Analyzing Political Polarization Through Agent-Based Modeling

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Extreme political polarization has surfaced as a major threat to democracy, with recent events highlighting the need to understand both the causes and solutions of political polarization. This study used an agent-based model to improve understanding of this important topic. The model assigns the agents positions in a policy space, as well as social connections to all other agents. The agent's policy positions and social relationships are evolved, simulating the changing political environments of the real world. The effects of elections, societal conformity, and skepticism were also investigated. It was found that an increase in the noise (random changes) in the agent's political position caused a decrease in political polarization. It was also found that the more interconnected social relationships and political beliefs were, the more pronounced polarization became. Societal conformity and skepticism of other views both diminished polarization, but with diminishing returns. The effect of elections was unclear, as they could both increase or decrease polarization depending on the candidate's strategies. It was concluded that in order to decrease polarization, isolating social and political interactions is extremely effective. Additionally, introducing people to new views can have profound effects. However, because introducing more societal conformity and skepticism of extreme political views (both strategies which have been suggested to combat polarization) have diminishing returns, it is difficult to know what their effects might be on society. Finally, it is recommended that more research is done to examine the effects of elections on polarization, due to the large number of variables involved.

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