

# Study suggest people act fairly due to spite, not altruism

February 12 2014, by Bob Yirka

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(Phys.org) —A study done by philosophers Patrick Forber of Tufts University and Rory Smead of Northwestern University, suggests fairness in societies evolves out of a fear of spite from others, rather than due to an increase in altruism. In their paper published in *Proceedings of the Royal Society B: Biological Sciences*, the two describe a mathematical/computer model they built based on a well-known game developed to study economics called The Ultimate Game and how it showed that spite, not altruism appears to drive fairness.

Most people would like to think that they and other people are fair in their dealings with others because of some inherent goodness, i.e. some form of [altruism](#). In this new study, Fober and Smead suggest that the real reason people are fair with one another is because they fear being the victim of a spiteful action.

Spite, the researchers note, is the opposite of altruism—it's when people cause something negative to happen to someone else, at their own expense. And it too, they add is a part of fairness, or at least in its perception.

To come to their conclusions, the researchers built a math/computer model that simulates the Ultimate Game—players are given cash and told to give some to another player—who can then accept or reject the offer. The goal of course after several iterations is to be the player who winds up with the most cash. In studying the [game](#), the researchers have identified four types of players: rational, fair, easy rider and spiteful.

They found that in running the simulation, that spite evolved as a strategy—players would reject reasonable offers for example if they "felt" they had been slighted earlier. In such cases, both players wound up receiving nothing. As spite evolved, they found, so too did the advantage of the easy rider player—one who consistently made and accepted reasonable offers. Spiteful players played themselves out of the game, fair players got duped and rational players lost out to spiteful [players](#). By playing reasonably, the easy riders were able to win out, which the researchers suggest, indicates that playing fairly, but reasonably, comes about out of a fear of losing to those who would spite us.

The simulated game can't mimic real life of course, with all its nuance, but it does shed some light on the real possible source of [fairness](#) in everyday life, even if it's something we may not want to acknowledge.

**More information:** The evolution of fairness through spite, *Proc. R. Soc. B* 7 April 2014 vol. 281 no. 1780 20132439, Published 12 February 2014 [DOI: 10.1098/rspb.2013.2439](https://doi.org/10.1098/rspb.2013.2439)

### **Abstract**

The presence of apparently irrational fair play in the ultimatum game remains a focal point for studies in the evolution of social behaviour. We investigate the role of negative assortment in the evolution of fair play in the ultimatum game. Spite—social behaviour that inflicts harm with no direct benefit to the actor—can evolve when it is disproportionately directed at individuals playing different strategies. The introduction of negative assortment alters the dynamics in a way that increases the chance fairness evolves, but at a cost: spite also evolves. Fairness is usually linked to cooperation and prosocial behaviour, but this study shows that it may have evolutionary links to harmful antisocial behaviour.

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