

Polarization can happen even when rational people listen to each other

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When groups of people disagree, it's easy for one side to blame the other's irrationality for the difference in opinion. But new work from the University of Pennsylvania suggests that humans' limited memory might instead be at fault. The research shows that even when everyone actually listens to each other and thinks rationally, polarization can still occur. Penn researchers Daniel J. Singer, William Berger, and colleagues published these findings in the journal *Philosophical Studies*.

"If groups simply don't listen to each other, polarization is an obvious result," says Singer. "But we show that you can get polarization even if everyone is talking to each other and sincerely and rationally taking it all in."

At Penn, Singer leads the Computational Social Philosophy Lab, a group of inter-disciplinary researchers from universities around the world that uses computer modeling to study the philosophy of science and political philosophy. For this work, the team built a simulated world made up of "limited agents" with finite memory, to mimic human memory, and "unlimited agents" that can remember anything they hear.

"There are clear cases where you don't get polarization, such as when everyone shares their information, listens to everybody, has perfect memory, and perfectly takes in all new information" Singer says. "Everyone ends up knowing all things that anyone knows. In this situation, for unlimited agents, polarization totally goes away."

Limited agents, on the other hand, can't remember everything so they have to determine how to manage their finite capacity. Should they forget information at random or in order of factual importance? Perhaps they use a more sophisticated method like first forgetting information that seems inaccurate, starting with what seems the least important. Singer's team tested all three scenarios, which they called "random forgetting," "weight-minded forgetting," and "coherence-minded forgetting," respectively. They found that the first two did not lead to polarization, but the third did.

"These agents don't forget the weakest information. They forget the weakest information for something they think is false," Singer says. "When everyone is doing that, you get polarization almost all the time."

He explains further with an example: Say your friend Bob declares that the United States produces a good deal of corn, but you disagree. For evidence, Bob points to the success of a certain truck brand because, he says, these trucks often haul corn. Suppose that in light of what else you know, that doesn't convince you of corn's abundance. "You think it's a weak fact to support something that you think is wrong," Singer says.

"That's a good candidate for something to forget." Following that rule, although you and Bob are both thinking sensibly and listening to each other, you continue to disagree.

Singer and colleagues suspect that on a much grander scale, processes like these might be playing out in today's politics. Their results shed light on how polarization can worsen without one side or the other being irrational. "There's something alluring about condemning the current climate of polarization as a product of human irrationality, as some kind of political or social sin," says Berger, a fellow with Penn's Philosophy, Politics, and Economics program. "Our research is pushing back against that. It can't be understood wholly in those terms."

If polarization is something to fix—and the researchers aren't convinced it always is, as they say it might have benefits in pacing the political process and making people consider opposing viewpoints—then they argue that the solution may require going beyond getting people to sincerely talk to and listen to each other.

More generally, the group's research suggests that high-level phenomena like polarization might not be so easy to understand in terms of how individuals interact. "Society isn't composed of a few individuals having it out, in the same way traffic jams don't necessarily happen because of the actions of a few drivers," Berger says. "The reason we come to these deliberative equilibria isn't just because one political actor woke up with a bee in his bonnet. It's the sum of millions and millions of smaller actions."

Largely for this reason, the researchers use [computer simulations](#) to study questions in social philosophy. "Computers can help you consider how the sum of many interactions will play out," Berger says. "You could never do that with just pen and paper."

Put another way, Singer says that many social phenomena happen at a systems level rather than at the person level. "Of course, [polarization](#) feels really bad for individuals. But large-scale progress is made as part of high-level interactions that are not just one person interacting with another," he says. "It's much more complicated than that."

More information: Daniel J. Singer et al. Rational social and political polarization, *Philosophical Studies* (2018). [DOI: 10.1007/s11098-018-1124-5](#)

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