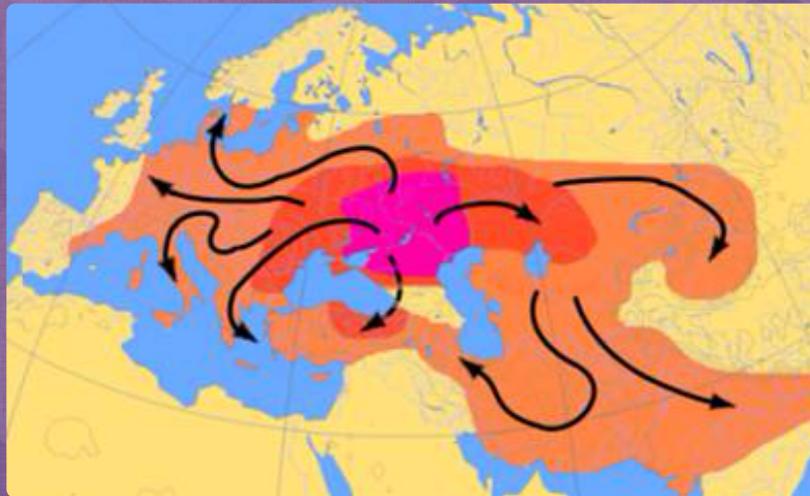
Renfrew Hypothesis-

The belief that three areas near the first agricultural hearth, the Fertile Crescent, gave way to the first three language families, Indo-European, North African and Arabic, and languages near Iran and Afghanistan.

This was created by Colin Renfrew.



The model shows the direction of the languages spreading away from the hearth. This is related to the cultural landscape because the language shaped the cultural landscape, and it followed in the path of different main areas of land.



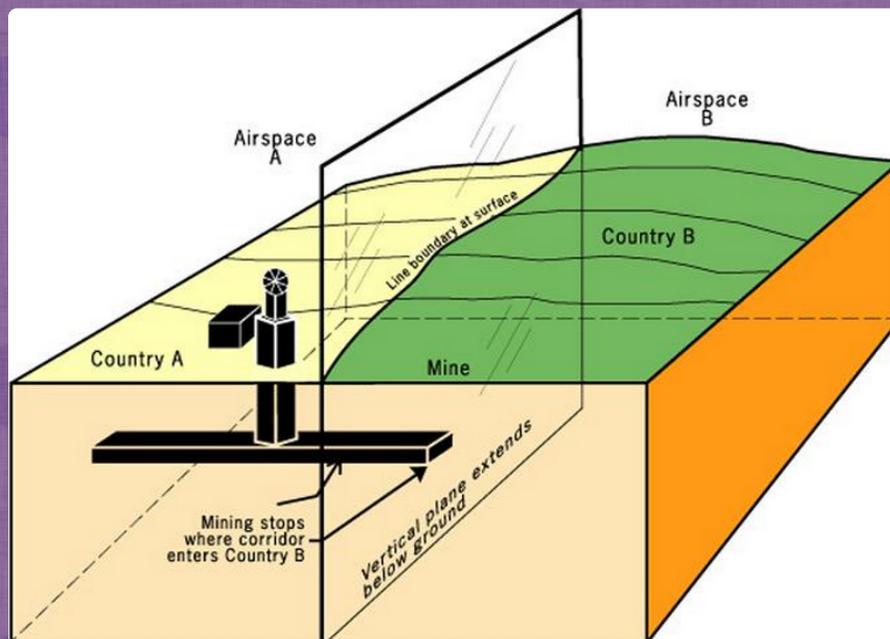
Boundaries

Boundaries: Borders that separate territories of individual states.

Two types of boundaries are physical and cultural.

Physical boundaries: a territorial agreement based off a feature in the physical geographic landscape. This includes rivers, mountains, and geometric boundaries (latitude and longitude).

Cultural boundaries: boundaries that have been shaped by the cultural landscape of the area. This includes language and religions.



This model shows how boundaries are on a vertical plane that cuts through the rock below and the air space above a territory.



Definition:

The Heartland Theory is the theory that states Eastern Europe is the heartland of the world and that whoever controls it can rule the world. The model has the rest of Europe and Asia as the rimland which joins with the heartland as the most wealthy and powerful mass of land.



Sir Halford J. Mackinder (1861-1947)

Origin:

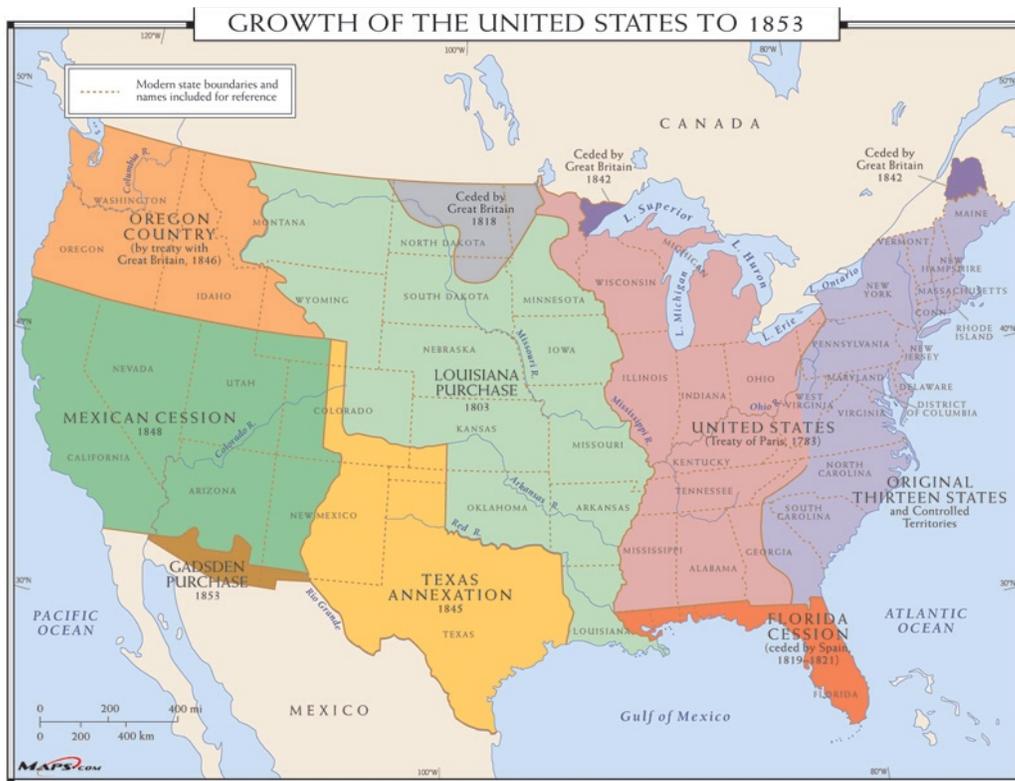
The Heartland Theory was first proposed by Halford Mackinder in 1904. When the model was created the Russian Empire was in control of the area he proposed was the heartland.

Modern application:

The principles of the heartland theory are obvious in the United States modern foreign policy. This can be seen through our constant military presence in the Middle East and Europe in and around the so called pivot area.

The organic theory of nations is about how a nation or a state grows as if it itself was a living thing. If you trace a nation it develops and matures over time just like you would see in an organic life form.

This theory applies to a state when it's developing because it shows how a state grows and becomes an organic life force for it developers tends to grow out and it matures as a whole. The world is changed because of the change of control of land and the people who live in that area.



Definition: Basically believers of the Rimland theory believe he who controls the Rimland rules Eurasia, and who rules Eurasia controls the world. Nicholas John Spykman, professor at Yale university, created the Rimland theory

-Rimland, or inner crescent, contains most of world's people as well as large share of world's resources. Nick thought the rimland theory was better than the Heartland theory because the Rimland is in between Heartland and marginal seas, so it was more important than Heartland. It included Asia minor, Arabia, Iran, Afghanistan, South East Asia, China, Korea and East Siberia except Russia

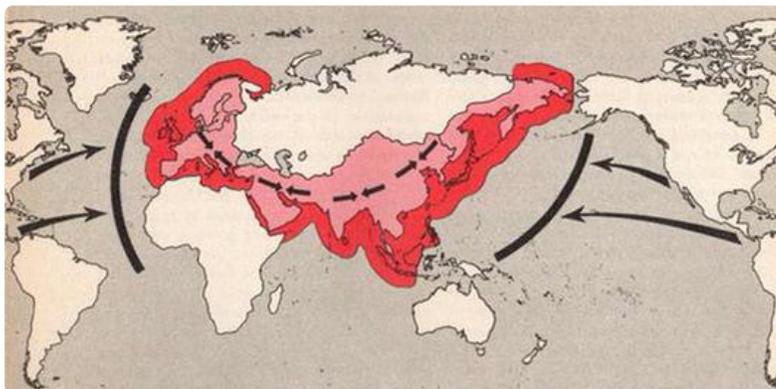
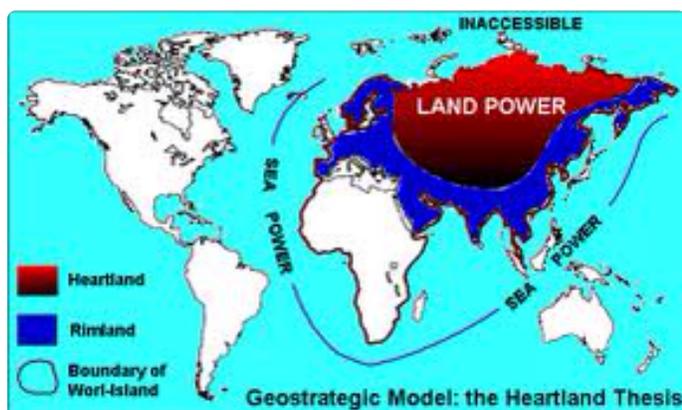


Image of the Rimland theory



Difference between Heartland and Rimland

Territorial Morphology

Territorial morphology is the study of states' shapes and their effects



Compact



Prorupt



Elongated



Fragmented



Perforated

There are 5 kinds of state shapes

- Compact
- Prorupt
- Elongated
- Fragemnted
- Perforated

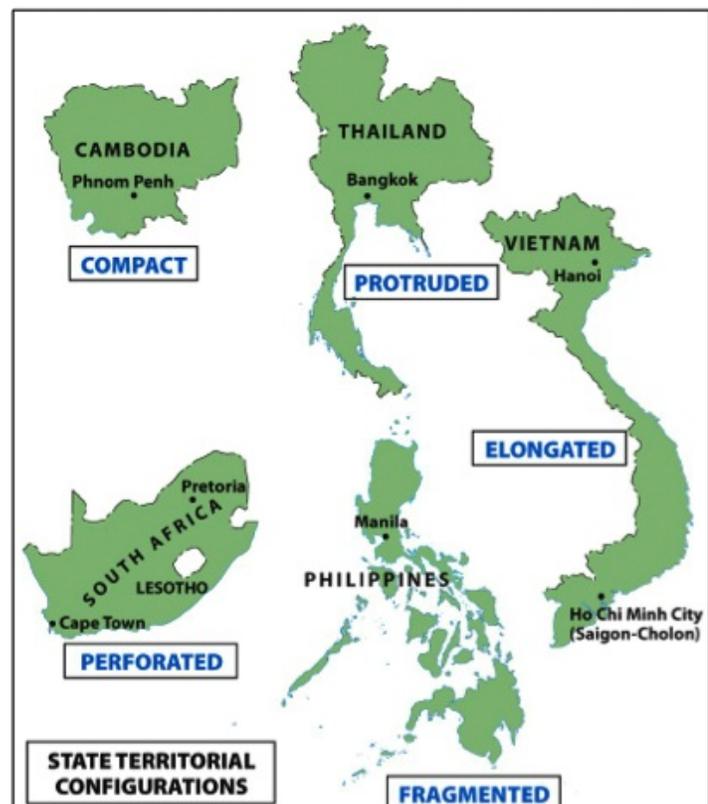
Compact states are states that are small and circular. These states are normally easier to govern.

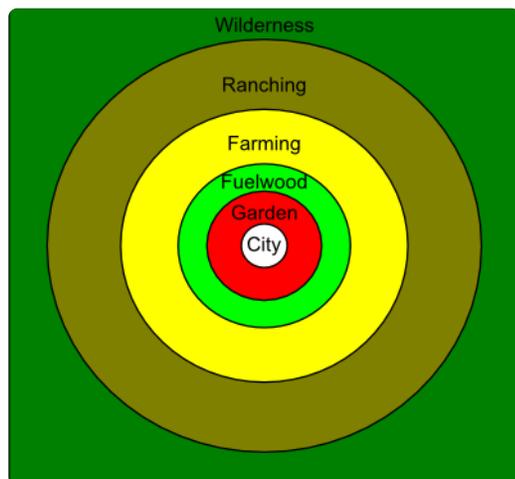
Prorupt states are states with a tail sticking from it

Elongated states are slim and long.

Perforated states are states with a hole in them

Fragmented states are states that have chunks everywhere and are apart





Shows all agricultural products and their proximity to the marketplace. Von Thunen developed the model to explain and predict agricultural land use patterns. Transportation costs play a large role in Von Thunen's model.

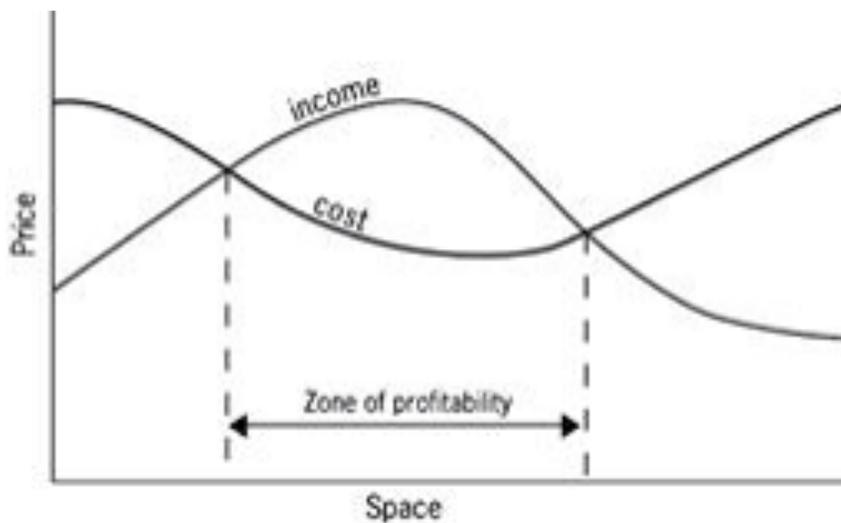
This model assumes that soil quality climate are consistent throughout the land. It also assumes the land is completely flat and a no rivers or mountains.

The market is a central node and the model is concentric. Perishable goods are near the central market place as well as bulky products to avoid high shipping costs.

Globalization is making this model less relevant.

Definition: zone of profitability is basically a zone in which how much you earn is more than the costs.

August Losch (1967) worked to determine the locations manufacturing plants could choose to maximize profit. He added the spatial influence of consumer demand and production costs to his calculations.



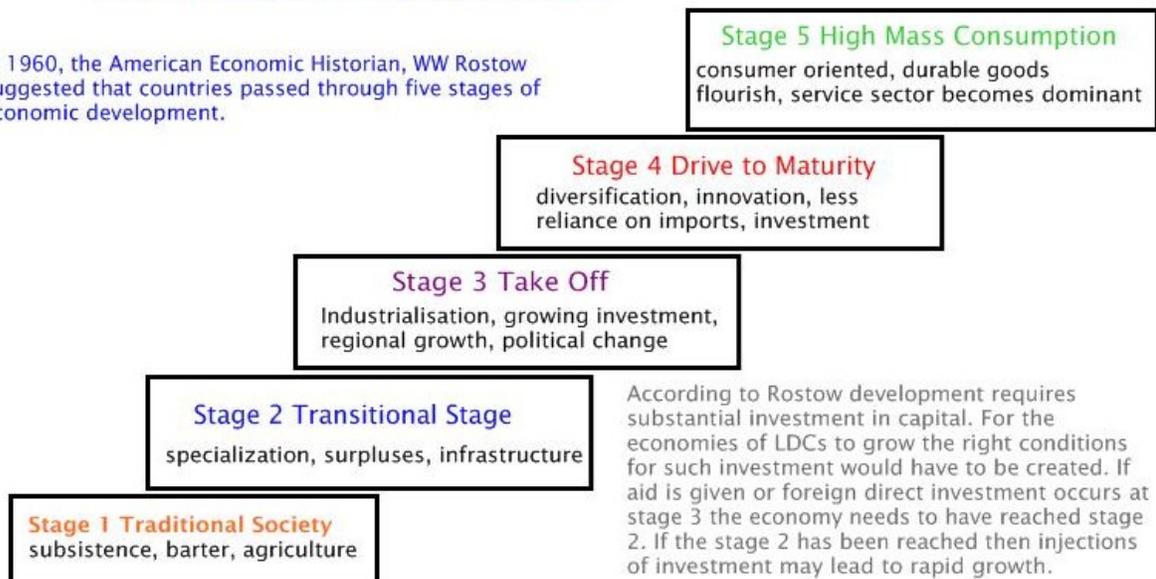
Rostow's Modernization Model

The Modernization Model, developed by American economist Walt Whitman Rostow, is a structuralist model that shows economic development in 5 stages: 1. Traditional Society, 2. Transitional Society, 3. Take-off, 4. The Drive to maturity, and 5. High Mass Consumption. Each stage is a function of productivity, economic exchange, technological improvements, and income. Economic growth occurs when moving from one stage to the next.

Rostow's Model - the Stages of Economic Development

<http://www.bized.co.uk/virtual/dc/copper/theory/th9.htm>

In 1960, the American Economic Historian, WW Rostow suggested that countries passed through five stages of economic development.



Examples:

Stage 1: Sub-Saharan Africa, parts of rural Latin America

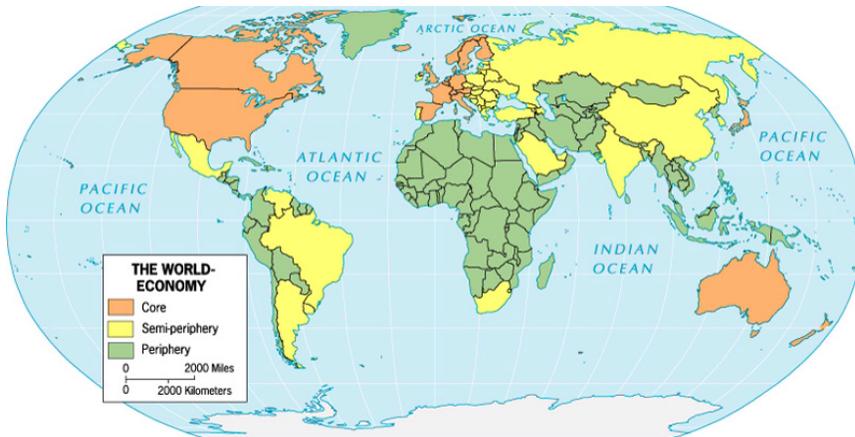
Stage 2: Vietnam

Stage 3: Egypt

Stage 4: India, China, Brazil

Stage 5: America, Japan

WALLERSTEIN'S WORLD SYSTEM THEORY

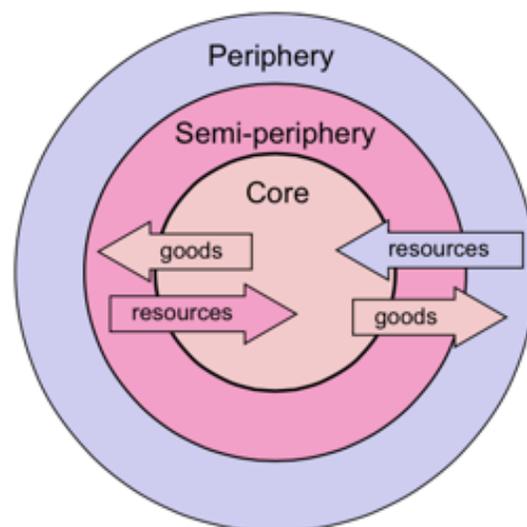


DEFINITION

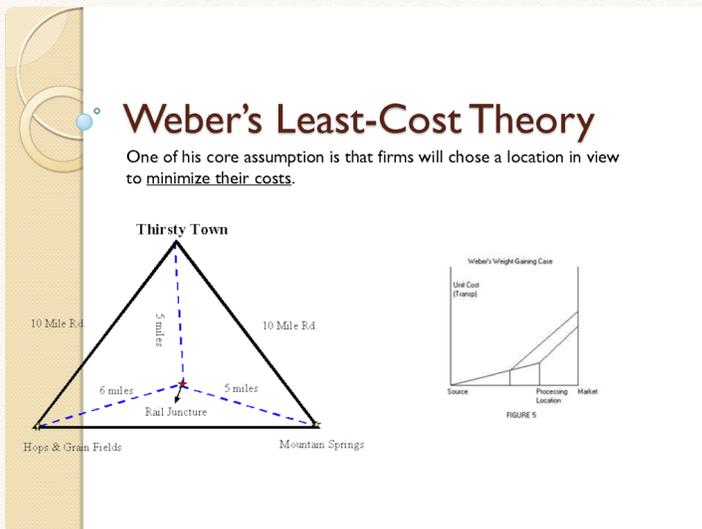
Three-tier structure, proposing that social change in the developing world is inextricably linked to the economic activities of the developed world

ANALYSIS

Immanuel Wallerstein's theory divides the world up into the "Periphery, Semi-periphery, and Core". It helps us understand how Europe politically reorganized the world during colonialism, and explain how colonial powers were able to amass great concentrations of wealth. The spatial distribution of this wealth then has an affect on the cultural landscape of these areas by the transportation and presence of goods and resources.



Definition: Model developed by Alfred Weber according to which the location of manufacturing establishments is determined by the minimization of three critical expenses: labor, transportation, and agglomeration.



Weber produced two types of locational diagrams:

- a straight line to show examples where one raw material is localized(pure or gross)
- a locational triangle to show when to localized raw materials where involved

Examples: wherever there's a farm.

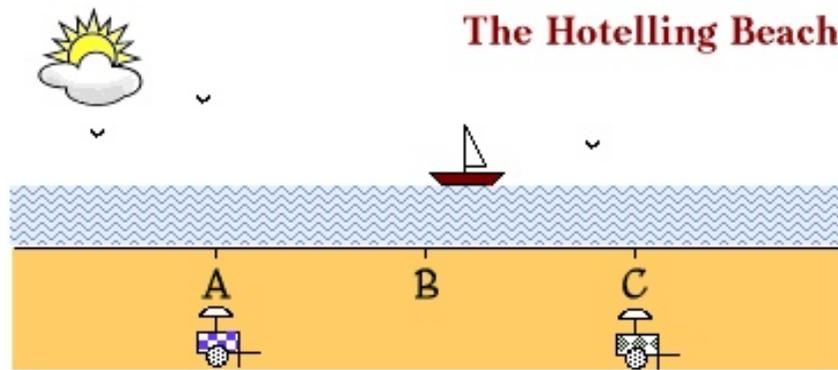
Hotellings Locational Interdependence Model

Creator: Harold Hotelling

Definition: competitors of the same business trying to maximize their sales that will seek to constrain each other's territory as much as possible which will lead them to locate in middle of their area next to each other

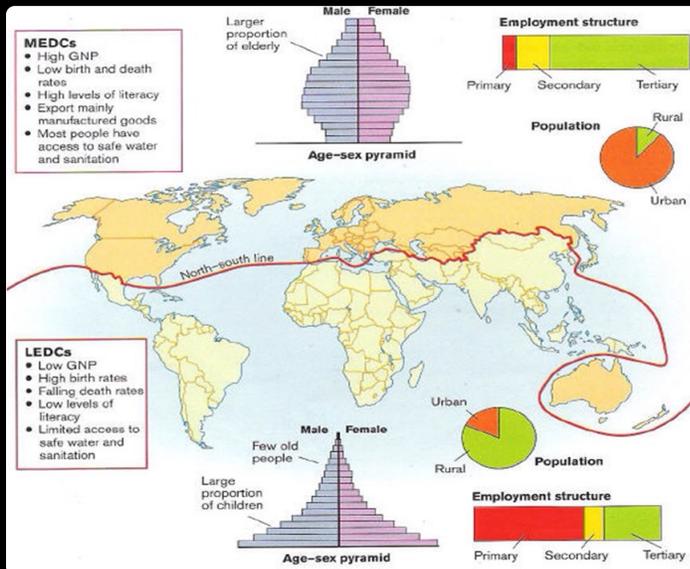
Explanation: Similar business such as fast food restaurants will be located next to each other

because they both want to eliminate each other from the fast food market and take each other's consumers.



Brandt Line (North South Divide)

Definition: The Brandt Line is a visual representation of the North-South divide of their economies. The Brandt Line representation was proposed by West German Chancellor Willy Brandt around the 1970s and the north-south divide is a socio-economic and political separation that is in-between the rich developed countries (North), and the poorer developing countries (South).

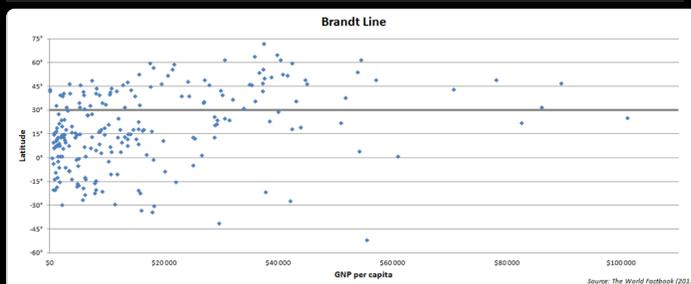


How does the Brandt Line (North South Divide) connect to the cultural landscape?

The Brandt Line (North South Divide) connects to the cultural landscape because depending on where you are from the line North (above) or South (Below), is the type of community (rich or poor) that you are going to have.

People that live in the north of the line are more privileged with advances, because they have high GNP's, low birth/death rates, better sanitation, better education, stable aged populations, great exporting of manufactured goods, better jobs, and they live in fortunate/advanced communities with hardly any rural areas.

People that live in the south of the line are less privileged because they have low GNP's, greater birth rates, lessening death rates, little education, less sanitation, mostly primary jobs, less older people, and they have a lot of the population living in rural areas with less advancements.



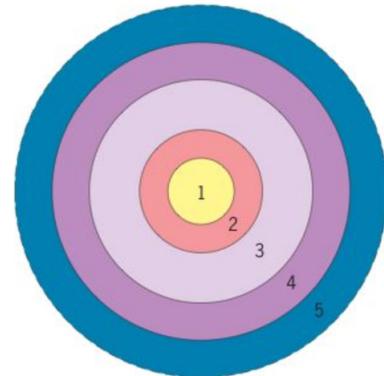
Burgess Concentric Zone Model

Creator: Ernest Burgess

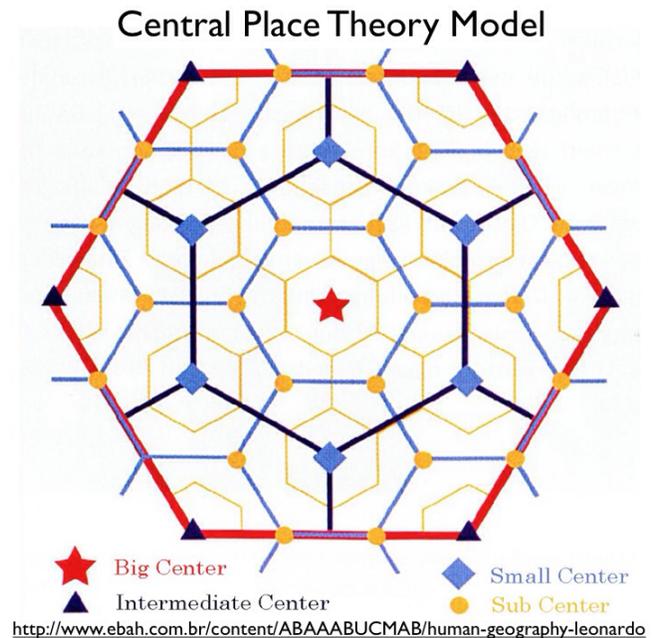
Definition: Structural model of the American central city that suggests the existence of five concentric land use rings arranged around a common center.

Explanation: The model is based off of the city of Chicago with the CBD in the center. The next is the zone of transition. Third is the workers home so they can live close the the CBD. The fourth is the high end residents and the final ring is the suburbs.

CONCENTRIC ZONE MODEL



Theory proposed by **Walter Christaller** that explains how and where central places in the urban hierarchy should be functionally and spatially distributed, through **hexagons**.



The central place theory can help you determine where the stuff in a city can be located. Also it can be helpful when making a city more connected.

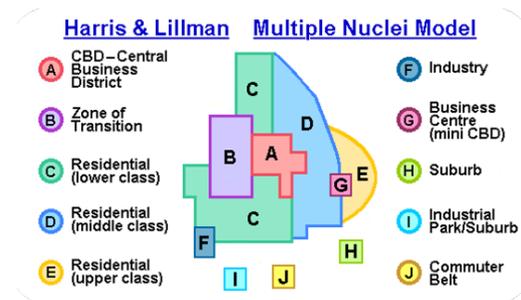
MULTIPLE NUCLEI MODEL

Definition- A model of the internal structure of cities in which social groups are arranged around a collection of nodes of activities.

Further in Depth Explanation- This model was developed in 1945 by two geographers, Chauncy Harris and Edward Ullman, to try and further describe a city's layout. They made the argument that the city's central business district/downtown was losing its importance in relation to the rest of the city and should be seen as less important, and there should be

multiple activity places. The automobile began to become increasingly more important during this time which made for greater movement of residents to the suburbs and cities. Since this was

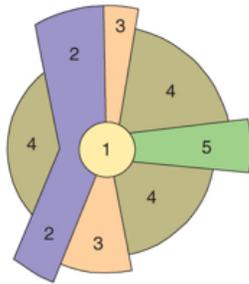
taken into consideration, the multiple-nuclei model is a good fit for sprawling and expansive cities.



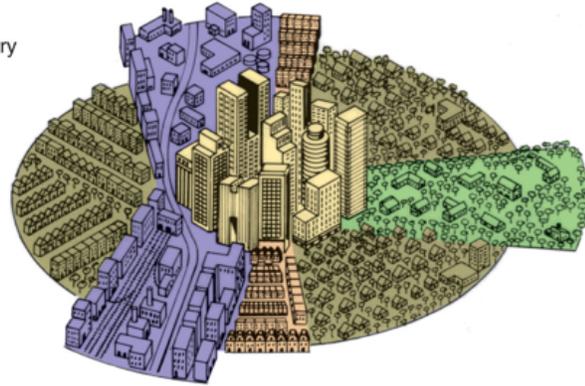
- This model was most applicable to cities post World War II around 1945

- There are multiple centers of attraction within the city, which are producing money in each place, centering around these multiple places within the city.

-Less emphasis on a single central business district, more than one, MULTIPLE centers of attraction.



1. Central business district
2. Transportation and industry
3. Low-class residential
4. Middle-class residential
5. High-class residential



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Model by Homer Hoyt

Definition: This model is on sectors, as the city grows it expands outward.

This sector has Five different sectors.

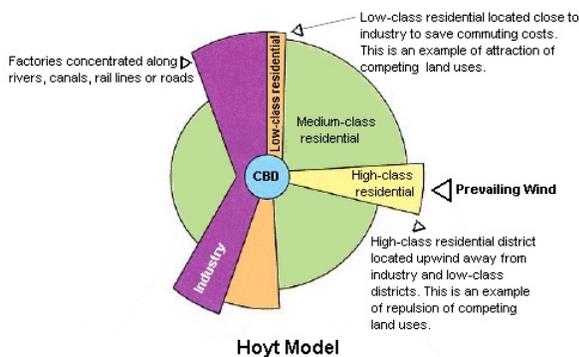
1) the CBD or the central business district where the city is usually is located with major businesses.

2) The transportation industry are out of the CBD for the factories and industry zones.

3) low class residential is where the low class population live

4) Middle class residential the most sectors on the model

5) High class residential is the smallest sector in this model.



Rank Size Rule vs. Primate City

Rank-Size Rule:

A pattern of settlements in a country, such that the nth largest settlement is $1/n$ the population of the largest settlement

- Characteristic of a model urban hierarchy
- The population of the city or town is inversely proportional to its rank in the hierarchy

For example:

Largest city = 12 million

2nd largest = 6 million

3rd largest = 4 million

4th largest = 3 million

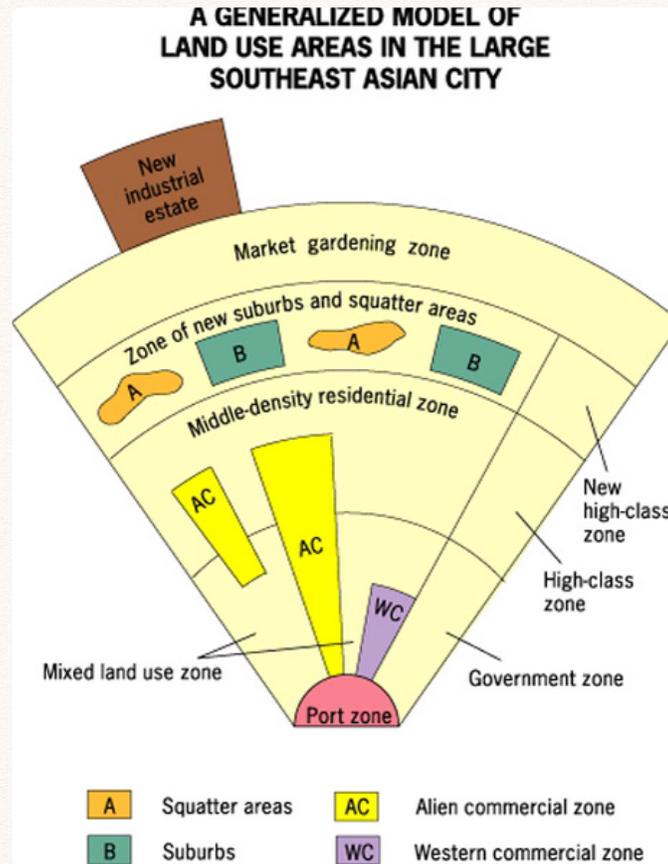
Primate City:

The leading city of a country, disproportionately larger than the rest of the cities/ The largest settlement in a country, if it has more than twice as many people as the second-ranking settlement, also known as primate distribution or urban primacy

RANK	CITY	Population as predicted by the rank-size rule	US Census population
1	New York		8,310,212
2	$1/2$ Los Angeles	4,155,106	3,850,000
3	$1/3$ Chicago	2,770,071	
4	$1/4$ Houston	2,077,553	
5	$1/5$ Phoenix	1,662,042	
6	$1/6$ Philadelphia	1,385,035	
7	$1/7$ San Antonio	1,187,173	
8	$1/8$ San Diego	1,038,780	
9	$1/9$ Dallas	923,357	
10	$1/10$ San Jose	831,021	

RANK	CITY	Population
1	México City	8,605,239
2	Guadalajara	1,646,183
3	Ecatepec	1,621,827
4	Puebla	1,271,673
5	Nezahualcóyotl	1,225,083
6	Ciudad Juárez	1,187,275
7	Tijuana	1,148,681

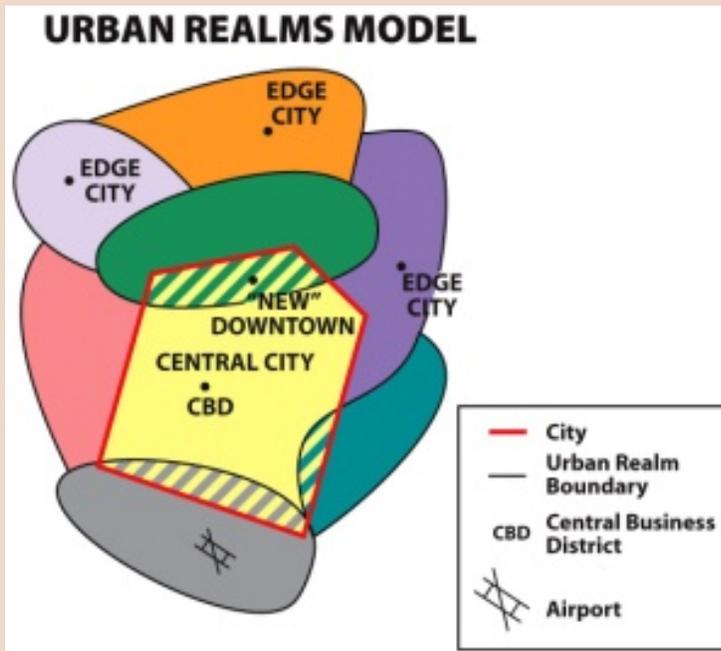
Southeast Asian City Model



In 1967, urban geographer T. G. McGee studied the medium-sized cities of Southeast Asia and found that they exhibit similar land-use patterns, creating a model referred to as the McGee model

The focal point of the city is the old colonial port zone combined with the largely commercial district that surrounds it. McGee found no formal central business district; rather, he found the elements of the CBD present as separate clusters surrounding the old colonial port zone: the government zone; the Western commercial zone; the alien commercial zone, dominated by Chinese merchants whose residences are attached to their places of business; and the mixed land-use zone that contains miscellaneous economic activities, including light industry. The other nonresidential areas are the market-gardening zone at the outskirts of the urban area and, still farther from the city, a recently built industrial park or "estate."

Urban Realms City Model



The Urban Realms City Model was created by James E. Vance, Jr. as an improvement of the multiple nuclei model. It gives an overview of economic processes in a city and provides that cities are composed of small “realms.” The realms are “self sufficient urban areas with independent focal points” (Langenfeld). The model examines all of the following:

The city’s terrain

1. (includes any land barriers)
2. The size of the city
3. How much economic activity occurs in each realm and how strong the activity is
4. The accessibility within each realm
5. The accessibility between individual realms

In the Urban Realms City Model, the CBD becomes less significant. The model points out that functions usually occurring within the CBD can be moved to the outer suburbs, taking away the importance of the CBD while the city still accomplishes the same tasks.

A great example of a city in which this model can be applied is Istanbul. The model accounts for the car, mass transportation, and marine links. It can also be applied to other large cities such as Chicago and Los Angeles.

Source:

Langenfeld, Jacob. "Urban Geography Models." *About.com Geography*. N.p., n.d. Web. 30 Apr. 2014.

Edge cities

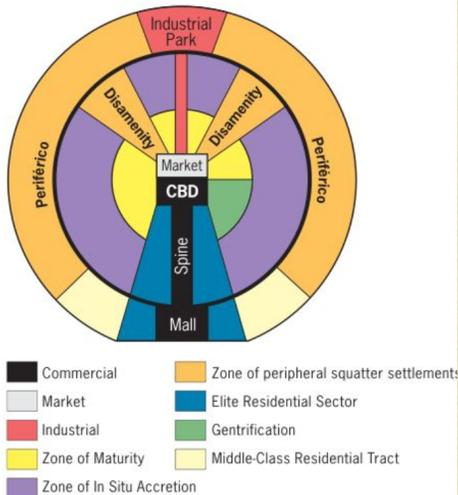


Edge cities are urban areas located along the border of a city. The term was created by Joel Garreau, a journalist who used the term to describe the cheap land on the perimeter of many cities being utilized by businesses. Since the land is farther away from its closest city the land is cheaper, making it ideal for many corporations to locate their headquarters and trendy retail stores to be planted. Just like Schaumburg they contain malls, many shopping centers, and skyscrapers. A highway will also run through these edge city and lead to the main city.



Edge cities effect the cultural landscape by expanding the urban environment and increases the empire of popular culture.

A NEW AND IMPROVED MODEL OF LATIN AMERICAN CITY STRUCTURE



Also to add to the model this would also help out with gentrification (the rehabilitation of often abandoned housing of low income inner city residents). Although it is more common in the north, and least common in the south. Gentrification is a growing phenomenon. Especially in Latin cities like this.

Latin American cities model-

This is applied for looking at Mexico City. Or the city of Rio de Janeiro.

For an example. It basically says that all cities have a disamenity sector (favelas, or barrios). Also the market being in the middle of the sector, where most cities would locate their major businesses. Also the commercial areas being the spine, that are the major areas of the city. And the industrial Park to represent the concentrations of buildings being preserved and Industrial zones.

This includes both zone of the original griffin ford model, and the New model of the Latin American city.



This picture of the favelas in Rio de Janeiro, Brazil, shows an example of the disamenity sector. And also an example of gentrification