Vincent BUSKENS, Rense CORTEN and Chris SNIJDERS, *Advances in the Sociology of Trust and Cooperation. Theory, Experiments, and Field Studies* (Berlin/Boston, De Gruyter, 2020, 450 p.)

Why do some people trust each other and cooperate, thus reaching mutually beneficial and socially optimal outcomes, while others do not? This is one of the foundational questions of sociology and the central question of this 548-page book edited by Vincent Buskens and Rense Corten, both sociologists at Utrecht University, and Chris Snijders, a sociologist at the Eindhoven University of Technology.

Social dilemmas

To answer this question, the authors of the 23 chapters present theoretical contributions, experimental tests and field studies of variations of two well-known "social dilemmas": the "prisoner's dilemma" and the "trust game". Assuming that individuals do what they think is best for them (subjective utility maximization), these social dilemmas are strategic interactions in which individuals' decisions lead to an outcome that is suboptimal for all, i.e. a possible alternative outcome would have been preferable for everyone.

In the prisoner's dilemma, a two-player simultaneous game where each player may either cooperate or defect, each has an incentive to defect (whatever the other does), thus depriving everyone of the benefits of cooperation (mutually profitable exchange). The trust game is a two-player sequential game, where first the trustor chooses whether or not to place trust in the trustee and, if so, the trustee then gets to decide whether to honor or abuse that trust. Given that once trust is placed, the trustee has an incentive to abuse it, the trustor—anticipating this—decides not to trust the trustee in the first place, thus leading to the suboptimal situation depriving everyone of the benefits of trust. Many of the chapters present extensions of such social dilemmas, such as a multi-player prisoner's dilemma with more than two choices of action (public goods game), or repeated games or games embedded in a larger setting. The book thus contains numerous variations on a common research program, making it not only interesting, but also largely coherent.

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One of the recurring themes of the book is that, at the level of households, organizations, businesses, neighborhoods and society at large (vs. the individual level), trust and cooperation may emerge if individuals are involved in *repeated* interactions or embedded in social *networks* or other institutional arrangements. Let us review some of the book's results which might be of interest to most social scientists.

Theoretical contributions

In its first, theoretical section (Chs. 2-11), the book addresses the role of networks, reputation and information exchange in the emergence of trust and cooperation.

Cooperation problems may be overcome by network embeddedness: by enabling individuals to monitor each other's contributions, it allows sanctions to be more effectively directed at free riders (Ch. 5).

Trust problems may also be overcome by reputation systems, for at least two reasons (Ch. 7). First, before choosing between trusting and not trusting, the trustor may learn about the trustee's past inclination to either honor or abuse trust. Second, the trustee may have to take into account that the trustor could sanction bad behavior by leaving a negative rating, thus diminishing the trustee's opportunity for future exchange. Reputation systems, however, tend to produce extreme arbitrary market concentration: trustors might tend to choose whichever trustee was lucky enough to be able to build an initial reputation, thus triggering a "reputation cascade" through cumulative advantage. As computer simulations show, these reputation cascades are relatively robust, i.e. they can still be observed when reputation systems are noisy, for example, when a timely shipped item arrives late or is lost or when a reliable seller receives negative ratings by error or by his competitors. "As trustors flock to safe havens, untried exchange alternatives that may be qualitatively equivalent, or even superior, are left unexploited" [151].

Precisely, reputation is a socially acquired evaluative opinion about a social actor regarding a tendency to act in a particular way (Ch. 6). One of its consequences is that, given some shared norms on how one should behave, people abstain from behavior for fear of losing their good (moral) reputation. As populations (including friendship networks) become more heterogeneous with regard to the social norms to which they adhere, reputation effects may weaken and become restricted to local pockets.

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Similarly, the lack of information exchange allowed several scandals of the years 2010s to occur, such as deceptive emissions monitoring software in cars, or sexual abuse of minors by the Catholic clergy—as cases were settled behind closed doors, there were fewer trials because victims did not have models for complaints (Ch.8). Concerning the case of scientific fraud by Dutch social psychologist Stapel, one of the questions was: Why were his fake papers not stopped earlier? "Precisely because reviews by scientific journals involve several anonymous persons, fraudulent scientists will not be easily found out, since reviewers may take their task lightly, counting upon other reviewers, who do the same" [163].

Network structure itself is related to how information may flow (Ch.10). For instance, actors bridging structural holes by connecting otherwise disconnected segments of a social network have access to information and resources that circulate over the network while maintaining a small number of ties. Thus, scientists may retain non-redundant collaboration ties because they are associated with resources unavailable in other collaborations.

Other chapters model opinion dynamics. In the "bounded confidence model", agents update their opinions by averaging over all opinions that are not too far away from their own (Ch.9). The authors then introduce two simple extensions of this model. First, they introduce a bias of the type "leftists listen more to the left, rightists listen more to the right", leading to strongly polarized camps ("polarization by biased confidence"). By contrast, in the simplest "bounded confidence model", extreme opinions are under a one-sided influence (the most leftist individual can only be influenced by people to his right) and tend to move in the direction of the center. Second, they introduce a group of radicals who, by contrast with others, adhere to their radical opinion, leading to radicalization. Radicals may have an influence even on agents that are far away from the radical position, as long as there are enough bridges between them. (The crucial importance of bridges for both polarization and the radicalization of opinions is also illustrated in Ch.5.)

Experimental tests

In the second part of the book (Chs.12-18), mechanisms related to trust and cooperation are tested in the lab, suggesting that individual preferences, social identity and framing, but also social and institutional embeddedness—including networks and reputation effects—may help solve certain cooperation problems.

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Sometimes, cooperation among a certain number of actors might be beneficial to them but detrimental to society at large (Ch.16). To prevent collusion between suppliers in a market with few suppliers, introducing an actor with aggressive social preferences (a "maverick" deriving utility from relative, not absolute payoff) puts collusion under pressure. "We conclude that the existence of rivalistic attitudes may justify antitrust policies that protect mavericks" [357].

Ingroup favoritism is the human tendency to value the outcomes of ingroup members more than those of outgroup members (Ch.12). Interestingly, ingroup favoritism appears to be much stronger when the outgroup is better off than the ingroup. By contrast, when the outgroup is worse off than the ingroup, the average subject is no longer "spiteful": they attach similar weights to the outcomes of outgroup and ingroup others. Cooperation might thus be particularly difficult to achieve among unequal groups, for lack of will by the inferior group.

Some experiments of repeated prisoner's dilemmas in social networks address a combination of reputation effects and partner choice (Ch.17). In academic life, cooperation in common research projects should be more likely in departments with dense networks, in which information about defections is easily shared among colleagues (reputation effect). In addition, when researchers are able to choose their partner, cooperation may increase because cooperators may avoid defectors. For instance, cooperation in common research projects should be more likely if academics can freely choose their coauthors and ostracize free riders.

The level of cooperation in a group playing public good games may also depend on the type of sanctions they might use—either positive sanctions (carrots) or negative sanctions (sticks) (Ch.18). Cooperation is higher when players are able to use sticks rather than carrots because "sticks function as credible threats, i.e. they support cooperation without needing to be used […]. The threat of sticks is effective and cheap, while the costs of continuously providing carrots make them less effective" (Ch.18, p. 436-437).

Field studies

If "Experiments are only tools for identifying potential effects" (Ch.16, p. 378), it is necessary to test mechanisms related to trust and cooperation in the field. The third part of the book (Chs.19-23) is slightly disappointing, however, because not all field studies test mechanisms discussed in the first two parts. A chapter on a particularly important topic, nevertheless, uses network data from the German section of the

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Children of Immigrants Longitudinal Study in Four European Countries (CILS4EU, 2010-2011), and shows that religious heterogeneity in classrooms of adolescents (share of Muslim students) tends to reduce social integration in classrooms (number of reciprocal friendships) (Ch.23). Indeed, a higher diversity of a characteristic associated with homophilous preferences should reduce overall social cohesion, i.e. the number of ties among individuals. Sharing characteristics reduces the cognitive and physical costs of communicating, anticipating and evaluating behavior, building mutual expectations and developing trust, and this might be particularly true for homophily that is of a religious nature.

Critique

The book contains various useful extensions of social dilemmas which, overall, lead to the conclusion that cooperation and trust might be affected by various individual—and, more importantly, social-level—factors, including networks. When people can directly observe other people's past propensity to honor trust or cooperate, or when they can learn this information through other people's reputation, their social environment makes it easier for them to trust others and cooperate with them, enabling everyone to gain from the exchange. I recommend this interesting book to researchers who want to delve deeply into the causal mechanisms behind cooperation and trust. That being said, I would like to raise two series of questions.

First, from a theoretical perspective, although undoubtedly convincing and important, it is not clear that the book's results may be unified into a coherent theory of trust and cooperation. As mentioned by the authors themselves, "Enriching game models by social context, framing, and psychological hypotheses is an important step to enhance the explanatory power of a theory of social interaction. However, we are still far away from a general, unified theory and doubts remain that the social sciences will ever attain this goal" (Ch.13, p. 316). In addition, any unified theory might not apply to both trust and cooperation, which are distinct topics. Indeed, the trust game may be interpreted as preventing trust because of *defensive* motivations: if the trustor could be assured the trustee would honor his trust, he would definitely trust him. By contrast, the prisoner's dilemma may be interpreted as preventing cooperation not just because of defensive but also because of *aggressive* motivations: if one player knew the other would cooperate, he would still defect. Perhaps addressing the differences between cooperation and trust more systematically would enable us to make some theoretical progress.

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Second, from an empirical perspective, the book does not directly address the "big picture" of the variations in interpersonal trust across countries or periods. For instance, the 2016 review of the social-scientific literature on "Trust" by Esteban Ortiz-Ospina and Max Roser [https://ourworldindata.org/trust] establishes several facts based on surveys that I would have liked to see addressed, if not entirely explained. Why is it that, according to the World Values Survey, more than 60% of respondents from Nordic countries (Norway, Sweden and Finland) think that "most people can be trusted," by contrast with fewer than 10% of respondents from South America (Brazil, Colombia, Ecuador and Peru)? And why is it that, according to the US General Social Survey, the share of US citizens who agree that most people can be trusted declined from 46% in 1972 to 32% in 2018? It is not clear whether these facts might be explained by variations in network structures and reputation effects of the kind referred to in the book. However, it would definitely be worth testing empirically the book's theoretical hypotheses used to explain such macro facts.

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