

## A new theory about political polarization

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The ever-deepening rift between the political left- and right-wing has long been puzzling theorists in political science and opinion dynamics. An international team led by researchers of the Complexity Science Hub Vienna (CSH) now offers an explanation: Their newly developed 'Weighted Balance Theory' (WBT) model sees social emotions as a driving force of political opinion dynamics. The theory is published in



the Journal of Artificial Societies and Social Simulation (JASSS).

A certain degree of polarization of political opinions is considered normal—and even beneficial—to the health of democracy. In the last few decades, however, conservative and liberal views have been drifting farther apart than ever, and at the same time have become more consistent. When too much polarization hampers a nation's ability to combat threats such as the coronavirus pandemic, it can even be deadly.

## How do extreme positions evolve?

"We feel high balance when dealing with someone we like and with whom we agree in all political issues," explains first author Simon Schweighofer, who was working at the CSH when the paper was written. "We also feel high balance towards those we hate and with whom we disagree," adds the expert in quantitative social science. The <a href="https://linear.com/human">human</a> tendency to maintain emotional balance was first described 1946 by Fritz Heider's "cognitive balance theory."

But what happens when opinions and interpersonal attitudes are in conflict with each other, i.e., when individuals disagree with others they like, or agree with others they dislike? "People will try to overcome this imbalance by adapting their opinions, in order to increase <u>balance</u> with their emotions," says Schweighofer.

A vicious circle of increasingly intense emotions and opinions gradually replaces moderate positions until most issues are seen in the same—often extremely polarized—way as one's political allies, the scientists found.

"It ultimately ends in total polarization," illustrates co-author David Garcia (CSH and MedUni Vienna). Not only do people categorically favor or oppose single issues like abortion, same-sex marriage and



nuclear energy. "If they are pro-choice, they are at the same time highly likely to be for gay marriage, against the use of nuclear energy, for the legalization of marijuana, and so on," says Garcia. The possible variety of combinations of different opinions is reduced to the traditional left-right split.

## A mathematical model of hyperpolarization

The researchers developed a so-called agent-based model to simulate this process. Their mathematical model was able to reproduce the same dynamics that can be observed in real-life political processes (see videos).

"We call the combination of extremeness and correlation between policy issues hyperpolarization," says Simon Schweighofer. "Hyperpolarization has so far been overlooked in social theories on opinion formation. Our Weighted Balance Model—which is a truly interdisciplinary effort that integrates research strains from psychology, political science and opinion dynamics into an overarching theoretical framework—offers a new perspective on the emergence of political conflict," he concludes.

**More information:** "A Weighted Balance Model of Opinion Hyperpolarization," will appear in print on 30 June 2020 in the Journal of Artificial Societies and Social Simulation. DOI: 10.18564/jasss.4306

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