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Book Reviews

Hugo Mercier and Dan Sperber, The Enigma of Reason*, Cambridge: Harvard University Press, 2017, 396 pp.*

In their new book *The Enigma of Reason* Hugo Mercier and Dan Sperber try to solve the philosophical problem made explicit in the book's title. The enigma, as Mercier and Sperber see it, is in the following: humans are animals, but there is certainly something that separates them from the rest of the animal kingdom. The *differentia specifica* for humans is our ability (capacity) to reason. Now the question arises how well do we reason. Most experimental evidence, from the Four card problem (Wason selection task) to the Linda problem (a form of the conjunction fallacy), points to the conclusion that we reason poorly. If reasoning is our *evolutionary superpower*, as Mercier and Sperber's note, then it is very hard to see why we are endowed with a flawed superpower. Why is it that we are so bad at something that is, presumably, our evolutionary advantage? And how has something we are so bad at evolved in the first place? These two questions sum up the enigma from the book's title.[1]

Firstly, we shall look at the structure and methodology of the book in question. We shall see how the chapters and subchapters are structured and how Mercier and Sperber's argumentation emerges form that structure. Also, we are going to examine their writing style and how it impacts their argumentation. Secondly, we are going to evaluate the main argumentative line of the book. We shall see on which basis does their argumentation stand and how do they defend it with specific arguments. Thirdly, we need to recognize possible problems regarding the book and finally give a closing remark.

The Enigma of Reason has five major chapters (excluding the Introduction and the Conclusion): *Shaking dogma, Understanding inference*, *Rethinking reason*, *What reason can and cannot do* and *Reason in the wild*. The chapters follow each other exceptionally well. Mercier and Sperber start with identifying the problem (*Shaking dogma*) then they transition into building up the ground floor for their argumentation (*Understanding inference*) after which they build up their case (*Rethinking reason*, *What reason can and cannot*) and in the end they try to preventively react to possible criticism (*Reason in the wild*).

The writing style is lighthearted and engaging and there can even be found humorous elements in the book. One of those moments is that in

[1] Mercier and Sperber are calling it "double enigma".

which the authors talk about how people use reasons to justify and explain their action to others. In this specific case, a man named Theodore Wafer has killed a victim of a car-crash, Renisha McBride, on his door step, because he mistakenly believed he was being attacked.[2] In Mercier and Sperber's words:

> Wafer, for instance, could, perhaps not with sufficient good sense but not absurdly either, see his reasons as objectively justifying his shooting the person at the door. Had he, on the other hand, given as his reason for having fired a shot that Elvis Presley was dead and that therefore life was meaningless, we would see this not as a genuine reason-based explanation, not even a defective one, but as an admission (or a claim) of temporary insanity. (112)

Humorous excursions like this one can be found throughout the book. Other than entertaining the reader these excursions serve another purpose. They help the reader to transition more efficiently from one dense line of argumentation to another. On a macro level, the book is engaging and lighthearted because of the way in which almost every major chapter begins, namely, with some kind of narrative exposition. Form Descartes' internal struggles about Reason and doubt over Sherlock Holmes' not so great deductive powers to the tragedy of Alphonse Bertillon,[3] these narrative expositions serve as an introduction to a certain philosophical problem that Mercier and Sperber are trying to solve. That being said, it should be noted that the argumentation of the authors does not rely in any way on these expositions. Their argumentation is made on independent grounds.[4]

Mercier and Sperber's argumentation is clear and precise. On top of that, they do not presume the reader's prior knowledge about the philosophical problems that they are engaging with. The authors define and explain every concept and theory that they discuss. This ranges from rudimentary concepts in logic (like *antecedents* and *consequences*) to the explanation of dual process theory. As a result, the reader can successfully follow a line of argumentation that goes from simple to complex.

Here is the content of *The Enigma of Reason*. In the first place we need to establish what this book is about and then we will go deeper into the authors' argumentation. In *The Enigma of Reason* Mercier and Sperber are trying to answer two questions:

1. How do we reason?
2. Why do we reason the way we do?

Now we need to position the subject at hand in a broader philosophical context. Mercier and Sperber are tackling with one of the core problems in philosophy today (even in the history of philosophy for that matter)—the nature of human reasoning. One does not venture on a journey like that overnight. *The Enigma of Reason* is a product of years of research, both empirical and theoretical. Throughout the years the authors have been building up their arguments in papers like *Why do humans reason? Arguments*

[2] Mercier and Sperber use a real-life example here.

[3] The real-life tragedy was actually about Captain Albert Dreyfus in what is historically known as "*The Dreyfus Affair*", but the tragedy of reason is about Alphonse Bertillon.

[4] What those grounds are shall be discussed later in this review.

for an argumentative theory, *Intuitive and reflective inference* and *Epistemic vigilance*.[5] In that regard they certainly seem to be totally competent for the challenge at hand.

In the first chapter, *Shaking dogma*, Mercier and Sperber try to identify the problem. Humans do engage in the act of reasoning but it seems we are extremely bad at it. In the history of philosophy there were two schools of thought on that matter. One school was trying desperately to argue that humans do in a way reason properly (to some extent at least), while the other gave up completely on the notion that humans can reason properly and concluded that we are irrational beings. Mercier and Sperber are formulating this historical exposition in the form of a trial (*Reason on trial*), which is very engaging and entertaining. The second part of *Shaking dogma* is dedicated to the contemporary analysis of human reasoning mostly based on empirical evidence. Here the authors argue that even contemporary theories like dual process theory cannot explain how people reason in the light of evidence that comes from research in the psychology of reasoning. They conclude that we need a new approach to human reasoning.

In the second chapter, *Understanding inference*, Mercier and Sperber are setting up the stage. Throughout this chapter they are defining the relevant concepts and notions that they will use later in their argumentation. Firstly, they are differentiating between two concepts: inference and reasoning. Inference is an *extraction of new information from information already available, whatever the process*. Reasoning is *the particular process of pursuing that goal by attending to reasons*. As we can see, reasoning is just one form of inference. The main point being the emphasis on reasons, which will come in play later. Secondly, and arguably the most important definition in this book, is the definition of intuitions. Mercier and Sperber define intuitions as *judgments or decisions that are justified without knowledge of the reasons that justifies them*. That being said, Mercier and Sperber are also claiming that intuitions are *a distinctive "metacognitive" category*. An example that the authors provide is the following:

> When you infer from your friend Molly's facial expression that she is upset, you are more or less confident that you are right. Your own cognitive states are the object of a "metacognitive" evaluation, which may take the form either of a mere metacognitive feeling or, in some cases, of an articulated thought about your own thinking. (65–66)

Thirdly, the authors use the concept of modularity in order to explain how humans infer (on a mechanical level). The biological modules can be defined as *autonomous mechanisms with a history, a function, and procedures appropriate to this function*. The concept of modularity (in this sense) was first introduced by the philosopher Jerry Fodor in his book *The Modularity of Mind*. The authors are building up on that notion with the concept of massive modularity. Lastly, they define metarepresentations. Metarepresentations are representations about representations (higher order representations). Mercier and Sperber argue that we rarely engage in this kind of thinking (except for philosophers who have a professional deformation of this kind). On the other hand, we do engage in one specific form of meta-

[5] There are other papers and publications that have contributed to the creation of The Enigma of reason, but these are the most notable ones.

representational thinking all the time. That form is called *mindreading*. Mindreading is a metarepresentational module that informs us about what others believe through our intuitions. A simple example by the authors is the following:

> When the woman in the waiting room looks at her watch and sighs, you guess not only that she believes that the doctor is keeping her waiting but also that indeed the doctor is keeping her waiting. From this, you may draw further inferences of your own, such as about how well the doctor keeps her appointments. (103–104)

In the third chapter, *Rethinking reason*, Mercier and Sperber are arguing their case. They begin with establishing what reasons are. According to them, reasons are social constructs. *They are constructed by distorting and simplifying our understanding of mental states and of their causal role and by injecting into it a strong dose of normativity* and they are primarily for social consumption. Reasons themselves are inferred. How are they inferred? By intuitive inference. And how does intuitive inference works? Well, according to the authors, inferences are made possible by the existence of regularities in the world. For example, I can walk outside and see that the pavement is wet, but I certainly cannot see that the pavement being wet is a reason to believe that it has been raining. But what I can do is intuitively infer the reason in question. We are using reasons in two distinct forms: retrospectively and prospectively. When we use reasons retrospectively we do it to justify and explain our actions or beliefs. When we use reasons prospectively we do it for individual or communicative purposes. When we use reasons individually we are engaging in an act of inquiry and when we use reasons communicatively we engage in an act of argumentation. The authors are mostly focused on justification and argumentation because they believe that to be the primary functions of reasons. This is also what the reason module is design to do. In order to better explain how intuitive inference works here is a simple example from *The Enigma*:

> You arrive at the party and are pleased to see that your friend Molly is there too. She seems, however, to be upset. When you have a chance to talk to her, you say, "You seem to be upset tonight." She replies, "I am not upset. Why do you say that?" Just as you had intuited that she was upset, you now intuit reasons for your initial intuition. Here are what your two intuitions

might be:

> First order intuition: Molly is upset.
> Metarepresentational intuition about your reasons for your first order intuition: the fact that Molly isn't smiling and that her voice is strained is what gives me reasons to believe that she is upset. (136–137)

In this example we see how intuitive inference works. Intuitive inference operates on two distinct levels: the first order intuitive inference and the intuitive inference of higher order—about reasons for the first order intuition. This two levels of inference operate simultaneously. The authors proceed by explaining how the reason module operates under normal circumstances.

Firstly, the authors claim, that the intuitions the reason module provides are not about facts that could be a reason for some unspecified conclusion. Example: "That Amy has a fever is a reason". The reason module provides intuitions which are about facts taken together with the conclusion that they support. Example: "That Amy has a fever is a reason to call the doctor".

Secondly, they claim that in reasoning the output of the reason module is a higher-order conclusion that there are reasons for a lower-order conclusion. Which means that the reason module produces two new conclusions, the second conclusion embedded in the first. The first conclusion is the higher-order argument itself, in other words the metarepresentational intuition that certain reasons support a particular conclusion. Example: "Amy's fever is a good reason to call the doctor now." The second conclusion is the conclusion: Let's call the doctor!, which is embedded in the overall argument and supported by it. The authors call this entire concept the intuitive argument. The intuitive argument is a main function of the reason module. The secondary function of a reason module is the reflective conclusion. The reflective conclusion is a conclusion accepted because of higher-order thinking or reflecting about it. The authors claim that most of our inferences are more intuitive than reflective. Even after they explain how humans reason under normal circumstances there seems that something is missing from their account. The thing that is missing is logic. Mercier and Sperber are very strict here. In reasoning logic is nothing more than a heuristic tool. The authors argue, using Sherlock Holmes as their puppet, that if an argument is valid we generally have no reason to accept it. If an argument is valid and sound, we still generally have no reason to accept it. Only when we have independent reasons which are relevant for us should we accept the argument presented to us. Mercier and Sperber conclude that reasoning is not the use of logic (or of any similar formal system) to derive conclusions. Now the question arises: for what purpose do we use our reason? The authors reject the standard view that we use reason to attain knowledge and make better decisions. They call this view the intellectualist approach. Because this approach fails to explain how humans reason Mercier and Sperber take a different approach, which they call the interactionist approach. So, we use our reason when we are trying to convince others or when others are trying to convince us. The production of arguments proceeds by means of backward inference, from a favored conclusion to reasons that would support it. This function together with mindreading enables us to trust each other and cooperate in a way no other living creature is capable of. But aren't we at risk of being deceived by others? Mercier and Sperber claim that the concept of epistemic vigilance is what keeps us from falling into that trap.

In chapter four, *What reason can and cannot*, Mercier and Sperber continue with their argumentation. They begin by tackling the notion of confirmation bias. They concede that the conformation bias exists, as almost all empirical research confirms this. But they claim that this is nothing to be worried about. The conformation bias is not a bug or a stain in our reasoning, it is actually a feature of our reason. How does the conformation bias as a feature of reason work? Well, the primary function of reason is to convince others and evaluate them when they are trying to convince us. In that sense it is very reasonable to have a conformation bias. Because we enter into this kinds of argumentative processes on a daily basis the authors rename the conformation bias as the myside bias. Mercier and Sperber continue by stating that there are *two faces of reason*. One face is the production of reasons and the other face is the evaluation of other's reasons. This relation is, of course, asymmetrical. In everyday communication we demand honest

answers from others, but we rarely give honest answers ourselves. Most of the time we, more or less subtly, shape our answers to appear better in other people's eyes. The same asymmetry is employed when we produce and evaluate other's reasons. When we produce reasons we are mostly biased for our side and the quality control for our reasons is very poor. On the other hand, when we evaluate other's reasons we are unbiased, we are willing to accept only those reasons which are strong enough and quality control for other people's reasons is very high. This naturally leads to the final segment of Mercier and Sperber's argumentation—working in groups. Firstly, empirical evidence points into direction that working in groups produces better results than working individually. In two studies (Moshman, Moshman and Geil) students were presented with Wason's selection task, first individually then in groups. Individually the students reached a performance of 15% of correct answers and in groups they reached 50% and 80 % respectively. Secondly, working better in groups seems to make theoretical sense as well. If reason is a specific module designed to produce and evaluate reasons, then it is the case that we need each other to reason properly or at least to reason better.

In their fifth and final chapter, *Reason in the wild*, Mercier and Sperber are answering three general questions which can be seen as a possible criticism of their stance.[6] The first question is: is human reason universal? Here, the authors are preemptively reacting to the possibility of their account of human reasoning being WEIRD. The acronym stands for people from Western, Educated, Industrialized, Rich, Democratic countries. Mercier and Sperber conclude that this is not the case. Argumentation can emerge in quite different ways in different cultures but the core of human reasoning stays more or less the same. Empirical evidence shows that very small children are sensitive to argumentation across cultures. The second question is: how do we reason about moral and political topics? Here, the authors argue that most moral and political advancements in history are the product of argumentation. And the third question is: what about solitary geniuses? Mercier and Sperber concede that solitary geniuses exists, but that they are rare and mostly present in rigid fields, like mathematics and logic, in which you can essentially argue with yourself.

Now we should notice some possible points of issue in Mercier and Sperber's argumentation. Firstly, it could be proposed that there should be a stronger connection between human inference and the objective state of affairs in the world. On Mercier and Sperber's account we arrive at the truth almost by accident when we reason with each other. Secondly, the deflation of logic in answering the question how do we reason leaves a huge explanatory gap. In other words, if logic is not the structure of how we reason, then what exactly is logic? The authors are not necessarily obliged to answer this question but this question is one of the outcomes of their account of reasoning. Lastly, argumentation in Mercier and Sperber view is itself deflated to everyday communication between people which in turn presents a serious challenge to the normative aspect of reasoning.

The Enigma of Reason is overall a well written and structurally a precise book. The argumentation is methodically carried out through all of the

[6] These questions are also subchapters of the final chapter *Reason in the wild*.

chapters and the authors are arguing their case extremely well and because of that *The Enigma of Reason* is a book worth reading whether you agree or disagree with the arguments presented there.[7]

DAVID GRČKI
University of Rijeka, Rijeka, Croatia

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