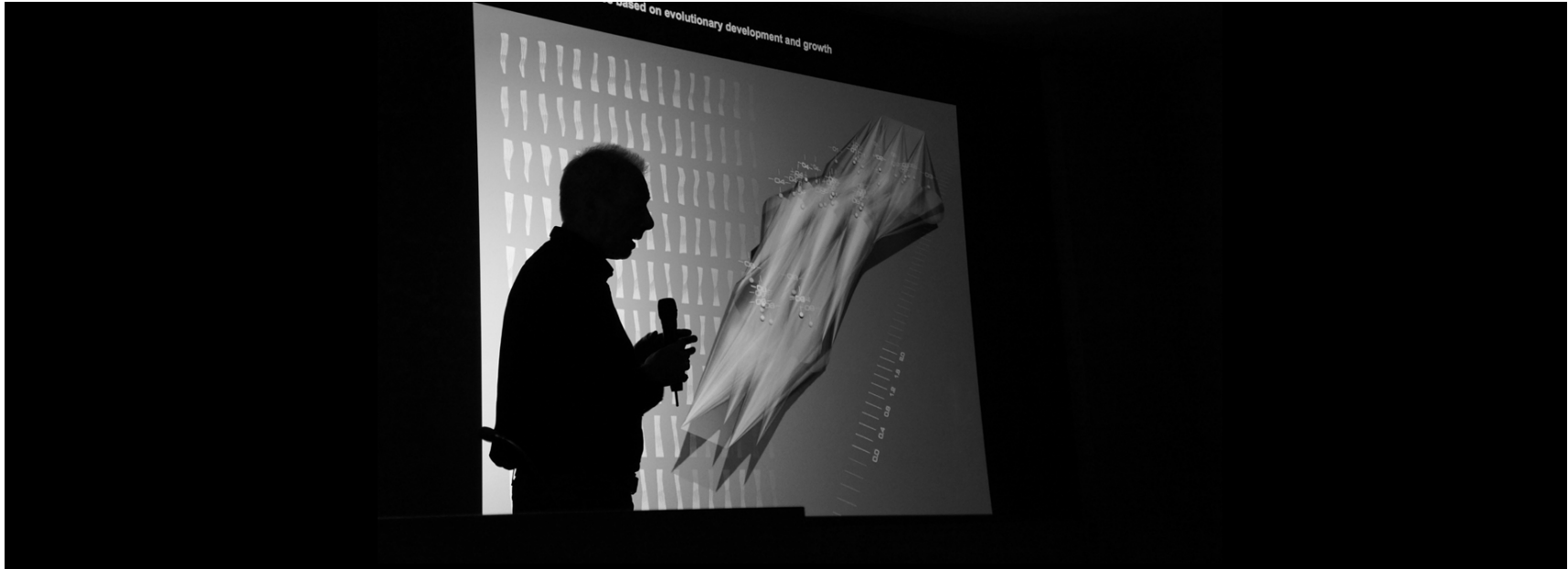# THE ARCHITECTURE OF EMERGENCE

The evolution of form in nature and civilization

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# Introduction



"Cities emerged from the collapse and reorganisation of the founding system of civilisation"

a direct link between the development of cities and

- changes in climate and ecological system

- rise and flow of energy and cultivation

- and increased social complexity/information systems

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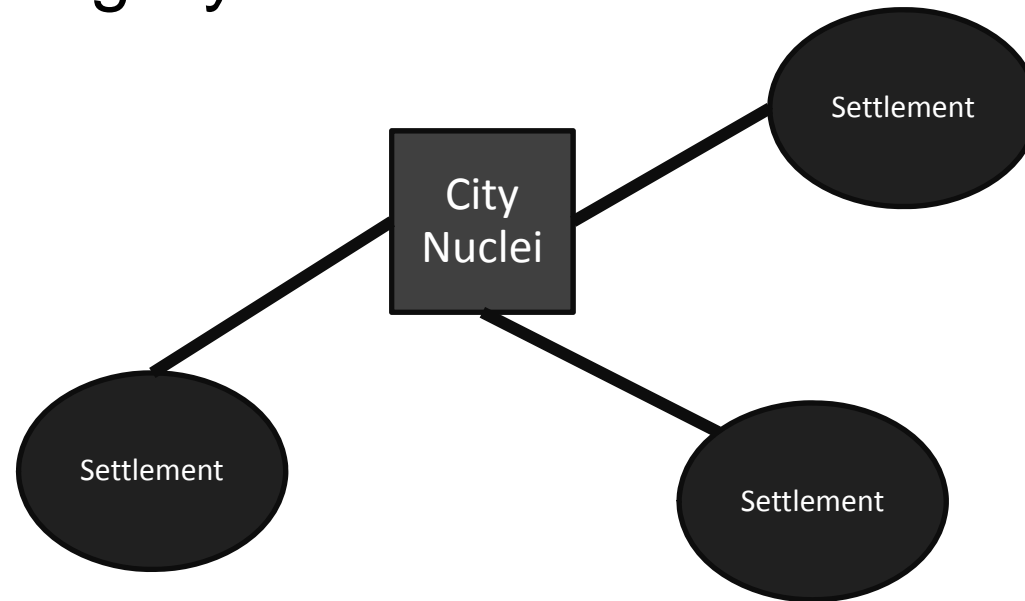
# Humanity, Culture & Social Complexity



Culture defined as "To transmit complex social and ecologically contextualised information down through the generations"

Humans begin to modify surroundings – same time as extinction of mega fauna

The point "As hunting was reduced – the increase in the gathering of grains initiated the genetic changes that over many thousands of years led to the domestication of wild cereals"

# The Founding System



Adaptations to differing regional climates, topographies and ecologies emerging from movement patters around the territory

- long periods of growth and episodes of declines.

- Declines due to maximum metabolic capacity making it vulnerable

- The point – cities emerged through a process of nucleation, condensing into nuclei within the extended 'metabolic' networks of the linked settlements

# The Founding System Variations



Prime spots where created by ecological changes - The Savannah Grasslands – North American prairie grasslands

The point - these changes increased the complexity of the founding cultural system

Stresses created by population surges lead to extraction of food, material energy & extinction of Mega fauna

Skins sinews large bones were harder to come by

Their use in built structures and tools lessened - the tent structure became freestanding timber buildings – this was through adaptive variation arising from the climatic and ecological changes.

# Collapse & Reorganisation



The outcomes of system collapse can be

the complete dispersal of the components & a complete loss of order

reorganisation to a lower level of complexity that becomes reorganised into a higher level of complexity

Cities emerged from a process of nucleation, in which the collapse and reorganisation of the founding system evolved to a higher level of complexity in ecologically favourable locations

# The Levant

- An area which is now covered by Turkey, Syria and Jordan

- People moved from their settlements and headed towards river valleys, following animals.

- Jericho is a typical example of a city

- Positioned on a mound or tell, gradually heightened with rubble and construction waste.
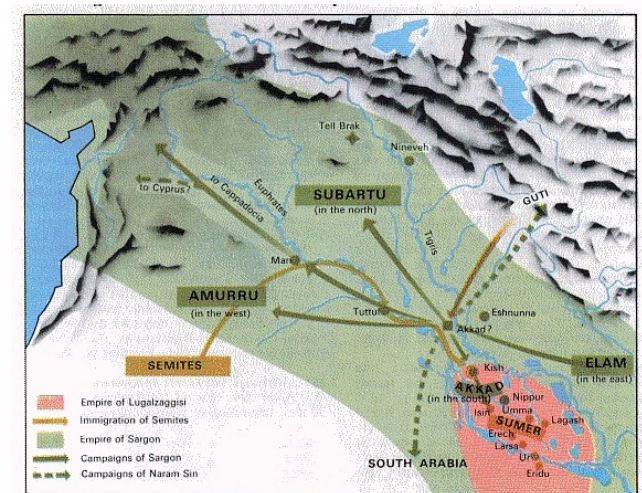






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-The Seaside city of Ur is a typical example.



-Tangled settlements and courtyards developed a hierarchy.



- Akkad developed strong trade links between cities in a very large area. The first to develop this system on a regional scale.
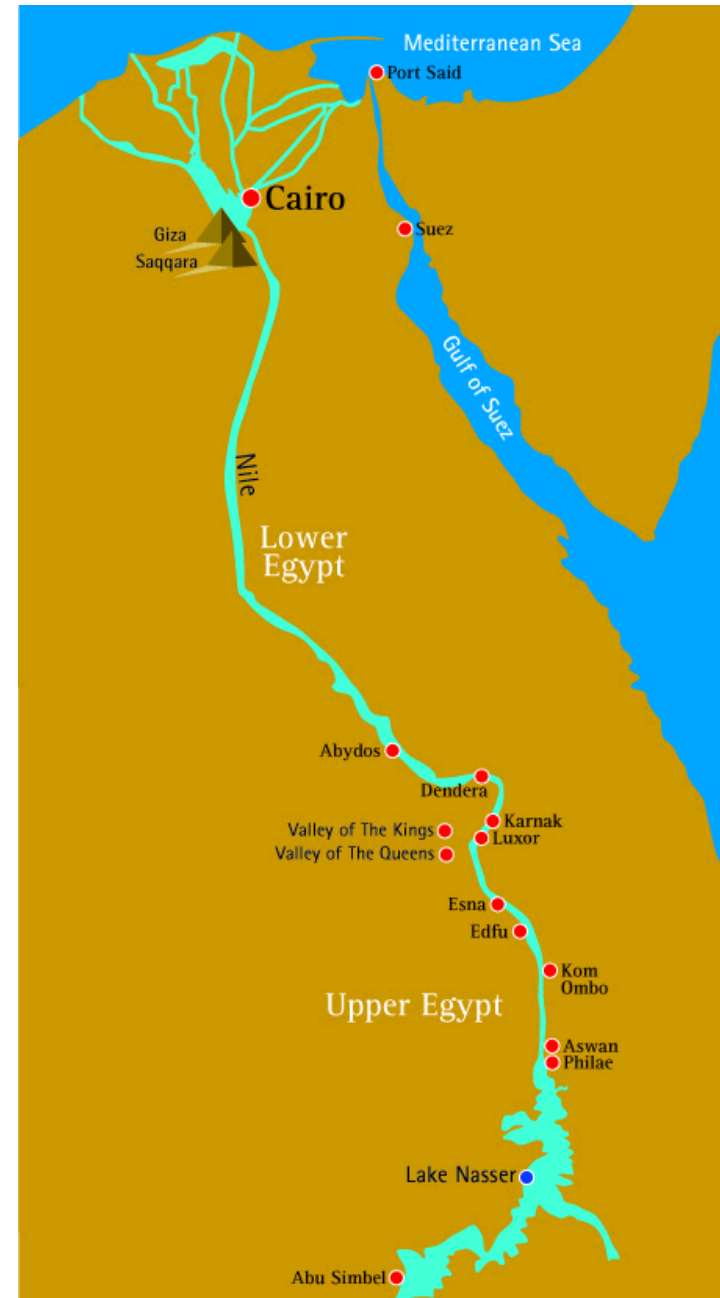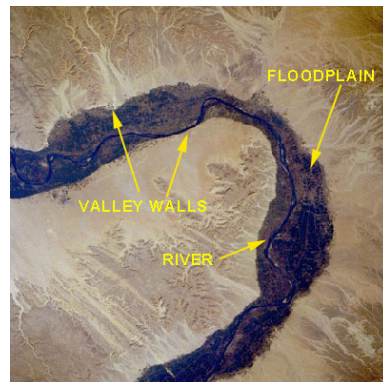


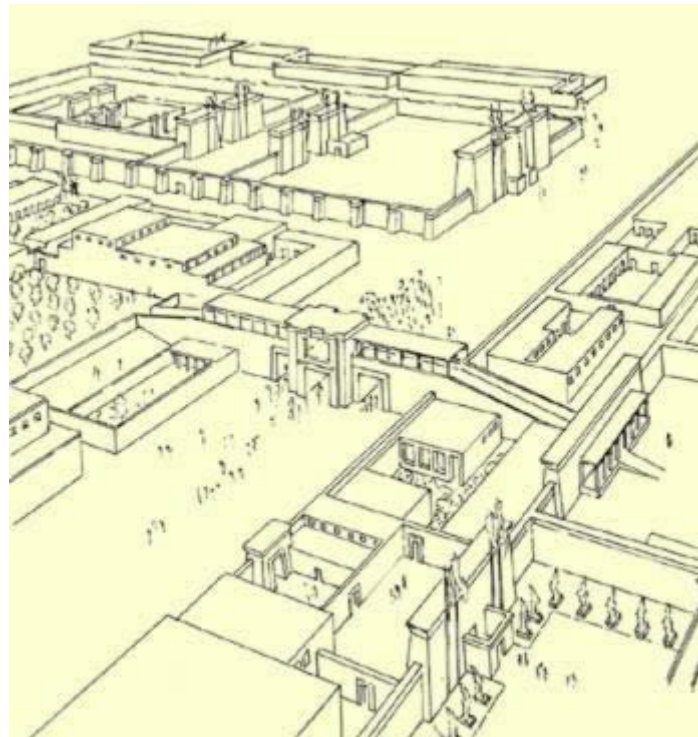Sargon's Akkadian Empire

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# Egypt

-Cities emerging in egypt were exemplified in Memphis ( now cairo) and Thebes ( now luxor )

-cities were linked

-Along the banks of the river, culture and maritime use spread between cities.

- Irrigation developed from floodplain soil and silt

- Building and relocating by government decree to capitalize on the moving river

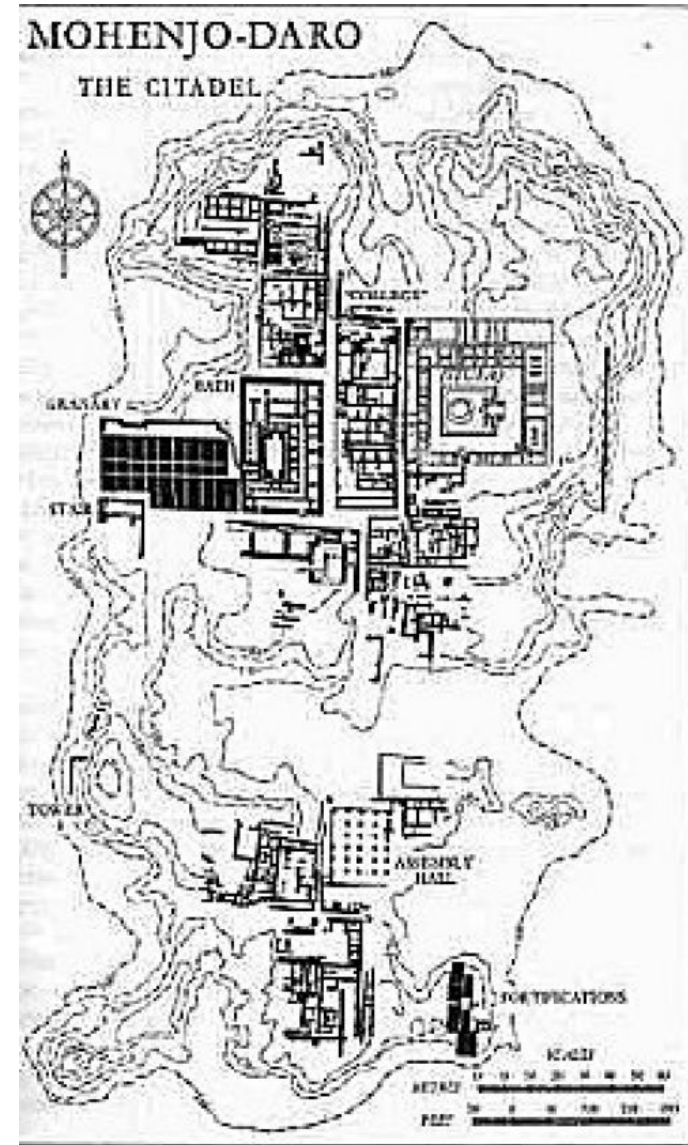-el-Amarna exemplified a linear plan for cities

-Processional streets existed with a hierarchy of houses and administrative buildings along and between them.
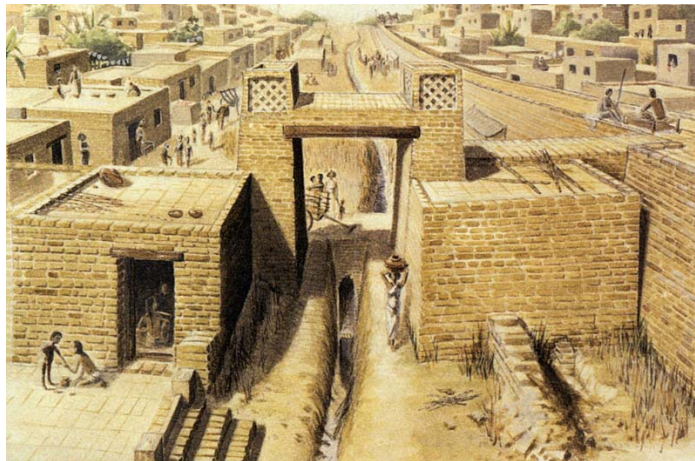




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# The Indus

- People moved towards rivers, like Egypt / Levant, but on a much larger scale

- People used the river for trade, spreading culture between the settlements.





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-Main example is Mohenjo-Daro

-buildings and streets near-perpendicular

-Hierarchy based on the layout and size of homes and courtyards.

-richer families had larger homes, and small toilets.

-open access to paved streets and sewer system.

-grain distribution centres indicate an administrative system.





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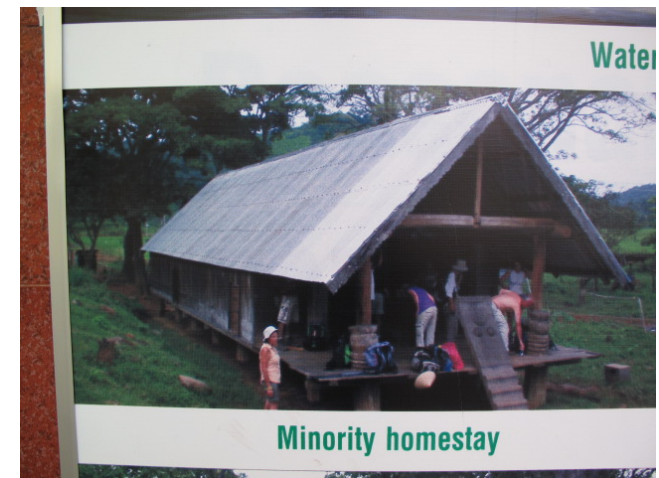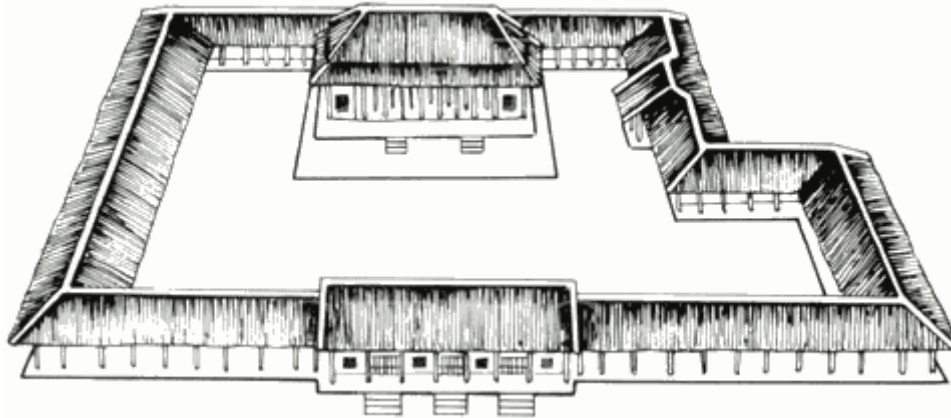
# Northern China

- Settlements emerged on the plain

- The north became arid as the south flooded

- People moved to the warmer south

- Nomads wandered the Arid north





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-Cities utilized the longhouse in a courtyard formation

-Hierarchy emerged based on size and layout of the longhouse courtyards

-Drier north used thick earth walls

-Wetter south elevated the long house on stilts

-Evidence of large scale collapse and small scale rebuilding

-Smaller settlements reformed after large settlements failed.





Water

Minority homestay

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# The Andes



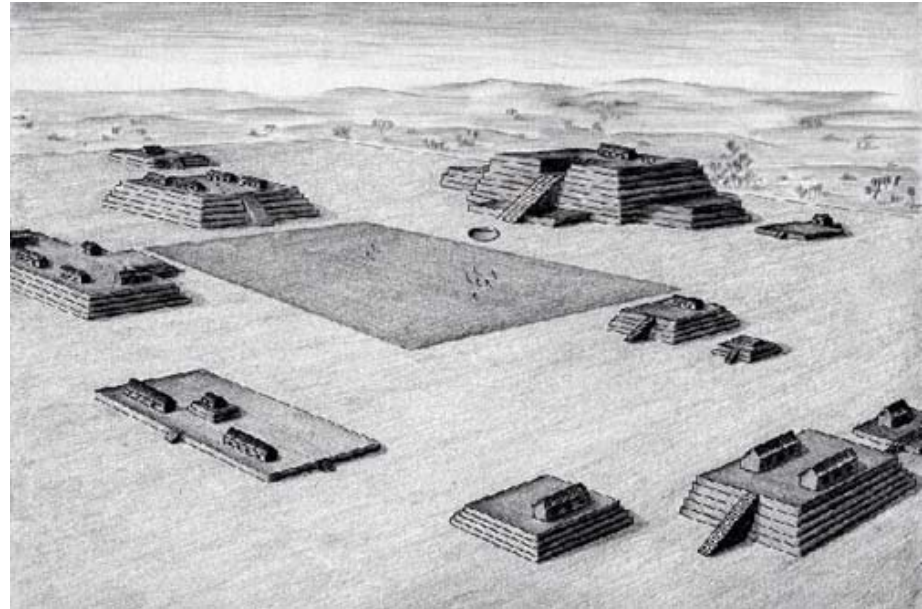- Andes settlements first evolved from forest clearing villages.

- Connected villages along rivers from the hills down to the sea.

- Caral and aspero used as examples.



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- Caral developed in the valleys

- Six developed residential mounds

- At least one central plaza

- Larger residences had multiple rooms, connections between



- Smaller rooms were single room dwellings

- Aspero was situated by the sea

- natural basin used to collect water for irrigation

- Terraces cut into mounds for accommodation sites



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# Emergence & The Form of cities.

- Cities emerged from a process if nucleation in 5 topographically and ecological defined regions within latitudinal band characterized by either hot or cold climates

- City forms emerged within different topographies and ecological systems,evolving from regional variations of the founding system and the established patterns of settlements from which they condensed.

# Weather Phenomena

Prolonged drought had substantial impact on places like Egypt, the Levant & south west Asia, Indus valley , Crete Greece . where the system of cities had all expanded their population to the limit

The collapse of regional scale system of cities led to the dispersal of population & reversion to simpler system of linked settlements

# The Growth & Development Of Cities

- The growth of cities and systems of cities across the world was characterize by

-Episode & irregular expansion and incorporation by local & regional scale patches of collapses the abandonment of cities and dispersal of people &subsequent reorganization

-

# The Collapse of Cities

The outcome of the system collapse can be :

- abandonment and migration of the people

- complete loss of order

- a regrouping of the components into smaller assemblies

- reorganization into a more integrated assembly with increased flows

## Positive & Negative Views

-As the text seems to be a report on historical development as opposed to a concept or a theory, it is difficult to develop an opinion on the authors stance.
Therefore we have tried to develop our own opinions on the text.

-Applying to modern cities , such arguments cant be directly applied over as in present times we have extensive transportation network where , food , water and ant life sustaining materials can be easily transported. Cities can be build almost anywhere.

-We as humans have also advanced massively in the ability to control our own ecology.
Therefore collapse is a much more rare occurrence and takes drastic effects such as nuclear fallout, to make an impact

antarcticiana.blogspot.co.uk/2011_02_01_archive.html
http://www.essential-architecture.com/STYLE/STY-119.htm
http://www.britannica.com/EBchecked/media/117431/
http://whyfiles.org/shorties/100dust_china/
http://www.athenapub.com/caral.htm
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