

Conceptualising social complexity and inequality in urban networks.

TAG 2019 – S22: Archaeology of Inequality – Themes, Debates,
Methodologies

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Greater post-Neolithic wealth disparities in Eurasia than in North America and Mesoamerica

Timothy A. Kohler^{1,2,3}, Michael E. Smith⁴, Amy Bogaard^{2,5}, Gary M. Feinman⁶, Christian E. Peterson⁷, Alleen Betzenhauser⁸, Matthew Pailes⁹, Elizabeth C. Stone¹⁰, Anna Marie Prentiss¹¹, Timothy J. Dennehy⁴, Laura J. Ellyson¹, Linda M. Nicholas⁶, Ronald K. Fauseit¹², Amy Styring¹³, Jade Whitlam⁵, Mattia Fochesato¹⁴, Thomas A. Foor¹¹ & Samuel Bowles²

1. Small
differences in
initial conditions



2. Positive
feedback loops



3. Pathways of
development

The farming-inequality nexus: new insights from ancient Western Eurasia

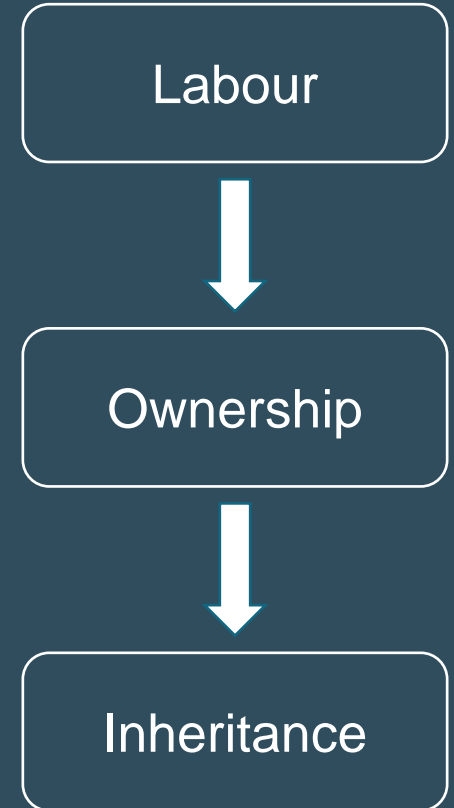
Amy Bogaard^{1,*}, Mattia Fochesato² & Samuel Bowles³



This article advances the hypothesis that the transformation of farming from a labour-limited form to a land-limited form facilitated the emergence of substantial and sustained wealth inequalities in many ancient agricultural societies. Using bioarchaeological and other relevant evidence for the nature of ancient agrosystems, the authors characterise 90 Western Eurasian site-phases as labour- vs land-limited. Their estimates of wealth inequality (the Gini coefficient), which incorporate data on house and household storage size and individual grave goods—adjusted for comparability using new methods—indicate that land-limited farming systems were significantly more unequal than labour-limited ones.

Keywords: Eurasia, wealth inequality, farming, labour, land, traction

Research

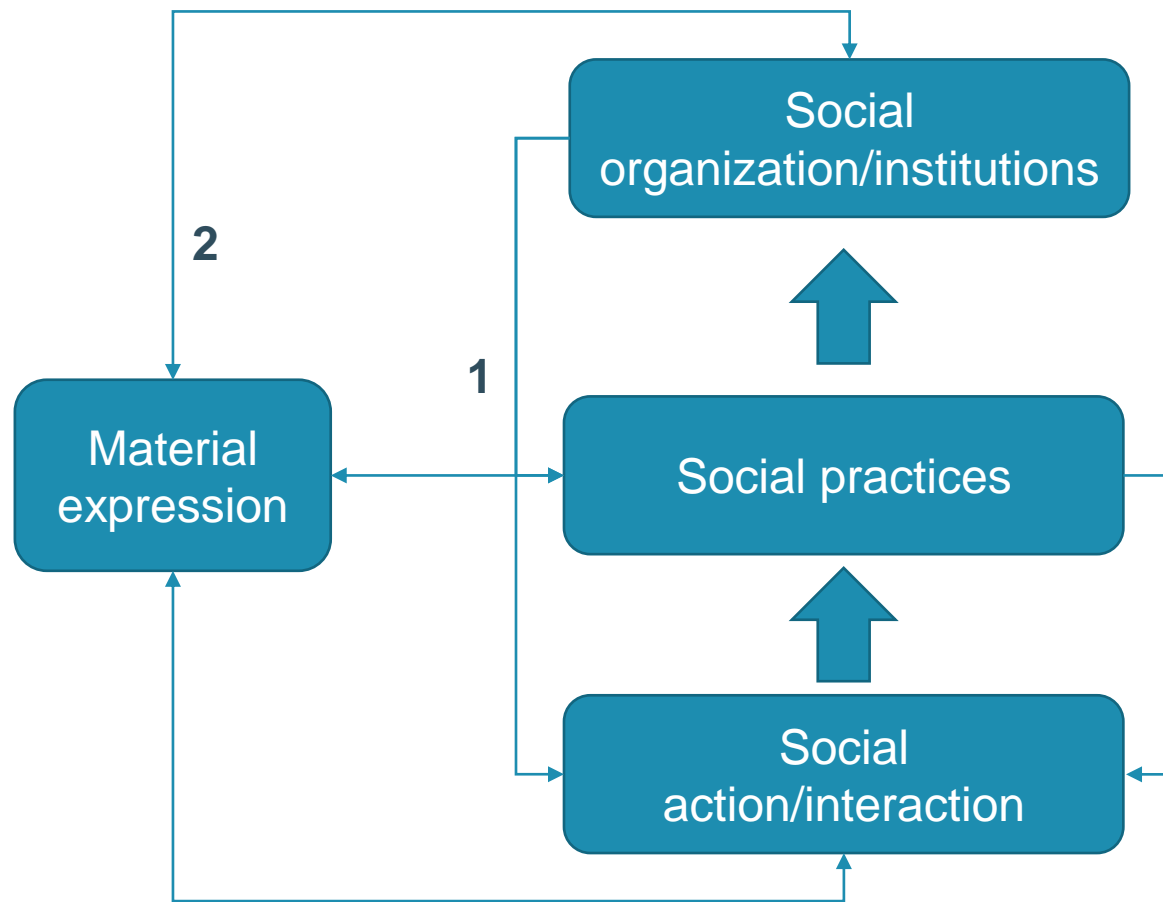


Social complexity and inequality

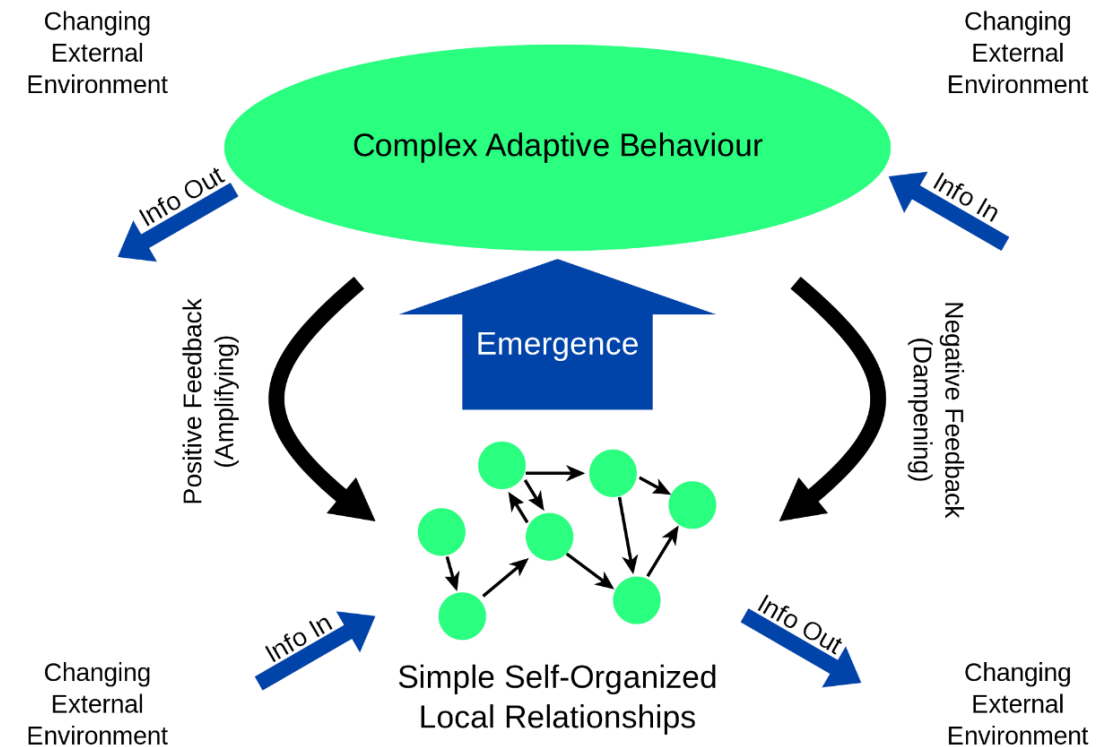
- (Implicit) assumption of correspondence between complexity and inequality
- Different forms of inequality
 - Social, economic, political,...
- Different scales of inequality
 - Individual, groups, societal,...
- Different mechanisms of inequality
 - Status, division of labour, inheritance,...



Social complexity and complex systems

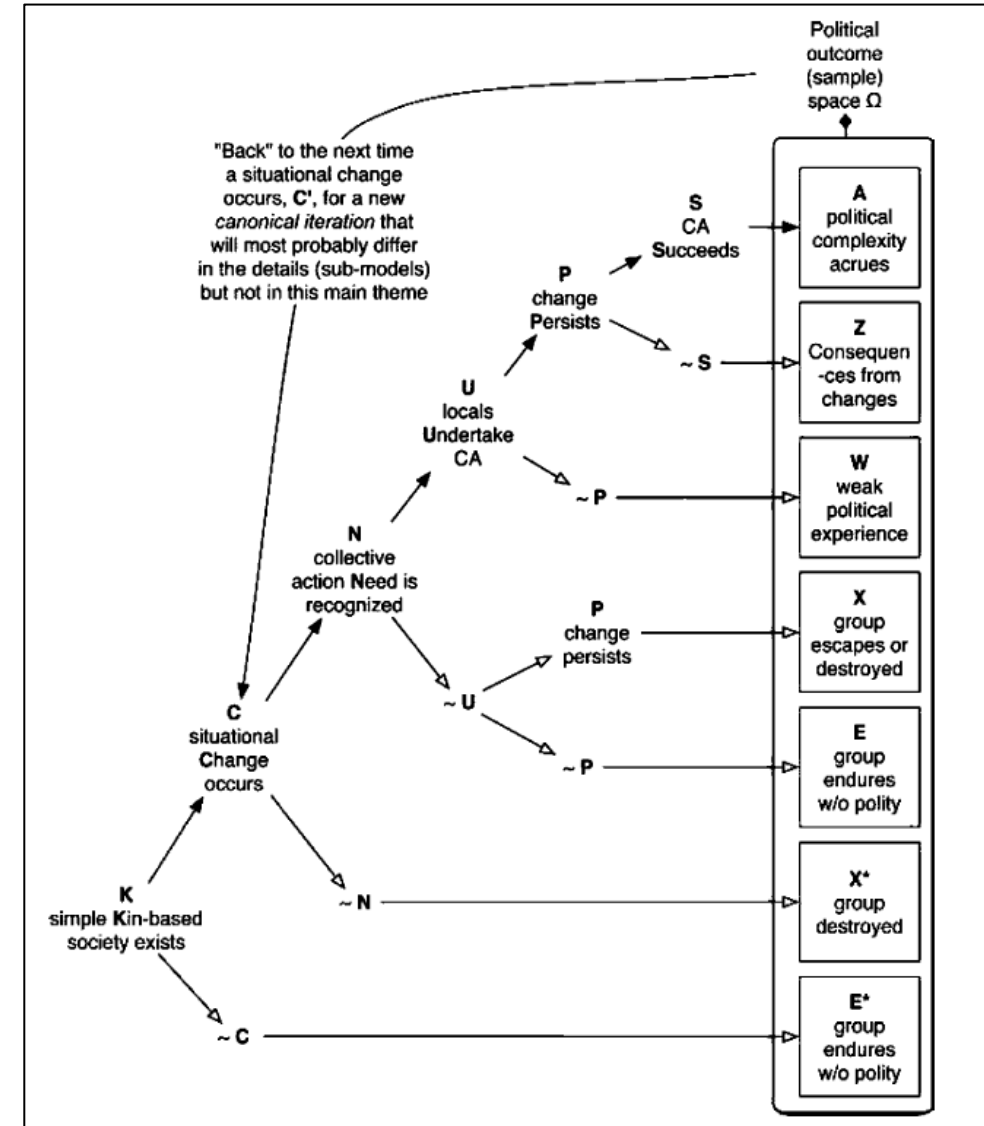


- 1) Temporal, spatial and social structuration
- 2) Archaeological reflection: Material expression of social interactions, practices and institutions



Social complexity trajectories

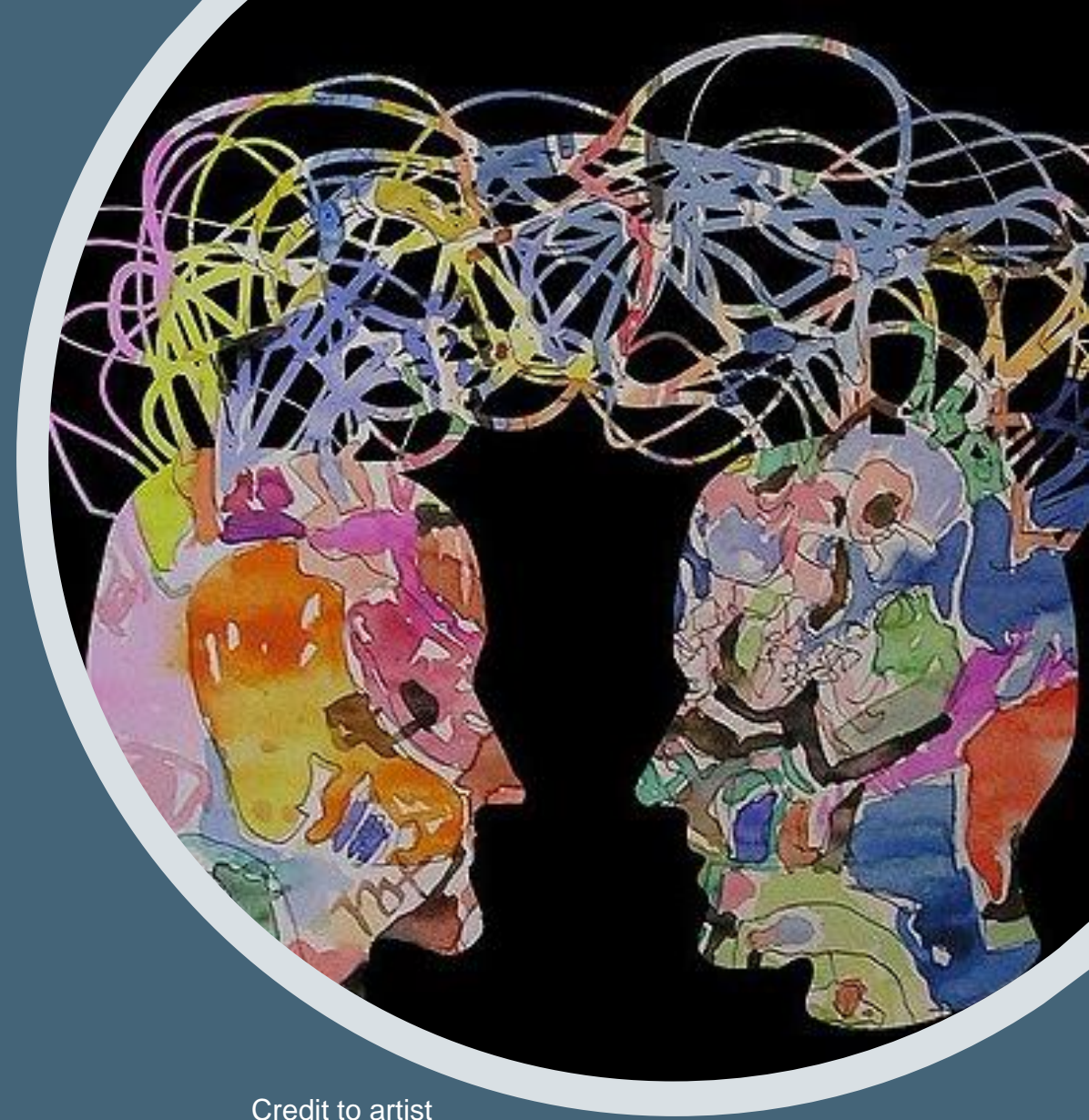
- How did social complexity develop through decision-making strategies?
- Dual loop of signal detection, information-processing, and problem-solving strategies:
 - 'Fast' process of decision-making processes
 - 'Slow' process of socio-political complexity



Cioffi-Revilla 2005

Complexity and inequality in cities: social entropy

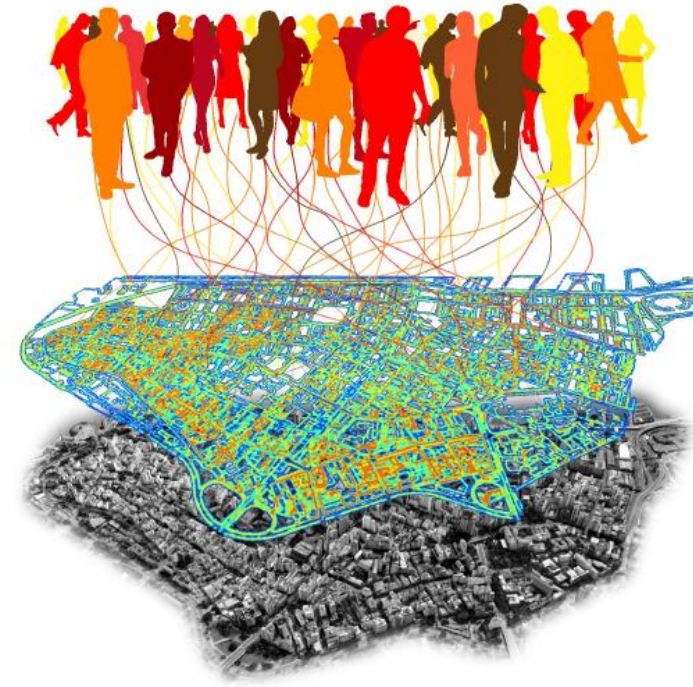
- Overload in high-information environments
- Uncertainty in transition from individual to collective systems of interaction
- Selection of interaction
 - Influencing probabilities of interaction
- Development of inequality inevitable
- What information selected and why?
- Purpose? Or emergent coordination of actions between agents with differing goals?



Credit to artist
Joan M. Mas

Complexity and inequality in cities: social structuration

- Recurrent needs and goals requiring recurrent actions creates order
- Structuration = increasing complexity & reduction of entropy
- Use of space and material environment
 - Create difference
 - Shape interaction possibilities



Information 3 | enacted

selecting activity places
performing, communicating
creating systems of interaction

Information 2 | semantic

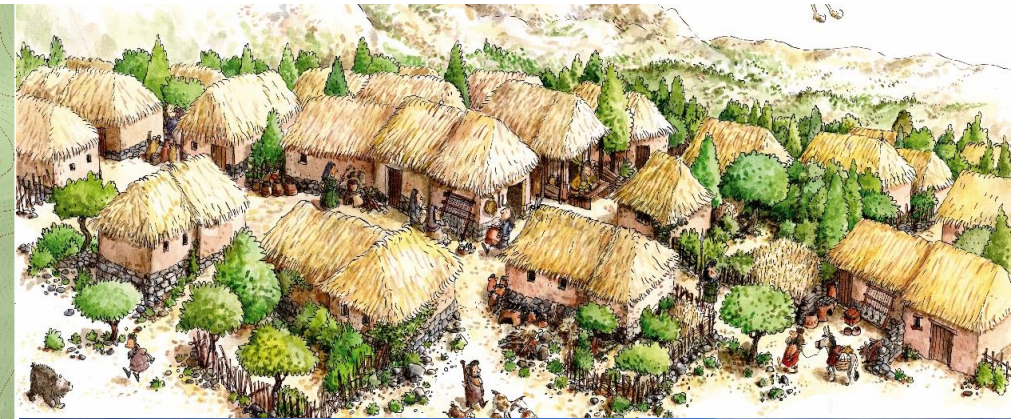
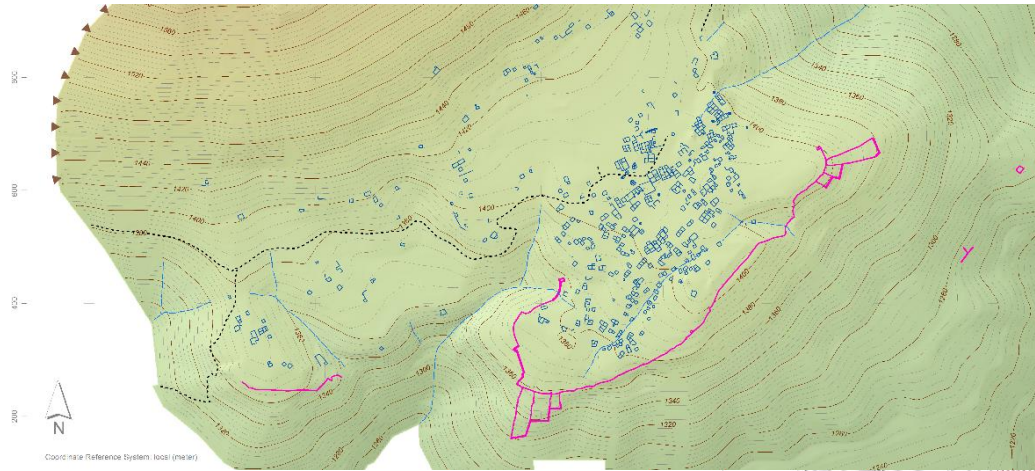
social contents in space as
references for actions
what and where we perform

Information 1 | physical

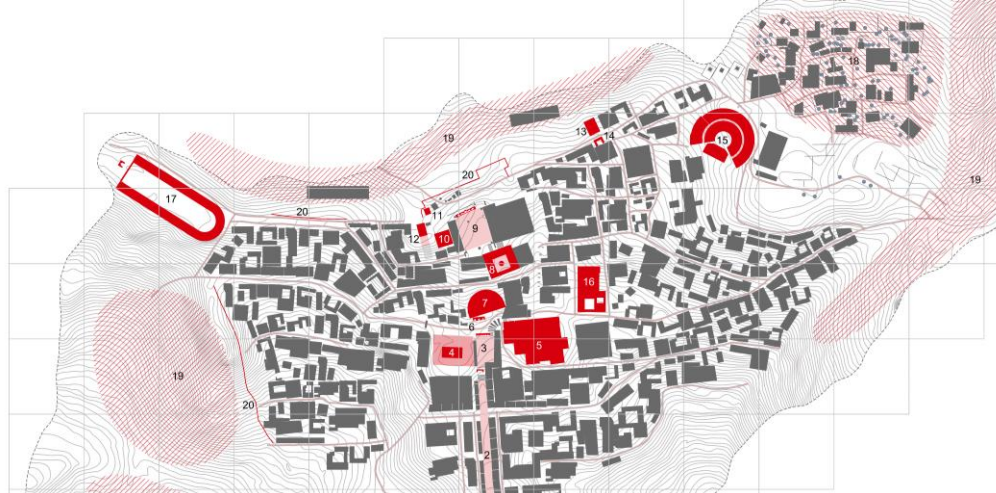
cellular arrangements
street layouts
visual cues and landmarks

Cities as mechanisms of structuration

Düzen Tepe

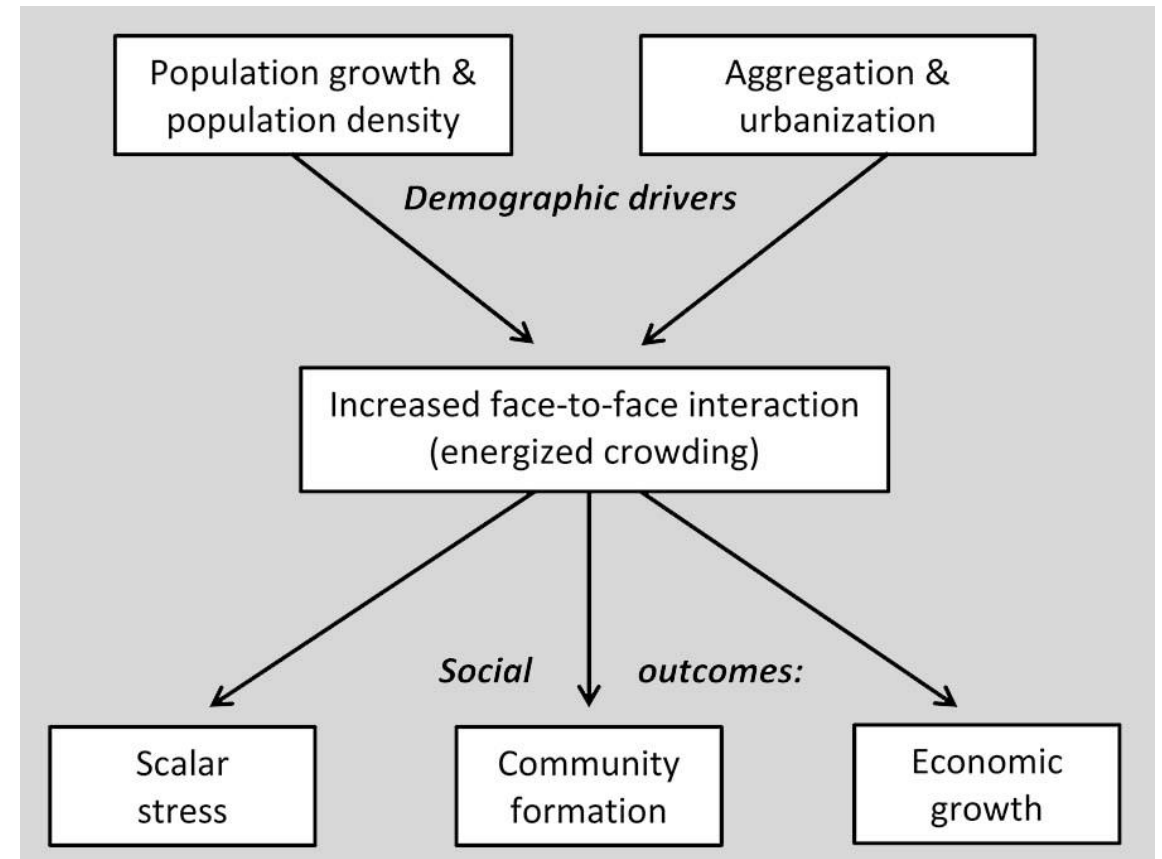


Sagalassos



Cities as information amplifiers

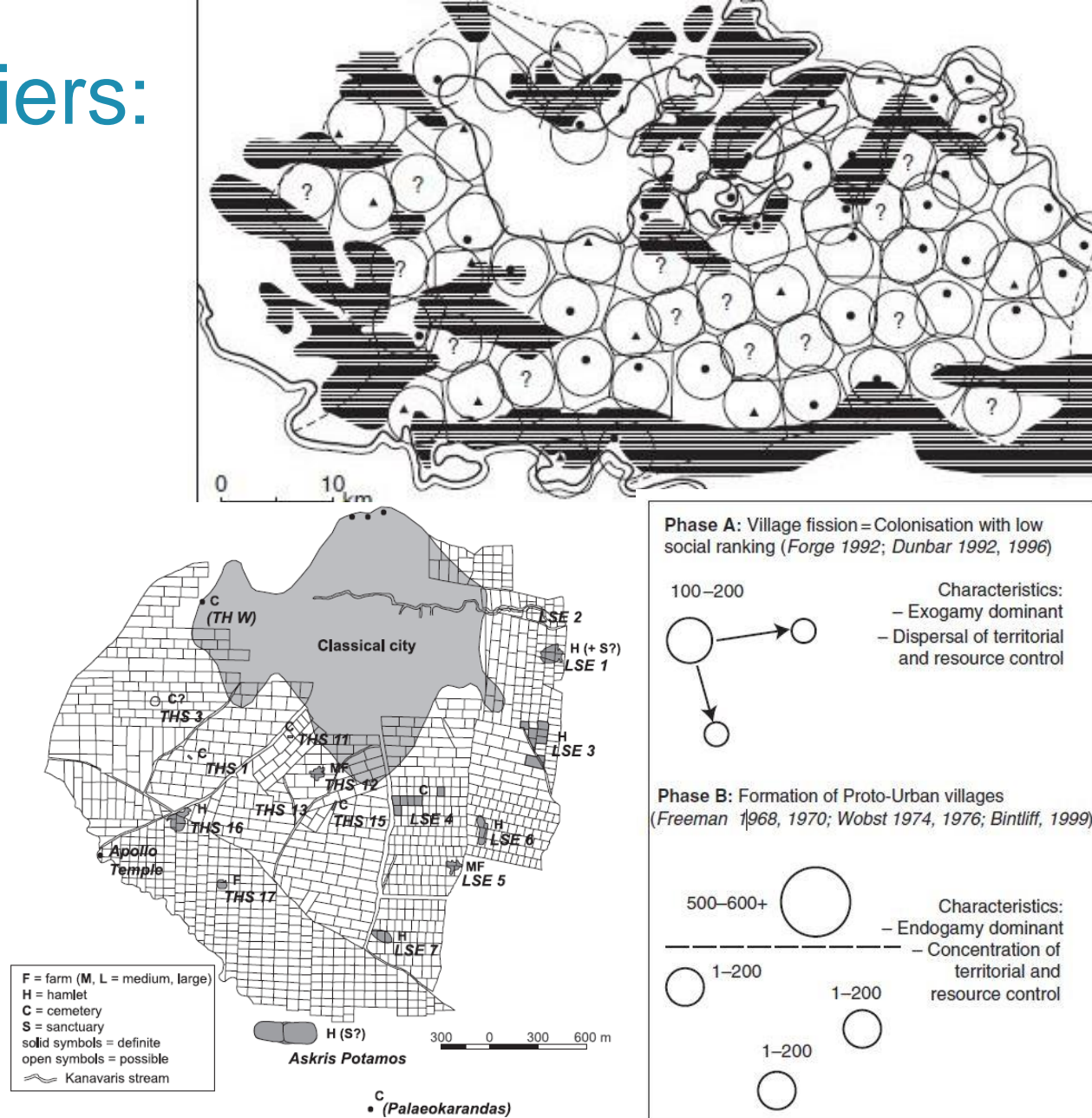
- Cities as pockets of social interaction and information exchange
- Positive and negative effects of growing communities and increasing interactions
- Intra-community (settlement)
- Inter-community (settlement pattern)



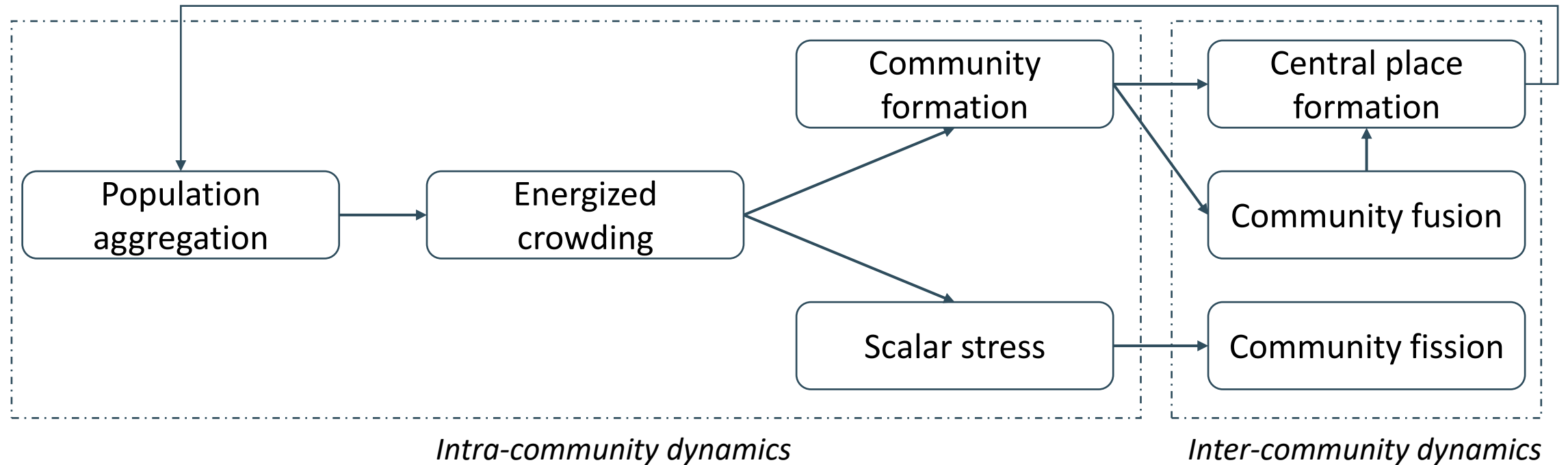
Smith 2019

Cities as information amplifiers: Central place formation

- Settlement patterns as material and informational expressions of information systems
- Manifestation of inequality on an inter-community level
- Urban formation:
 - New forms of social organization, socio-political structures and institutions
 - Development of social, political and economic elite
 - Territorialisation
 - New forms of material culture and monumental architecture



Conclusion: Model of social complexity trajectories



Thank you for your attention!

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