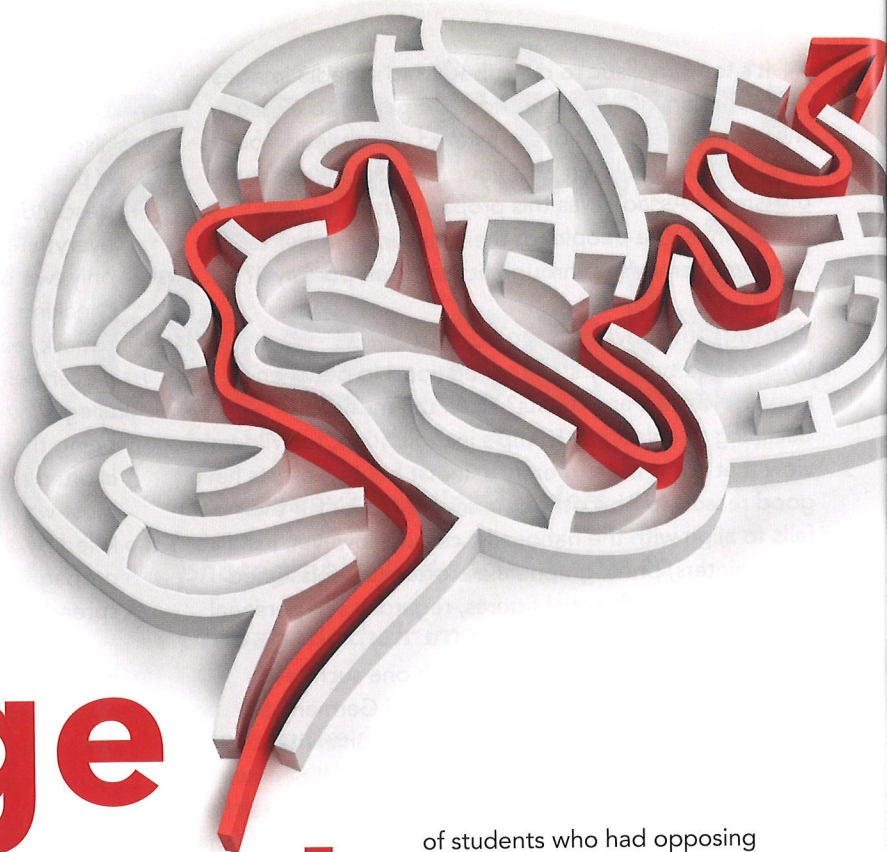




New discoveries about
the human mind show
the limitations of reason

Can't change your mind



BY ELIZABETH KOLBERT

1 In a new book, *The Enigma of Reason* (Harvard), the cognitive scientists Hugo Mercier and Dan Sperber take a stab at answering the question why people can't think straight and how we came to be this way. Mercier and Sperber point out that reason is an evolved trait, like bipedalism or three-colour vision. It emerged on the savannahs of Africa and has to be understood in that context.

2 Stripped of a lot of what might be called cognitive-science-ese, Mercier and Sperber's argument runs, more or less, as follows: Humans' biggest advantage over other species is our ability to cooperate. Cooperation is difficult to establish and almost as difficult to sustain. For any individual, freeloading is always the best course of action. Reason developed not to enable us to solve abstract, logical problems or even to help us draw conclusions from unfamiliar data; rather, it developed to resolve

the problems posed by living in collaborative groups.

3 'Reason is an adaptation to the hypersocial niche humans have evolved for themselves,' Mercier and Sperber write. Habits of mind that seem weird or goofy or just plain dumb from an 'intellectualist' point of view prove shrewd when seen from a social 'interactionist' perspective.

Confirmation bias

4 Consider what's become known as 'confirmation bias', the tendency people have to embrace information that supports their beliefs and reject information that contradicts them. Of the many forms of faulty thinking that have been identified, confirmation bias is among the best catalogued; it's the subject of entire textbooks' worth of experiments. One of the most famous of these was conducted at Stanford. For this experiment, researchers rounded up a group

of students who had opposing opinions about capital punishment. Half the students were in favour of it and thought that it deterred crime; the other half were against it and thought that it had no effect on crime.

5 The students were asked to respond to two studies. One provided data in support of the deterrence argument, and the other provided data that called it into question. Both studies were made up and had been designed to present what were, objectively speaking, equally compelling statistics. The students who had originally supported capital punishment rated the pro-deterrence data highly credible and the anti-deterrence data unconvincing; the students who'd originally opposed capital punishment did the reverse. At the end of the experiment, the students were asked once again about their views. Those who'd started out pro-capital punishment were now even more in favour of it; those who'd opposed it were even more hostile.

If reason is designed to generate sound judgements, then it's hard to conceive of a more serious design flaw than confirmation bias. Imagine, Mercier and Sperber suggest, a mouse that thinks the way we do. Such

a mouse, 'bent on confirming its belief that there are no cats around', would soon be **1**. To the extent that confirmation bias leads people to dismiss evidence of new or underappreciated threats – the human equivalent of the cat around the corner – it's a trait that should have been selected against. The fact that both we and it survive, Mercier and Sperber argue, proves that it must have some adaptive function, and that function, they maintain, is related to our 'hypersociability'.

Myside bias

7 Mercier and Sperber prefer the term 'myside bias'. Humans, they point out, aren't randomly credulous. Presented with someone else's argument, we're quite adept at spotting the weaknesses. Almost invariably, the positions we're blind about are our own.

8 This lopsidedness, according to Mercier and Sperber, reflects the task that reason evolved to perform, which is to prevent us from getting screwed by the other members of our group. Living in small bands of hunter-gatherers, our ancestors were primarily concerned with their social standing and with making sure that they weren't the ones risking their lives on the hunt while others loafed around in the cave. There was little advantage in reasoning clearly, while much was to be gained from winning arguments.

9 Among the many, many issues our forebears didn't worry about were the deterrent effects of capital punishment. Nor did they have to contend with fabricated studies, or fake news, or Twitter. It's no wonder, then, that today reason often seems to fail us. As Mercier and Sperber write, 'This is one of many cases in which the environment changed too quickly for natural selection to catch up.'

Methodology prevails

10 One way to look at science is as a system that corrects for people's natural inclinations. In a well-run laboratory, there's no room for myside bias; the results have to be

reproducible in other laboratories, by researchers who have no motive to confirm them. And this, it could be argued, is why the system has proved so successful. At any given moment, a field may be dominated by squabbles, but, in the end, the methodology prevails. Science moves forward, even as we remain stuck in place.

Humans aren't randomly credulous

11 In *Denying to the Grave: Why We Ignore the Facts That Will Save Us* (Oxford), Jack Gorman, a psychiatrist, and his daughter, Sara Gorman, a public-health specialist, probe the gap between what science tells us and what we tell ourselves. Their concern is with those persistent beliefs which are not just demonstrably false but also potentially deadly, like the conviction that vaccines are hazardous. Of course, what's hazardous is not being vaccinated; that's why vaccines were created in the first place. 'Immunisation is one of the triumphs of modern medicine,' the Gormans note. But no matter how many scientific studies conclude that vaccines are safe and that there's no link between immunisations and autism, anti-vaxxers remain unmoved.

12 The Gormans, too, argue that ways of thinking that now seem self-destructive must at some point have been adaptive. And they, too, dedicate many pages to confirmation bias, which, they claim, has a physiological component. They cite research suggesting that people experience genuine pleasure – a rush of dopamine – when processing information that supports their beliefs. 'It feels good to "stick to our guns" even if we are wrong,' they observe.

13 The Gormans don't just want to catalogue the ways we go wrong; they want to correct for them. There must be some way, they maintain, to convince people that vaccines are good for kids and handguns are dangerous. (Another widespread but statistically insupportable belief they'd like to discredit is that owning a gun makes you safer.) But here they encounter the very problems they have enumerated. Providing people with accurate information doesn't seem to help; they simply discount it. Appealing to their emotions may work better, but doing so is obviously antithetical to the goal of promoting sound science. 'The challenge that remains,' they write toward the end of their book, 'is to figure out how to address the tendencies that lead to false scientific belief.' <<

