

Ceramics, Cultivation and Community: How Agriculture Spread in the Old World

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* Please see image credits on last slide.

Archaeology – complex integration at multiple scales

Environmental

- Nature, Ecology, and Environmental Change

Geographic

- Geology and Social Geography

Economic

Social

Political

- Sociocultural dynamics

Technic

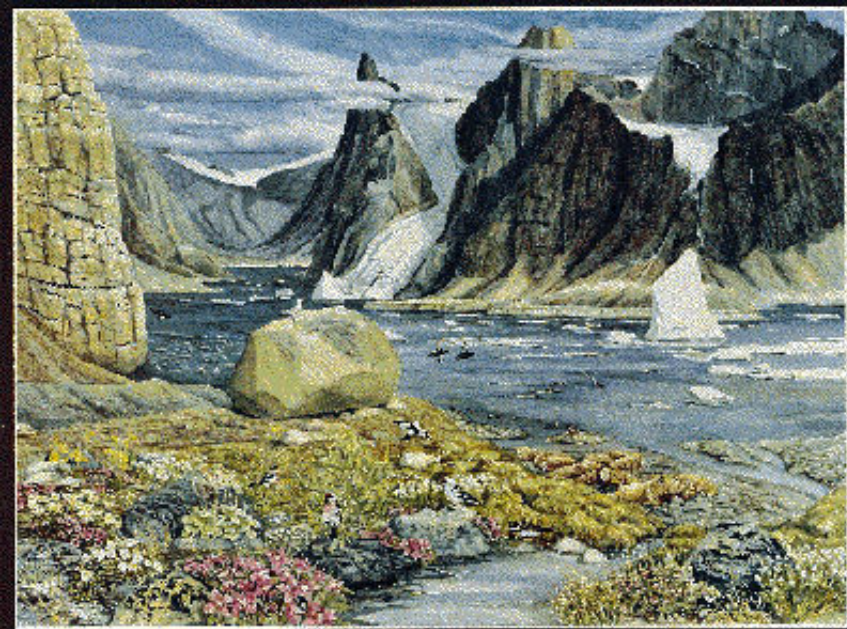
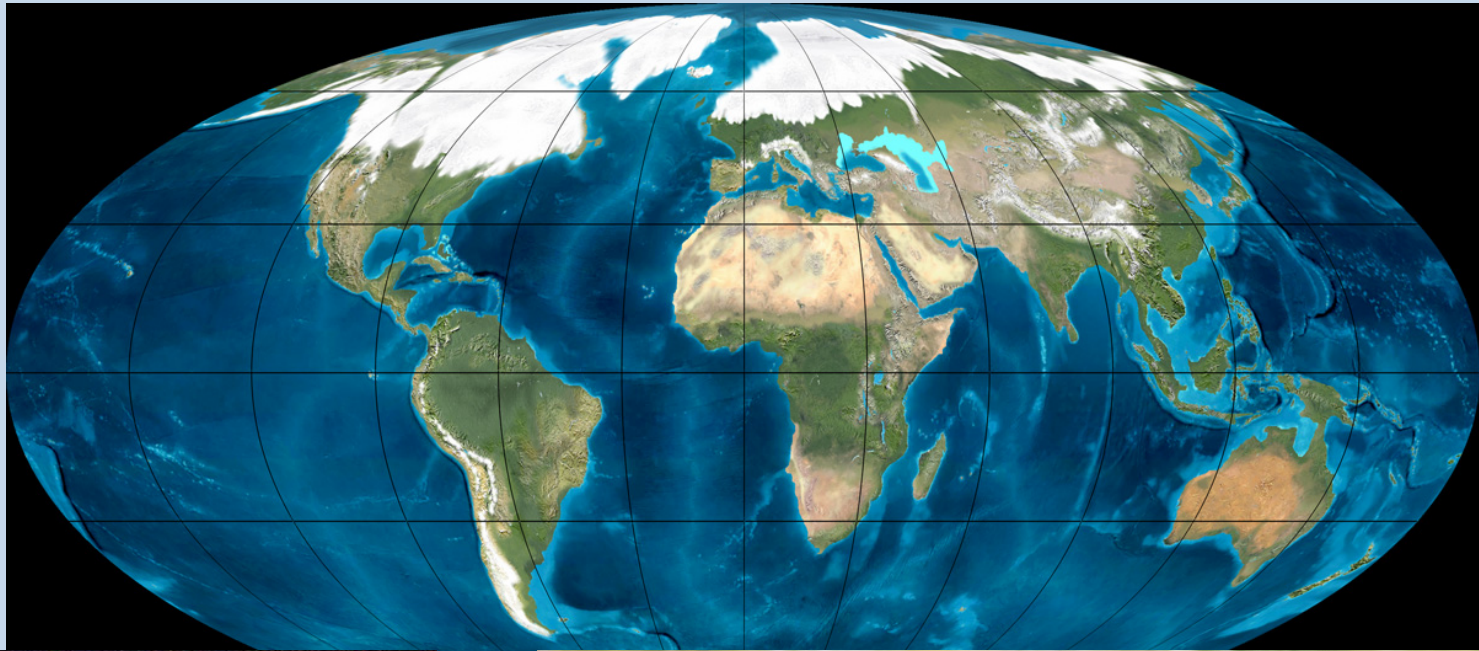
Domestic

- Technologies, household organization

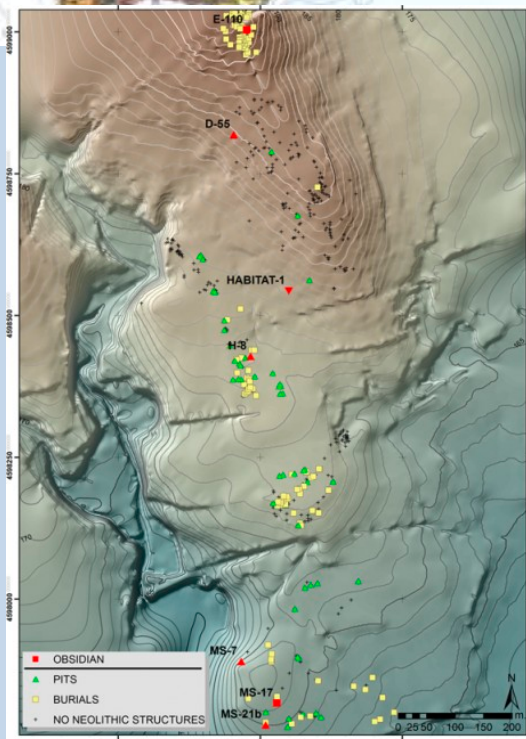
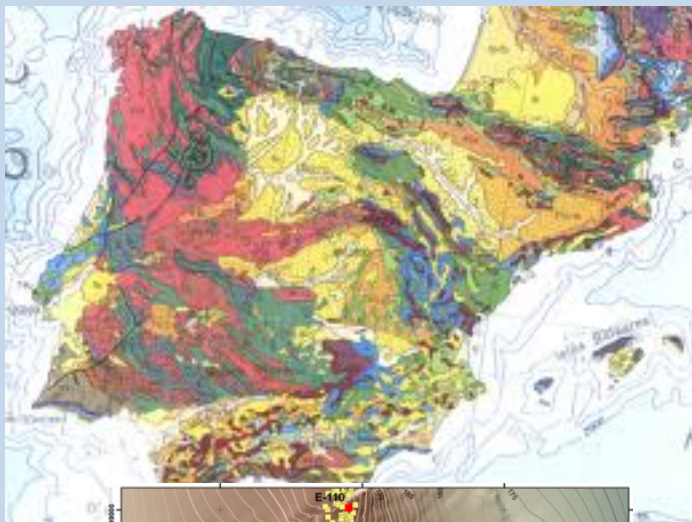
Individual

- People as independent agents

Environmental



Geographic



Economic

Social

Political

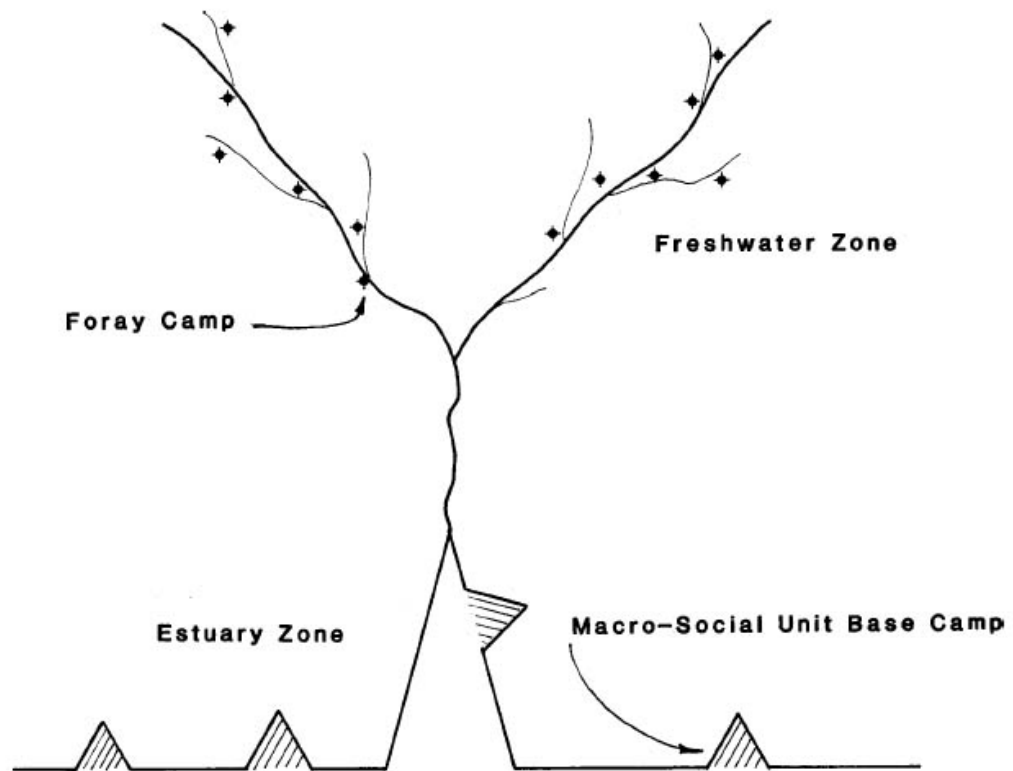


Technic

Domestic



Individual

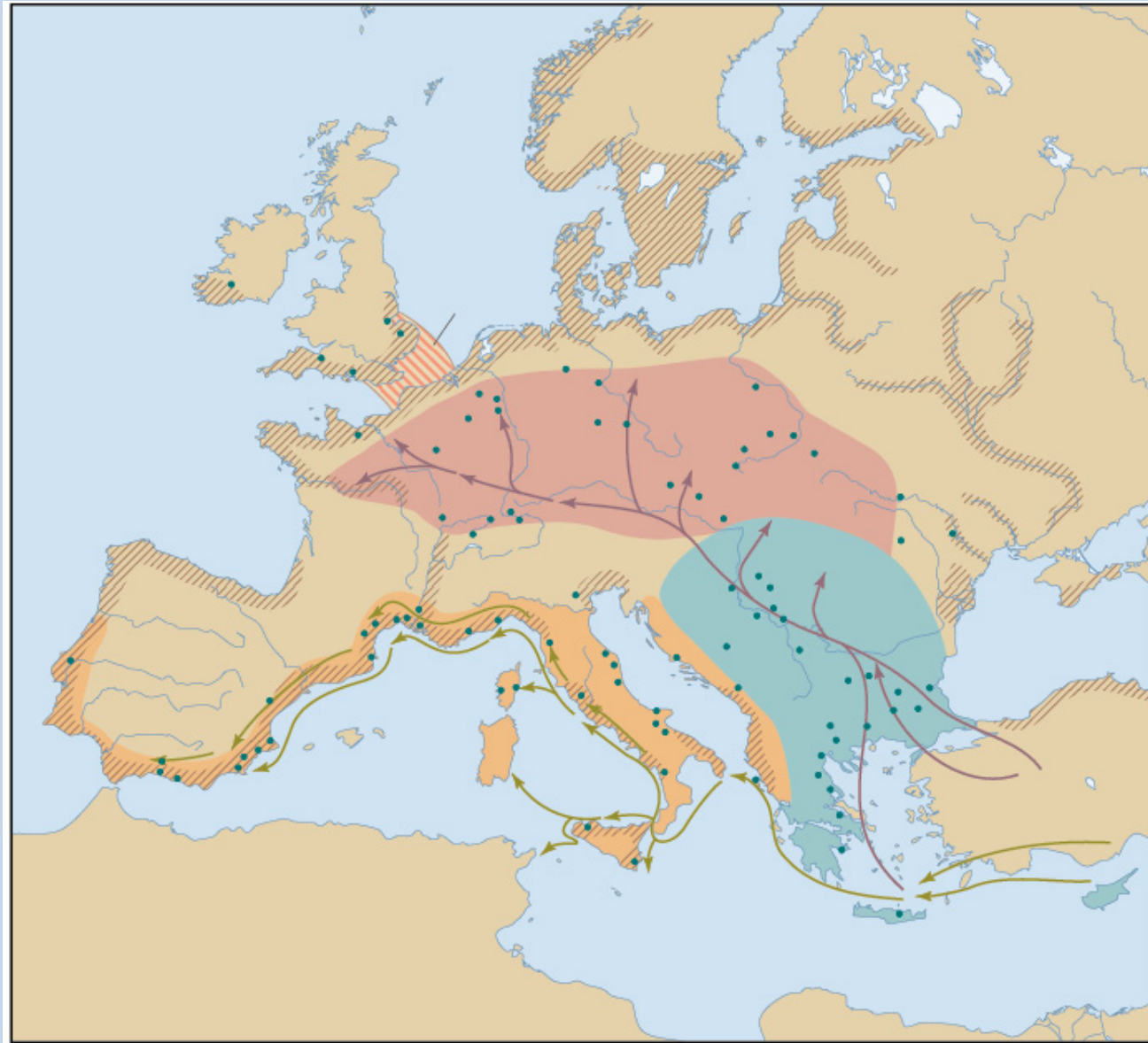


Now... On to the Agricultural
Revolution

Classical Model of the Agricultural Revolution in the Old World

- Plants and animals were domesticated in the Near East
- With domestication, industries like ceramics could begin
- At 9,000 BP, this agricultural revolution began to spread across Europe with the diffusion of pottery and domesticated plants and animals
- This provided the economic basis for the world as we know it today.

Agriculture spread across Europe as a package of domesticates and ceramics



From Hunting and Gathering to Agriculture

Mesolithic

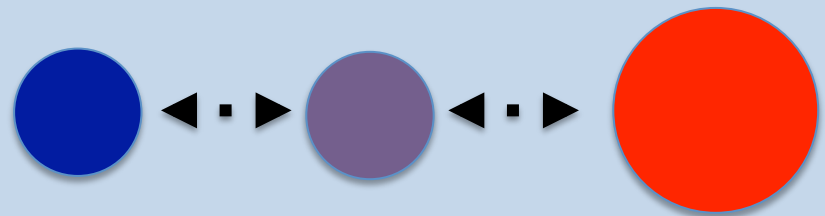
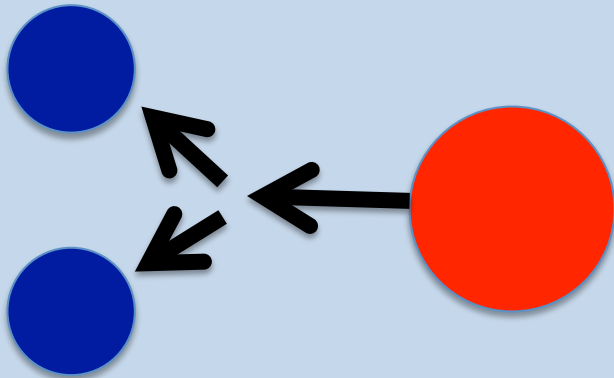
- Hunting and foraging
- Seasonal settlements (?)
- Flaked stone tools
- No evidence of trade
- Extended family groups
- Upland caves and coastal shell middens

Neolithic

- Domesticated wheat/barley and sheep/goats
- Year round villages
- Flaked tools, pottery, ground stone
- Regional trade in exotics
- Tribal level society
- Coastal sites and upland caves. Eventually lowland villages

Migration, Exchange Networks and the spread of agriculture

- Migration, or 'demic diffusion' of village agriculturalists displacing hunting and gathering bands. (Ammerman and Cavalli-Sforza)
- Adoption of new economies and technologies by affluent foragers (Hayden) through 'down the line' exchange (Renfrew).





Why use ceramics to study the spread of agriculture?

- They persist
- Their production locations can be discovered, so we know if and where they moved
- They can be used for storage and cooking
- They are easily decorated, and so can carry personal, social, and political messages
- They have a technological style, so reflect manufacturing traditions

The Early Neolithic in the Western Mediterranean: Hunters and Gatherers adopting ceramics?

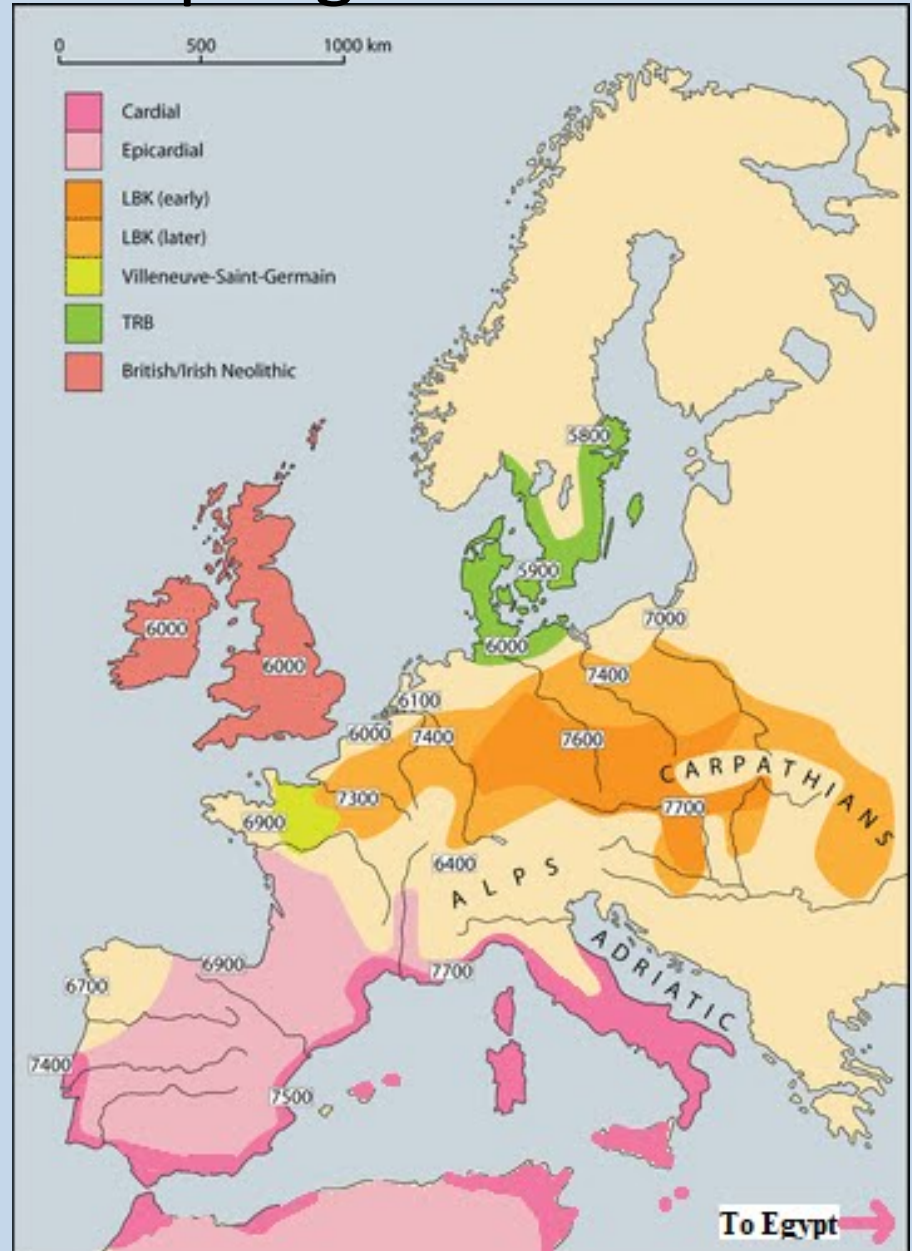
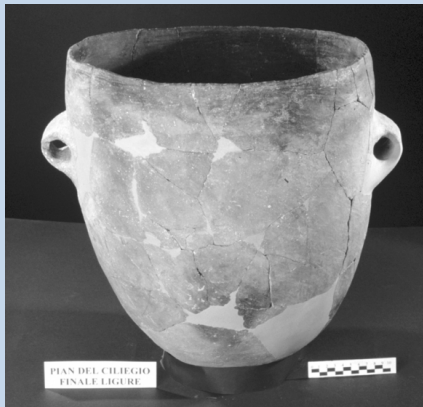
Trans-
Regional
Exchange



Regional
Exchange



Local



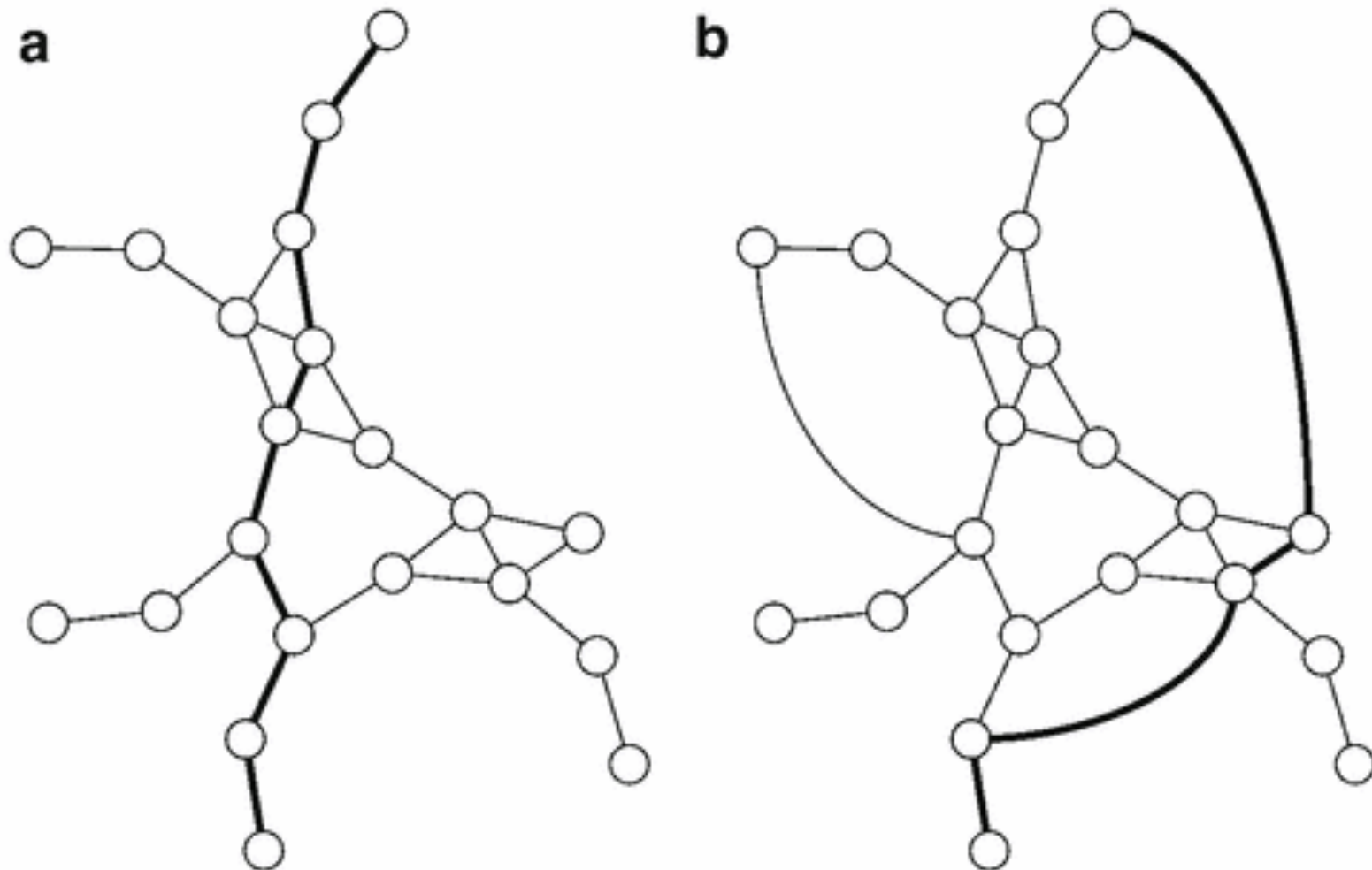
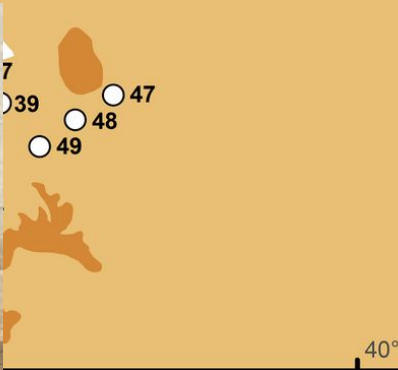
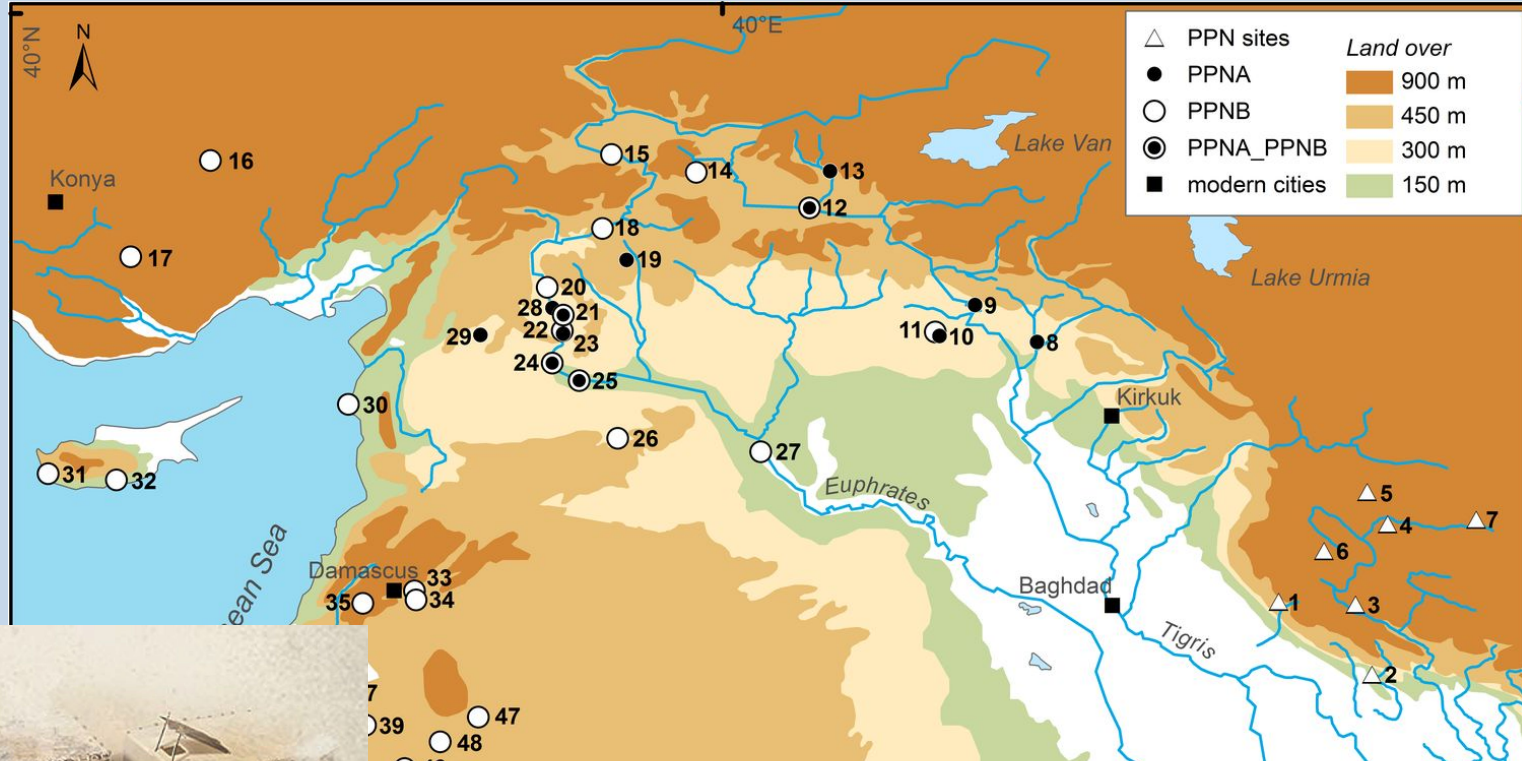
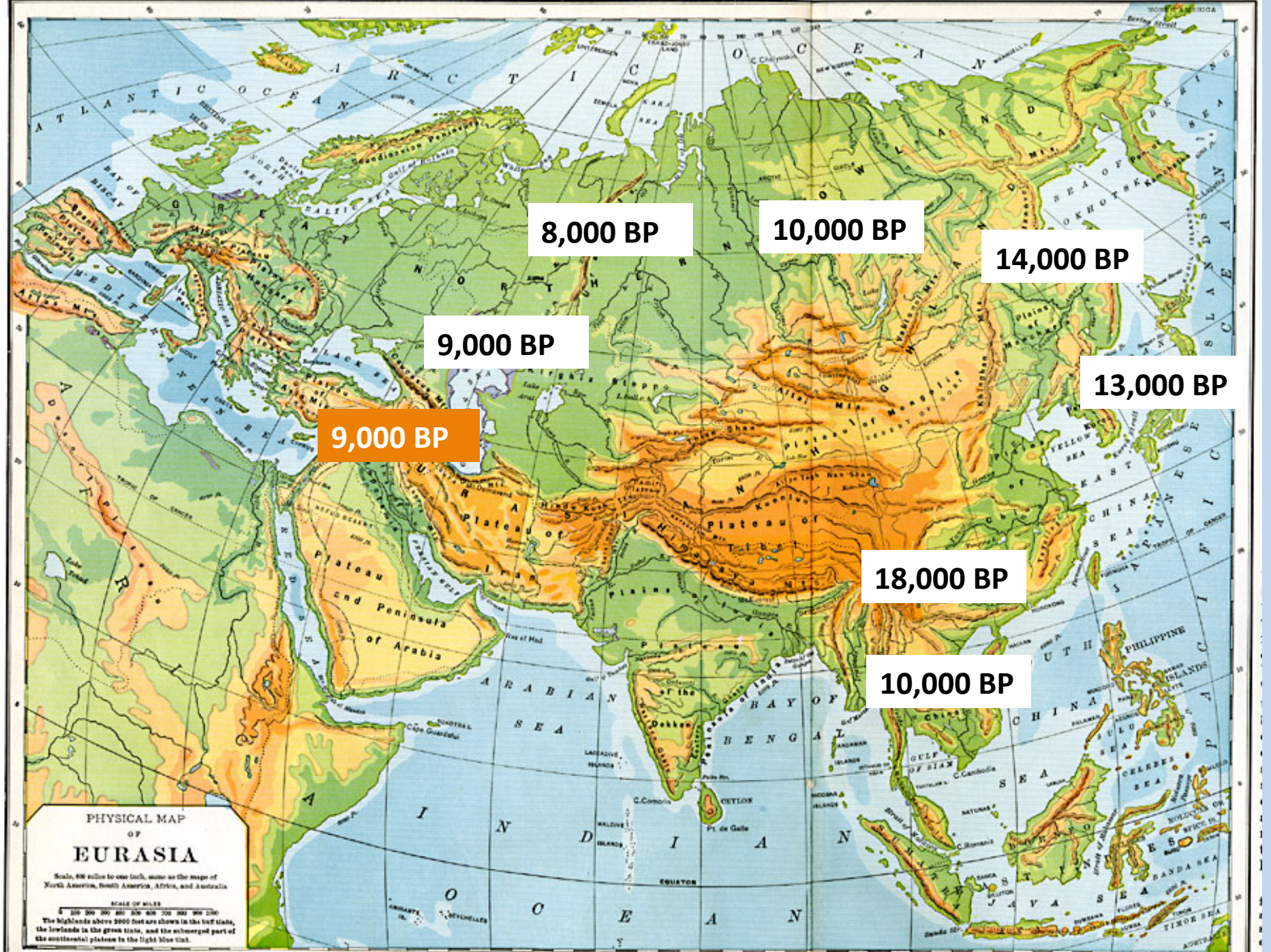


Fig. 3 Schematic representation of **a** a regular network resulting from a down-the-line model and **b** of a small-world network with shortcuts. The *thick black line* indicates the path followed by agents with obsidian when moving from one extremity of the network to the other, the regular network resulting in a higher path length (higher number of nodes/cells crossed) than with a small-world network

Ortega, David et. al. "Towards a Multi-Agent-Based Modelling of Obsidian Exchange in the Neolithic Near East," J. Archaeol. Method. Theory 2014 21: 461-485

The Pre-Pottery agriculture in the Middle East: Complexity without pottery





8,000 BP

10,000 BP

14,000 BP

9,000 BP

13,000 BP

9,000 BP

18,000 BP

10,000 BP

**PHYSICAL MAP
OF
EURASIA**
Scale, 400 miles to one inch, same as the maps of
North America, South America, Africa, and Australia.
SCALE OF MILES
0 100 200 300 400 500 600 700 800
The highlands above 2000 feet are shown in the buff shade,
the lowlands in the green shade, and the submerged part of
the continental plateaus in the light blue tint.

The Silk Road



New Model of the Agricultural Revolution in the Old World

- Hunters and Gatherers invented ceramics during the last ice age
- Plants and animals were domesticated in the Near East, supporting complex societies
- Through exchange networks, ceramic containers arrived to the Near East, sparking the agricultural revolution across Europe and other areas
- This provided the economic basis for the world as we know it today.

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