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Introduction

Reasoning as a social device

This paper is part of the [Decision Making for a Social World webconference](#)

Organized by the [International Cognition and Culture Institute](#) and
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The paper is followed by a **[discussion](#)**

The field of judgment and decision making (JDM) was created in part to correct some of the failures of standard economic theory, in particular its assumption of the actor maximizing its utility with perfect rationality. Recent events have only reinforced the need for a less idealistic economic science, more grounded in empirical psychology. JDM has been very happy to oblige by providing explanatory tools (what drives overconfidence?) and potential remedies (how to get people to spend less and save more?). Given the increased reliance on JDM—and experimental psychology in general—in policy making, it is more important than ever to make sure that we are 'getting the psychology right' and that we aren't missing important levers to nudge people in the right direction. The main objective of this webconference is to show that for JDM to move in the right direction, towards a more realistic and more useful description of the mind, more attention should be paid to the social determinants of our thoughts and behaviors.

Social psychologists have demonstrated the power of the social context to make us engage in 'irrational' acts. People have inflicted would-be lethal electric shocks to hapless learners, they have admitted to not seeing what they saw, a mere uniform has turned them into sadistic prison guards. These are extreme examples, but most of the decisions in our lives are somehow impacted by the social context in which they are set. We make decisions in groups—what bar to go to—or in dyads—where to spend the holidays. We ask for advice: what car should we buy? What school should send our kids to? We look at what others do, favoring crowded restaurants and colleges famous people went to. Even for the most important decisions of our lives—choosing our friends, our partner—we think about what others will think of our choices. When asked about a variety of decisions—from choosing an Internet provider to picking a major—a diverse sample of Americans listed at least one social factor in three quarters of the cases (Mercier, unpublished data). And this is likely to be the tip of the iceberg. Nearly all of our decisions are influenced by communicated information, be it what we have learned in school years ago or an ad we have just seen in the paper. Social psychologists have shown how our unconscious is finely attuned to the reactions of others, guiding our behavior by paying attention to the most minute cue—a sight, a barely hinted smile, a repressed yawn, a slight tremor. The existence of many mental mechanisms dedicated to social cognition makes a lot of sense from an evolutionary perspective, as there is strong evidence that the social environment has played a major role in shaping human cognition (Byrne & Whiten, 1988; Dubreuil, in press; Dunbar & Shultz, 2003; Dunbar, 1996; Herrmann, Call, Hernàndez-Lloreda, Hare, & Tomasello, 2007; Hrdy, 2009; Humphrey, 1976; Sterelny, in press; Tomasello, Carpenter, Call, Behne, & Moll, 2005; Whiten & Byrne, 1997).

Even though it is sometimes blamed on intellectual shortcomings—failed models, poor regulation, lack of foresight—the financial crisis has its roots in socially created problems. Because confidence is based on consensus rather than on actual correctness (Koriat, 2008), the widespread optimism in the housing market was bound to be self-sustaining: most experts cannot be wrong, can they? This problem has been compounded by the media, which played the role of echo chamber for the overconfident voices of Jim Cramer and his ilk (see Tetlock, 2005). The few dissenting voices were not heard—because powerful individuals often do

not like their authority to be questioned, a problem of power relationships. Instead of objectively assessing incoming information, analysts engaged in motivated reasoning, blowing any good news out of proportion and pooh-poohing the bad news that kept showing up. This may seem to be a failure of individual cognition—a mix of motivated reasoning and selective exposure—but I would argue that the root cause is here again social (more on this later).

If we accept that JDM has not been paying enough attention to social factors, what is to be done? At least three types of reactions are possible.

1) Add a layer of social information and social motivation without changing the core of the theory. This view would still hold that the mind is a mostly domain general computational device—with its glitches, to distinguish it from the rational actor model, but still out there to maximize utility as well as it can. Social information can easily be accommodated and treated as any other information source, in the same way as Thomas Reid thought of testimony as perception by proxy. In fact, this has been the implicit assumption of JDM since its inception, as the vast majority of the information is provided to participants through language. Likewise, social rewards can easily be added to the list of things that increase our utility. Group processes can be explained 'separately', so to speak, by creating specific models of group decision making that have little influence on the description of internal cognitive processes.

2) Another solution is to postulate new, different mechanisms dedicated to social cognition. For instance, one can create novel heuristics—and their attendant biases—that only concern social stimuli. Social psychologists have been doing exactly that for several decades; their results can be co-opted to enrich the field of JDM, as many researchers have done. Starting within a more classical JDM framework, a substantial amount of research has recently been dedicated to advice taking, highlighting new, specific biases such as 'egocentric discounting—a tendency to overweigh their own opinion compared to the advice (Yaniv & Kleinberger, 2000).

3) The third solution entails rethinking well-known mechanisms and trying to understand their function as devices aimed at social cognition. In a way that is what Veblen did in his examination of the reasons for which we buy luxury items. He argued that decisions thought to be motivated purely by material comfort—a better suit, a better car—were in fact a way to display one's wealth and status. The centrality of conspicuous consumption has recently been defended, with an added evolutionary story, by Geoffrey Miller (2009). Another example is provided by Steven Levinson (1995) who has suggested that the representativeness and availability heuristics served a communicative function. By making prototypical and salient representations come to mind, they help speakers anticipate what interpretation the listener will converge to.

The third strategy is the most radical. Still, I will argue that it shows great promise in allowing us to make sense of otherwise weird results and for suggesting

new ways to nudge people. To make this case, I will explain how reasoning can be recast as a mechanism of social cognition in order to explain some puzzling biases.

A popular view within JDM, but also within the psychology of reasoning and other branches of psychology, is to see reasoning as an overseer making sure that our unconscious heuristics do not go astray, correcting them if need be (see for instance Evans, 2007; Kahneman, 2003; Stanovich, 2004). Through this mean, reasoning can guide us towards better beliefs and superior decisions. Yet, on the face of it, this view is hard to reconcile with a wealth of evidence amassed by modern psychology. The whole heuristics and biases program has not only shown that our intuitions could play tricks on us, but also that reasoning most often failed to atone for their blunders (see, for instance, Gilovich, Griffin, & Kahneman, 2002). Likewise, psychologists of reasoning have made participants struggle with the simplest logical problems (Evans, 2002). Social psychologists have even launched more scathing attacks, showing that reasoning can drive us towards worse decisions (Dijksterhuis & van Olden, 2006; Wilson & LaFleur, 1995). If the function of reasoning is to correct mistaken intuitions, the least we can say is that it's not doing a very good job. Yet the full import of these results has not been properly gauged since most people still seem to share, or at least fail to question, the standard view of reasoning.

In order to make sense of these results, Dan Sperber has suggested that instead of having an individual function, reasoning has a social and, more specifically, an argumentative function (Sperber, 2001, see also Mercier & Sperber, 2009). The function of reasoning would be to find and evaluate reasons in dialogic contexts—more plainly, to argue with others. This suggestion does not come out of the blue, but of a plausible evolutionary argument that can only be briefly summarized here. Communication is hugely important for humans, and there is good reason to believe that this has been the case throughout our evolution, as different types of collaborative and communicative activities already played a big role in our ancestors' lives (hunting, collecting, raising children, etc.). However, for communication to be possible, listeners have to have ways to discriminate reliable, trustworthy information from misleading information—otherwise speakers would be wont to abuse them through lies and deception. One way listeners and speakers can improve the reliability of communication is through arguments. The speaker gives a reason to accept a given conclusion. The listener can then evaluate this reason to decide whether she should accept the conclusion. In both cases, they will have used reasoning—to find and evaluate a reason respectively. If reasoning does its job properly, communication has been improved: a true conclusion is more likely to be supported by good arguments, and therefore accepted, making both the speaker—who managed to convince the listener—and the listener—who acquired a potentially valuable piece of information—better off.

One we have a hypothesis about the function of reasoning, it is possible to make predictions regarding its effects and its functioning. Here is a list of the main predictions (see Mercier and Sperber [in press] for references).

Prediction 1. If reasoning evolved so we can argue with others, we should be reasonably good at doing that. We are. When we have to make up or evaluate arguments in properly argumentative contexts—we truly have to convince someone, or someone truly has tried to convince us—we are good at it. This good performance stands in sharp contrast with the very poor performance observed in often much simpler reasoning tasks that are not set in argumentative contexts.

Prediction 2. If reasoning evolved so we can argue with others, reasoning should yield better results in groups than alone. It does. When the performance of groups and lone individuals in reasoning tasks is compared, groups fare much better—sometimes dramatically so. Not only do groups have a better performance than the average individual, but they often perform as well, or even better, than the best group member. Two caveats are worth mentioning. The first is that this only applies to reasoning: group performance in other domains tends to be disappointing. The second is that a genuine debate—the normal conditions for the use of reasoning—is crucial for performance to improve. If everybody agrees to start with, the confirmation bias—described in the following point—has free reins and group polarization is likely to ensue (Mercier & Landemore, in press).

Prediction 3. If reasoning evolved so we can argue with others, then we should be biased in our search for arguments. In a discussion, we have little use for arguments that support another point of view or that rebut ours. Accordingly, reasoning should display a confirmation bias. It does. The confirmation bias is one of the most robust and prevalent biases in reasoning. This is a very puzzling trait if reasoning has the usually ascribed function of bettering our beliefs—especially as the confirmation bias is responsible for all sorts of mischief (cf. prediction 4). Interestingly, the confirmation bias need not be a drag on a group's ability to argue. To the extent that it is mostly the production, and not the evaluation of arguments that is biased—and that seems to be the case—then a group of people arguing should still be able to settle on the best answer, despite the confirmation bias (which they are, cf. prediction 2). As a matter of fact, the confirmation bias can then even be considered a form of division of cognitive labor: instead of all group members having to laboriously go through the pros and cons of each option, if each member is biased towards one option, she will find the pros of that options, and the cons of the others—which is much easier—and the others will do their own bit.

Prediction 4. When people reason alone there will often be nothing to hold their confirmation bias in check. This might lead to distortions of their beliefs. This is very much the case. When people reason alone, they are prone to all sorts of biases. For instance, because they only find arguments supporting what they already believe in, they tend to become even more persuaded that they are right and to develop stronger, more polarized attitudes.

Prediction 5. When reasoning is used to make decisions, it does what it is supposed to do, namely find arguments. As a result, instead of always pointing towards a better choice, it usually leads towards a decision that is easy to justify. Psychologists

have shown that many a weird decision can be explained by this factor: people decide to do something because they can easily justify it rather than because it is right—a phenomenon known as reason based choice.

The argumentative theory of reasoning that was just described is, at heart, an evolutionary theory. Thus, the mechanisms whose existence it predicts should be found in just about every culture, and they should not be the result of a pure learning process. Contrary to some assumptions, argumentation is not a modern or a Western phenomenon. People argue all over the world, and the available evidence indicates that they do it well, even in the supposedly 'prelogical' world of illiterates and in the Eastern societies described as frowning upon argumentation (Mercier, in press-a). And reasoning also serves argumentation in children. They argue from very early on, and when they engage in collaborative reasoning tasks they perform much better than individually (Mercier, in press-b). Many psychologists are still suspicious of evolutionary arguments, and may ask of them to meet higher requirements than would be asked of other types of arguments. As a result, evolutionary psychologists have strived to integrate cross-cultural and developmental data in their theories. Such extensions would be very welcome in the field of JDM that only rarely takes them into consideration.

An important practical consequence of the argumentative theory of reasoning is that the confirmation bias is here to stay. It is a feature of reasoning, not a mere flaw. This need not be a bad news however: as mentioned above, the confirmation bias can be turned into a positive force in the right context. The remedy for biased reasoning is more likely to be found in institutional changes that support appropriate group discussions rather than in trying to get people to reason more objectively on their own. It is not surprising that cooperative learning has been tremendously successful, while the teaching of critical thinking skills has yielded only mixed results (Mercier, in press-b).

Many other well-known results could be reinterpreted in a similar way. Levinson's suggestion that representativeness and availability have something to do with our communicative skills is very promising for instance. Some of the contributors to this conference may identify with this strategy. No doubt, others will find the options 1—that retains the core of classical JDM—or 2—that extends it to incorporate mechanisms of social cognition—more congenial. In any case, a move towards a greater consideration of the social influences on our decisions is likely to improve both our understanding of decision making and the prospects for effective behavior change interventions.

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