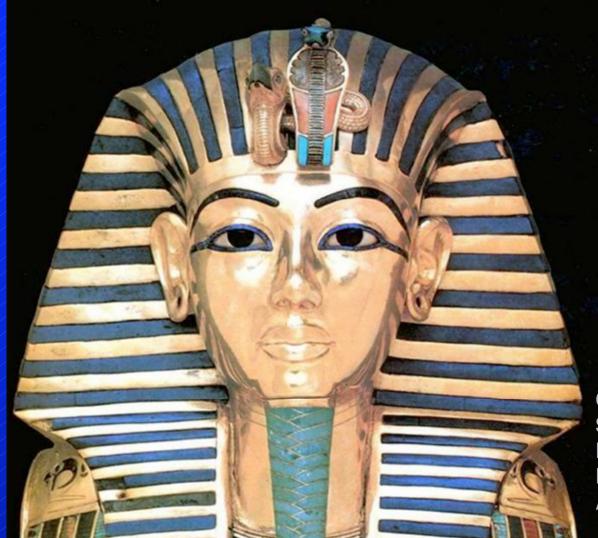
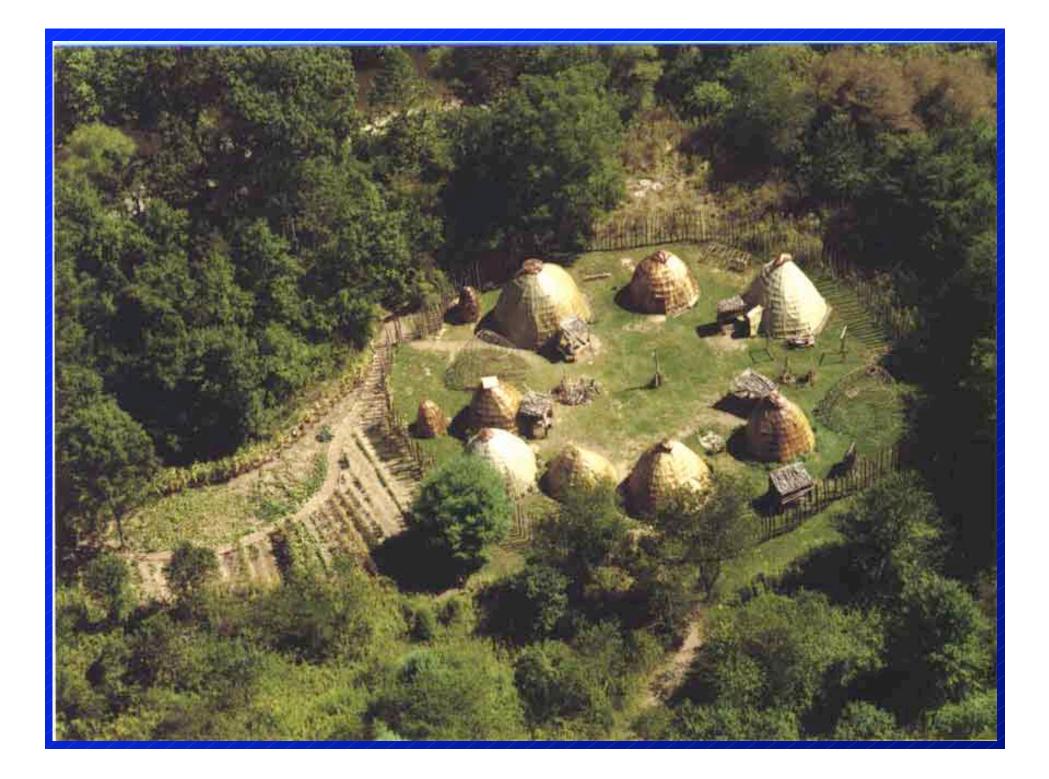
The genesis of governments in human history: seeking the human face of complexity in the past Samuel Wilson

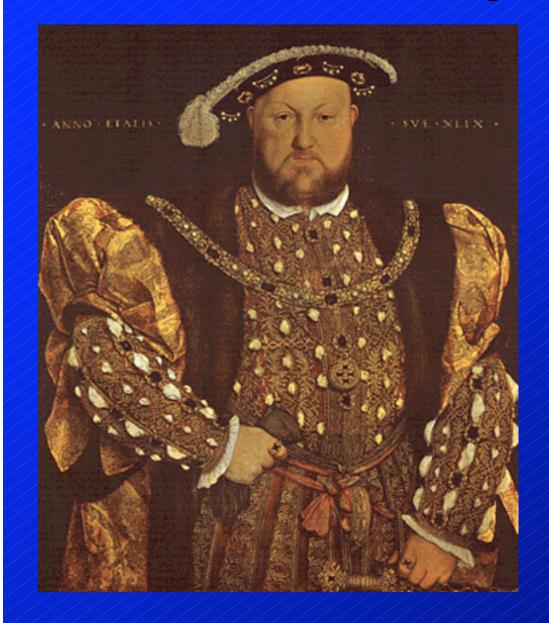


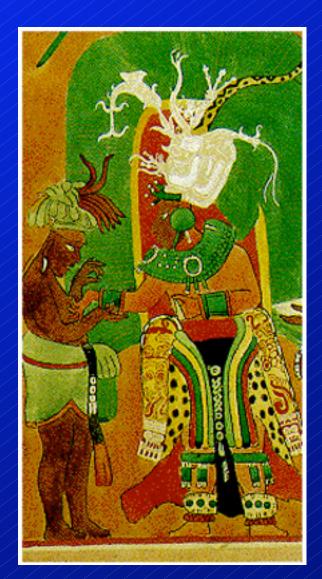
Complexity Science and the Exploration of the Emerging World, April 04





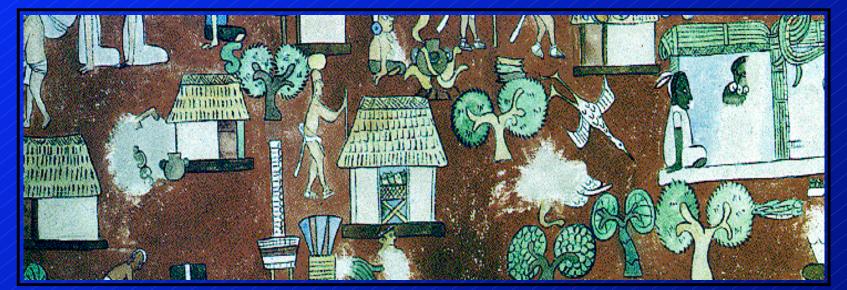
Social Hierarchy











Political org.

- Bureaucracy
- Decision making hierarchies
- Taxation
- Storage





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Urbanism



Urban architecture



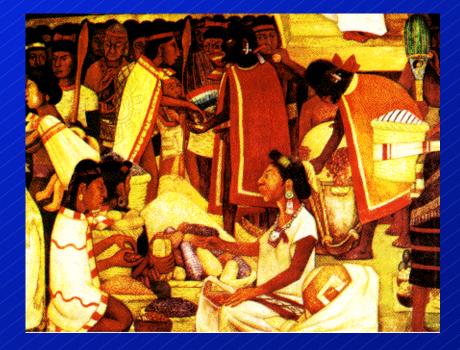
Tenochtitlan, 500 A.D.



Catal Hüyük, 4000 B.C.



Markets



Religion

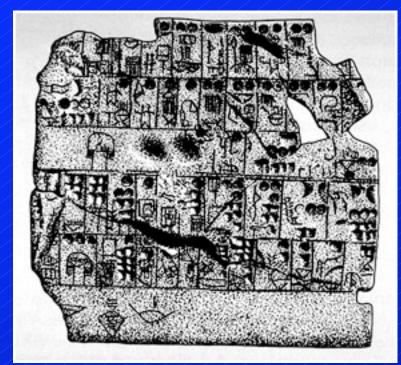








Literacy



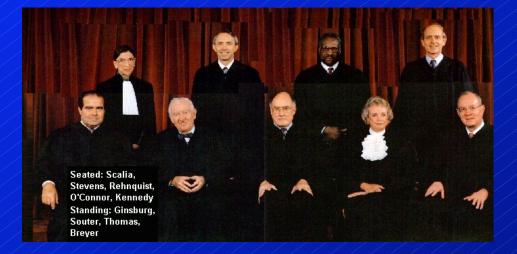
From Uruk, 3200 B.C.





Justice



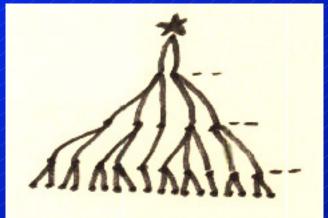




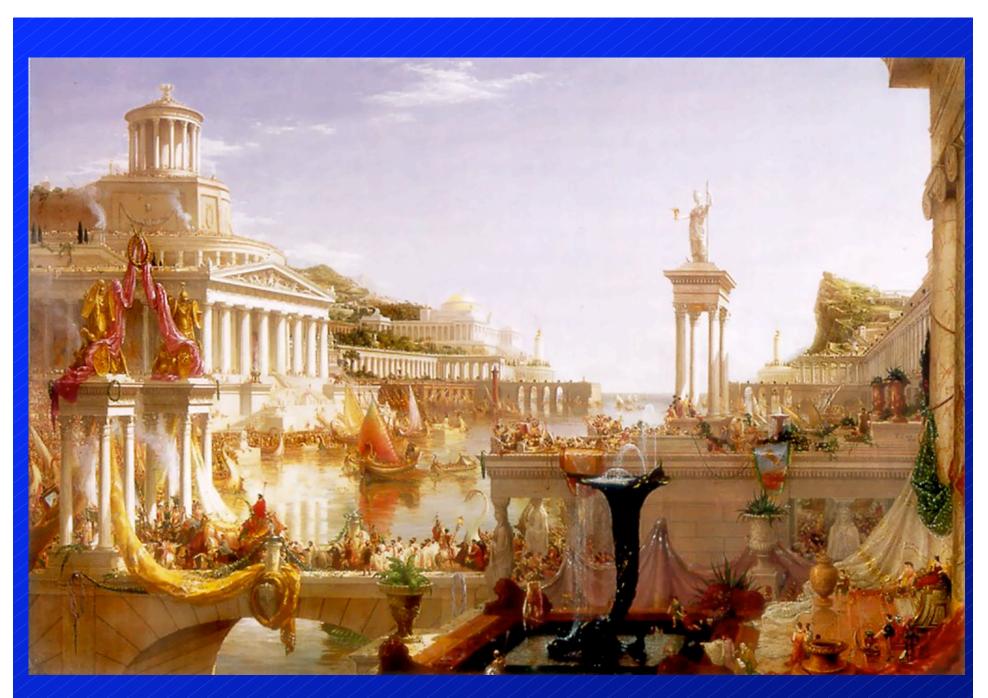


Aztec tribute roles

Taxes



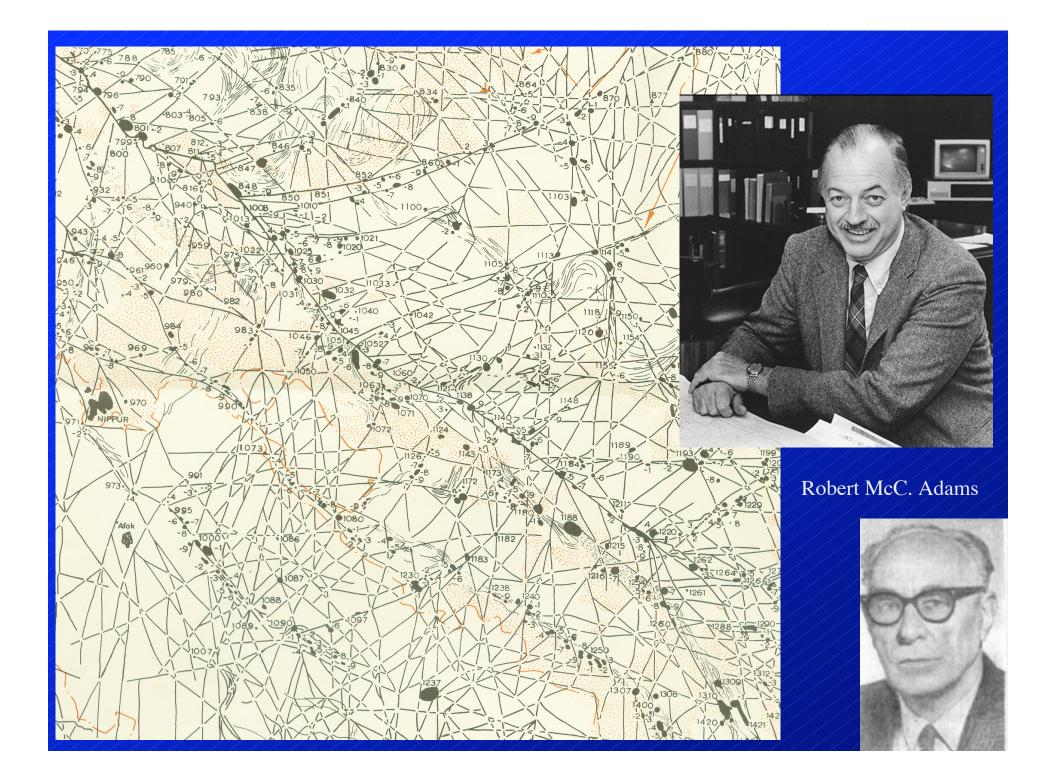
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Thomas Cole, 1836, The Course of Empire

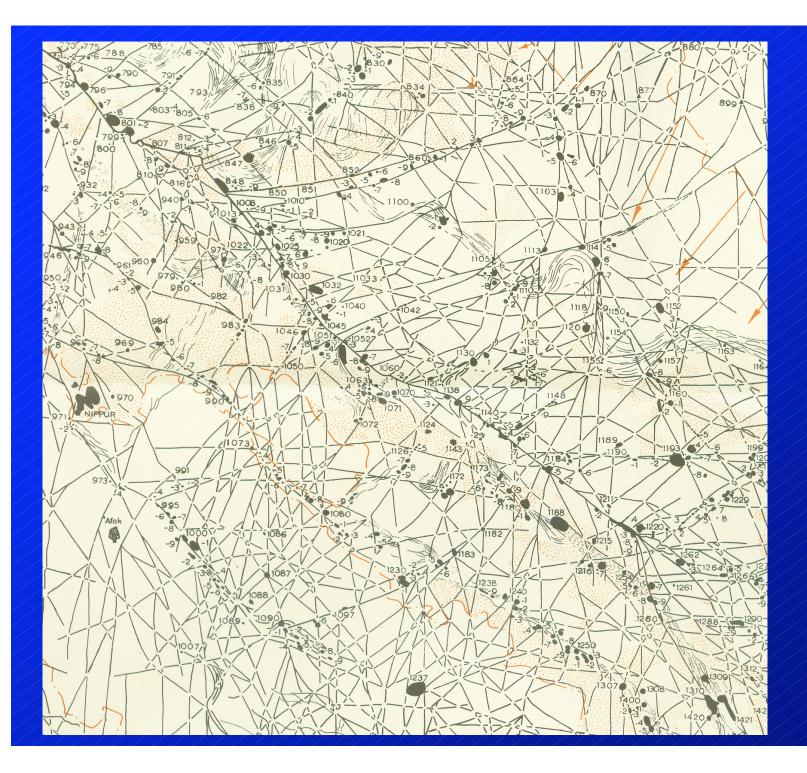






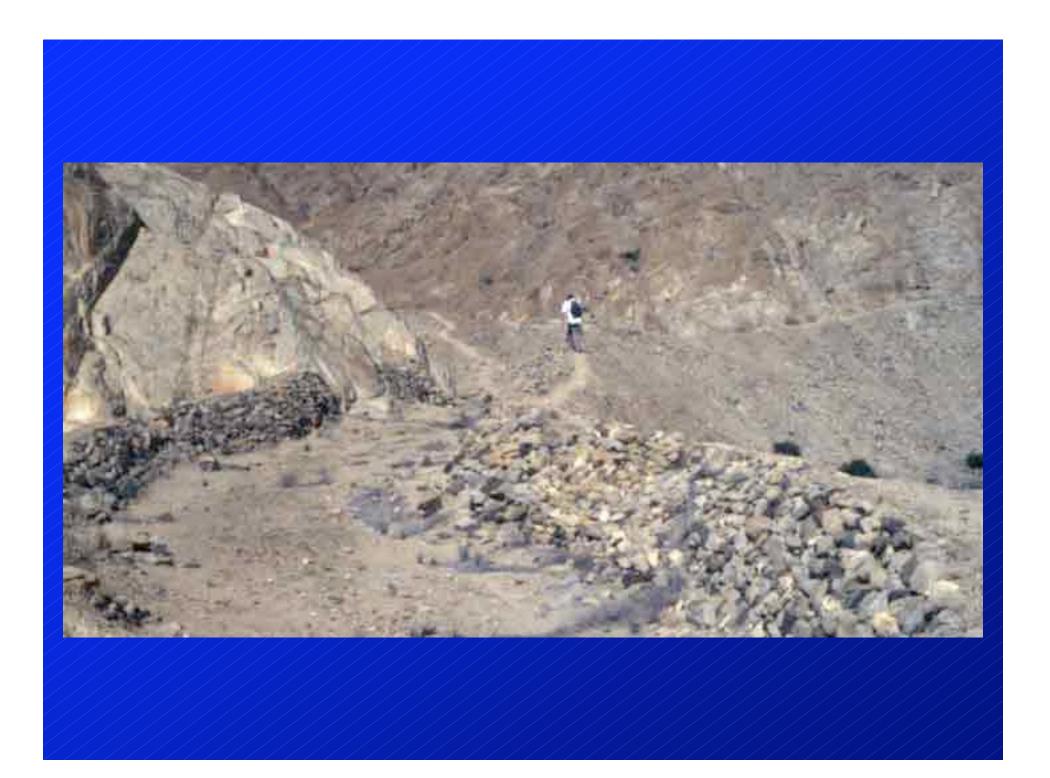


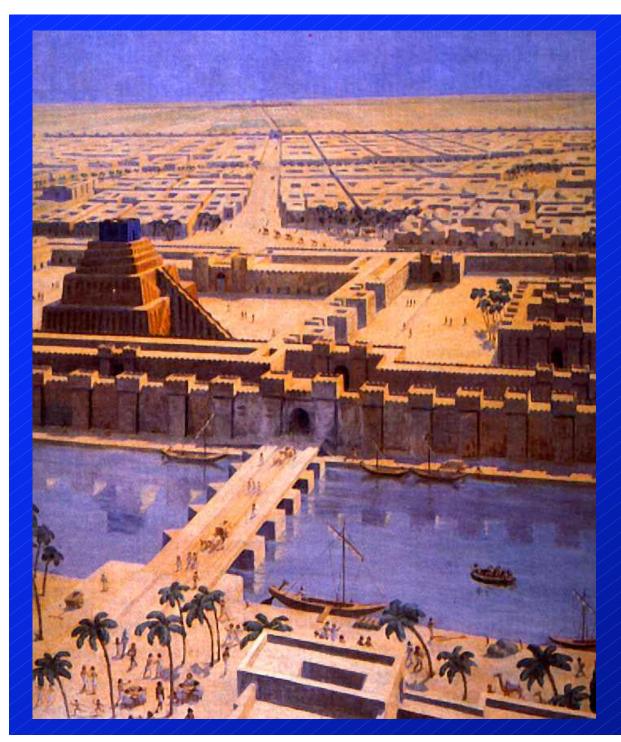




Mesopotamian canals



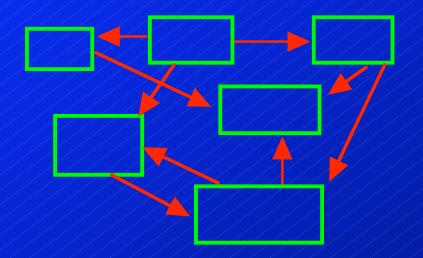




Wittfogel and Oriental Despotism

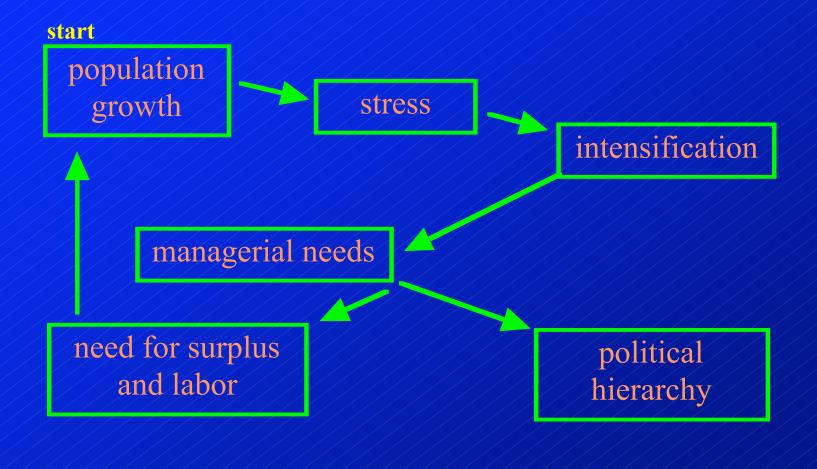
Prime Movers - Debates of the 1950s-1970s

Agreeing that a broadly similar pattern of changes took place in many areas, the debate centered on the most important causes



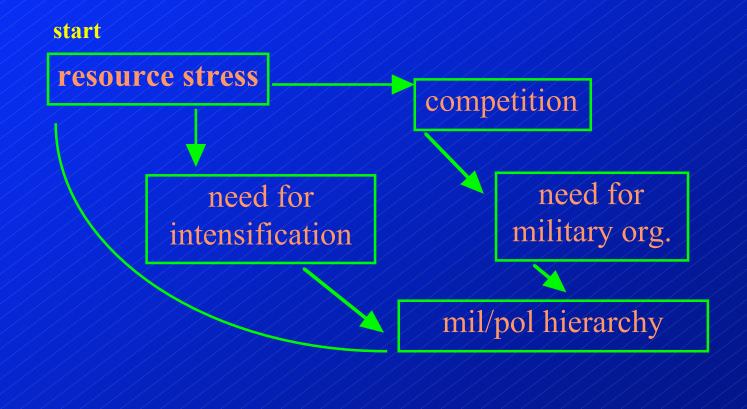
- Population Growth
- Circumscription
- Warfare
- Trade
- Managerial Needs

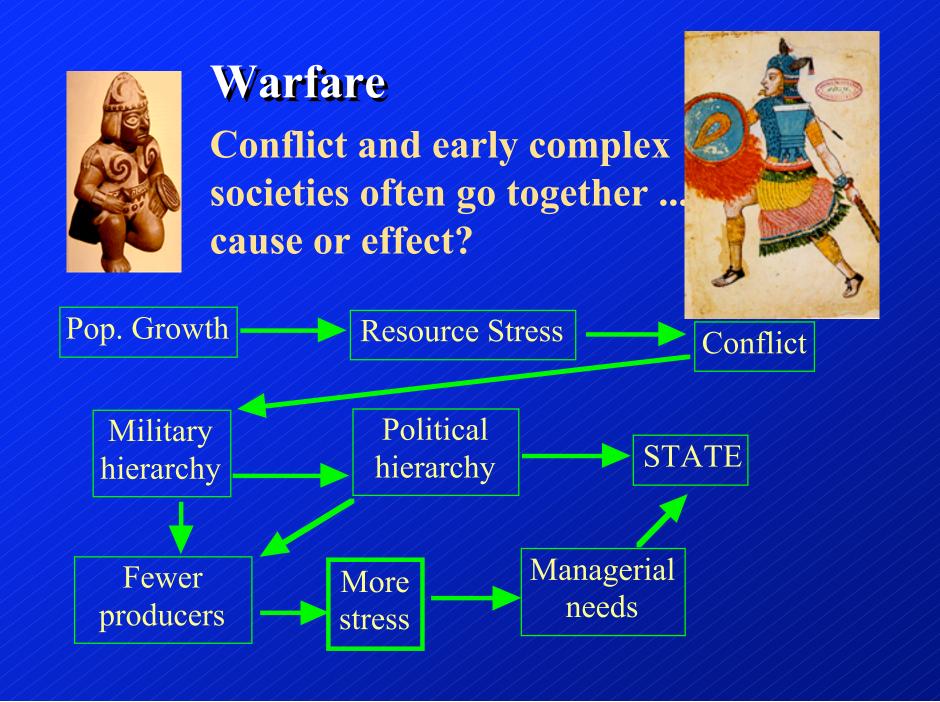
A critical variable in nearly all models for complex society emergence



Circumscription (env. or social)

A twist added by Robert Carneiro, in part to explain cases (e.g. Peru) in which there was little evidence of large populations





Trade



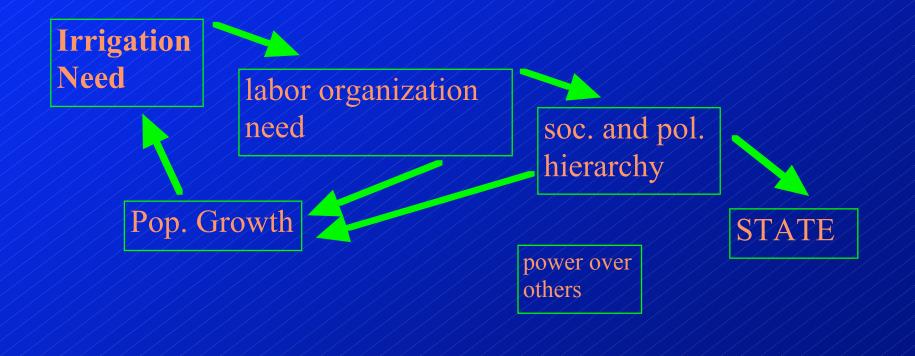
In cases of abundant food, what services might the "elites" provide that makes them worth having?

monopolies on crucial or desired resources can help lead to social and political hierarchy

Managerial needs...

...a reason to have some sort of political organization. E.g. the "hydraulic hypothesis" and the need for irrigation





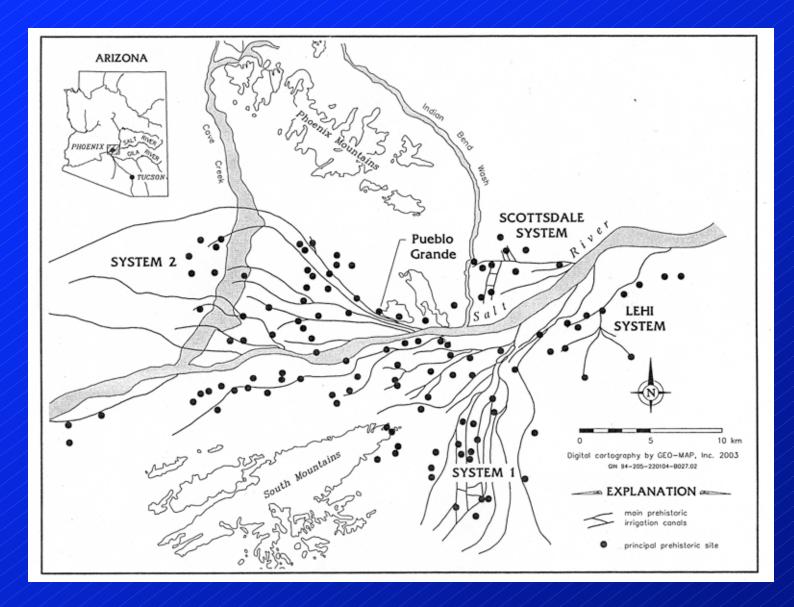
Leslie White

$E \times T = P$

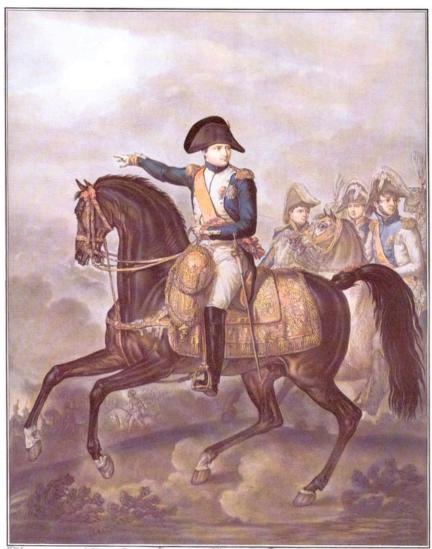
Where:

- E = energy expended
- T = technology employed
- P = product per unit of time

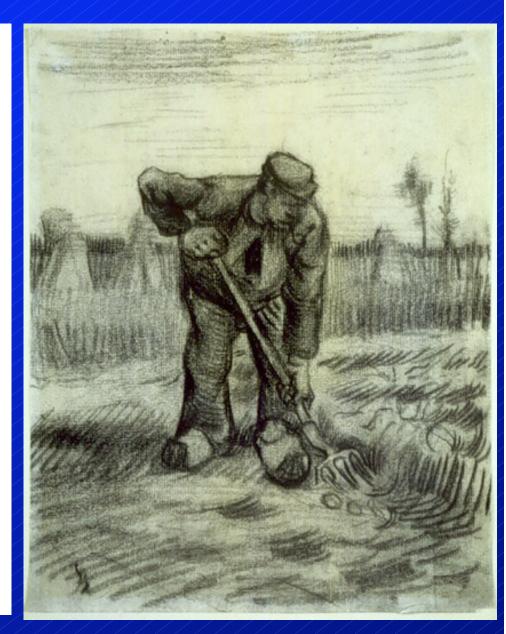




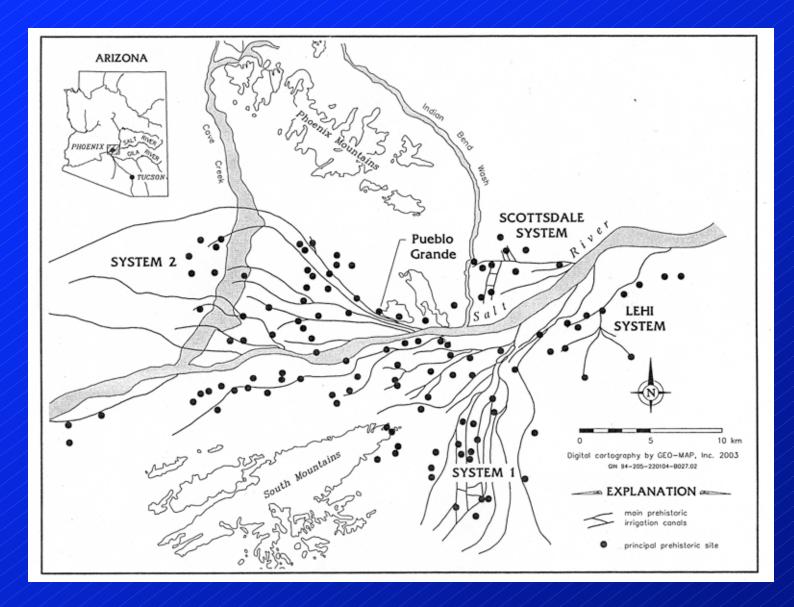




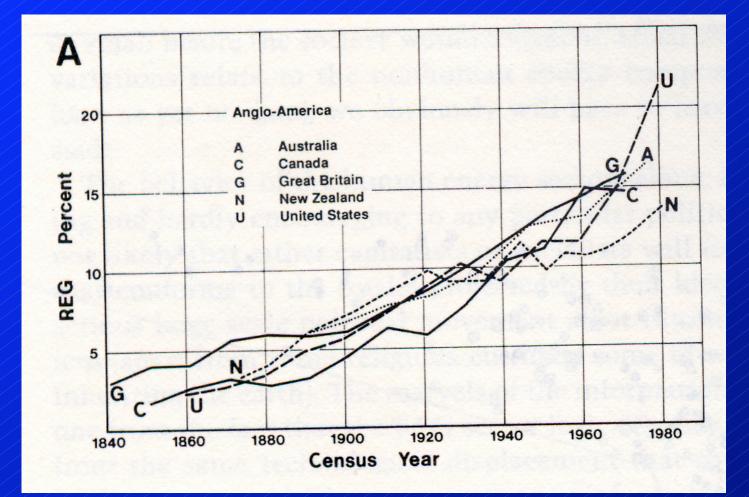
Napoléon Premier Smpereur des Grançais Rei d'Indie a Pretecteur de la Confederation en Rinn

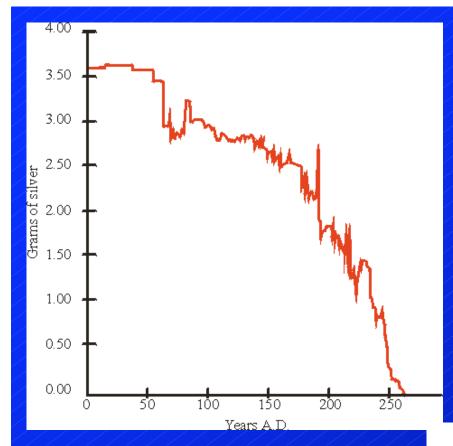






Growth of regulatory sectors





Joseph Tainter (1996), and the debasement of Roman currency as a way to subsidize the complex administration

His argument about how the benefits of complexity ultimately become very costly.

