

The Emergence of Social Processes

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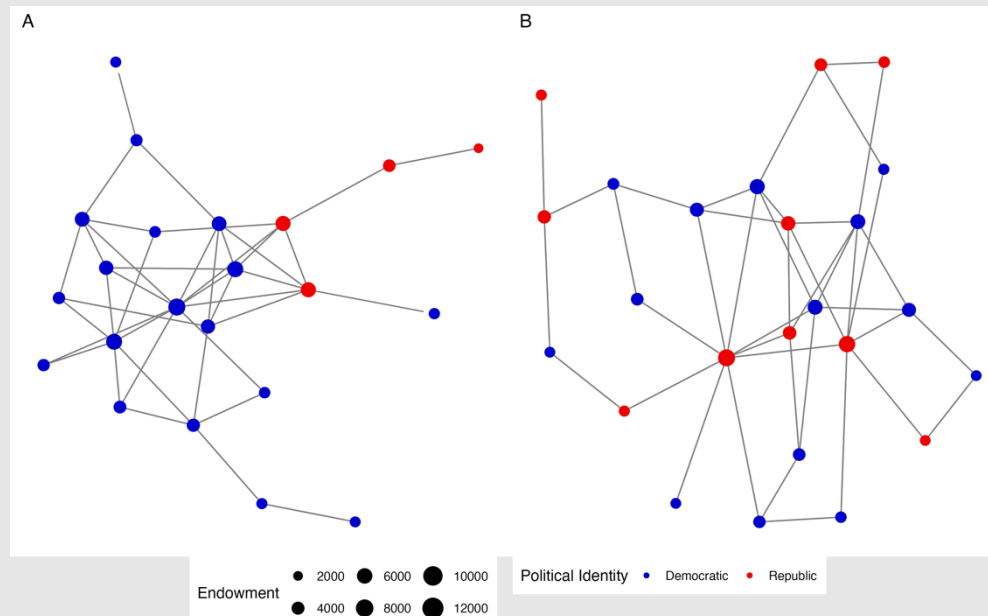
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Emergence

- Humans are embedded in complex systems
- Dominant methods from the 1900s assume independent units of analysis
 - No
- Computational tools (and big data) enable us to model the complexity, *not just what emerges from it*

Networks

- Why do networks enable individuals embedded in them to cooperate at high rates?
 - Topology of the System
 - Exogenous clustering in static networks/emergence of clustering in dynamic one (Melamed et al. 2018)
- In cooperative networks, differentiation leads to segregation (Melamed et al. 2020)
- But, the type of reputation system embedded in the network shapes the emergence of segregation (Simpson et al. 2023)



Influence in Task Groups

- New Project (NSF- SES-2332912)
- We know that attributes shape influence in task groups
- We also know that contributions alter the initial hierarchy
- Testing whether moderator interventions can suppress the formation of status hierarchies, *and* whether we can automatically track the evolution of the the status order
- Having confederates serve as moderators, varying interventions to equalize contributions in mixed-ethnicity groups
- Using ML to automate the conferral of status in open interactions

Emergence of Social Processes

- Networks stuff – how interacting people and the decisions they make aggregate to shape collective outcomes
- Status stuff – how interacting people and the uncontrolled nature of their discussion shapes hierarchy evolution
- Common Element – computational tools enable me to ask and answer questions about emergent social processes that could not be addressed 30 years ago