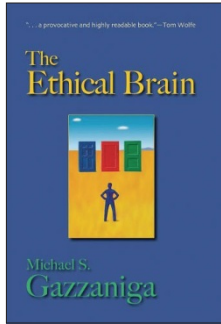


## An ethical optimist



### The Ethical Brain

by Michael S Gazzaniga

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Reviewed by Charles Jennings

Michael Gazzaniga is a leader in the field of cognitive neuroscience, and since 2002 he has been a member of President Bush's Council on Bioethics. In a group dominated by conservatives, Gazzaniga is sometimes a dissenting voice, for example, in his support for embryonic stem cell research. His work on split-brain patients has profound implications for understanding the neural basis of self, and his presence on the council has brought a neurobiological perspective to many current bioethical controversies. *The Ethical Brain* is a wide-ranging, yet short and readable, summary of his views.

Gazzaniga is a technological optimist, with little patience for the vague 'slippery slope' arguments that are often invoked by those who worry about where biotechnology is leading us. A deeper concern—articulated, for example, by fellow council member Michael Sandel—is that the desire to manipulate human nature is a form of hubris that threatens to undermine our appreciation for life's gifts. Gazzaniga, however, will have none of this. He welcomes the prospect of genetic enhancement, prolongation of lifespan, memory pills and so forth, arguing that humanity's innate moral sense will always guide us to use our powers wisely.

I would like to think he is right, but I did not always find his arguments persuasive. A case in point is his discussion of sex selection. In some Asian countries, notably China, a cultural preference for boys, combined with easy access to methods for sex determination and selective abortion, has led to a large distortion of birth ratios. Gazzaniga acknowledges the potential concern, but because some US fertility clinics are now starting to discourage sex selection, he concludes that humans can be trusted to do the right thing in the long run. Maybe so, but I am less sanguine than Gazzaniga about this massive biotechnological experiment, and about the world's largest country soon having 15 million young men unable to find marriage partners.

Gazzaniga's faith in human destiny is based in part on his belief in a biologically based universal morality, and his discussion of this idea is one of the most interesting aspects of the book. He argues that our sense of right and wrong has been shaped by evolution, and that there consequently exists a core of moral instincts that are shared across all societies. Religious traditions, in his view, represent attempts to explain

and validate these biological instincts. Our brains have a strong tendency to form beliefs as a way of making sense of the world, and as Gazzaniga's own work has emphasized, these are often confabulated on the basis of limited evidence, yet refractory to change once formed. As an explanation of religious faith, this viewpoint is surely anathema to many conservatives, but Gazzaniga (who was raised Catholic) shows no animosity toward religion, which he regards as a natural aspect of human biology.

Gazzaniga hopes that a deeper understanding of our shared moral instincts and their biological basis could help to overcome ideological conflicts between different belief systems. This is an appealing idea ('biology good, ideology bad'), even though only a chronic optimist could think that universal education in cognitive neuroscience will lead to world peace. A skeptic might counter that our brains come prewired not only for moral reasoning but also for prejudice, tribalism, warfare—less attractive but no less universal aspects of human societies. Moreover, the scientific evidence for a moral instinct is based largely on simple test scenarios in which decisions have immediate and visible consequences for another individual. Although people tend to show similar responses on such tests, most real-world dilemmas are not like this. It seems unlikely that divisive societal debates on questions such as abortion or capital punishment could ever be resolved by an appeal to biology.

Perhaps the most pressing issue in neuroethics is how (if at all) neuroscience should inform the justice system, and Gazzaniga devotes several chapters to this topic. The central problem is this: if decisions are made by the brain, a physical object that obeys physical laws, in what sense can they be considered 'free'? But if people are constrained by their brains, how can we hold them responsible for their actions? This quickly leads to problems, of course; if defendants could be acquitted simply by arguing "my brain made me do it," the entire justice system would collapse. Gazzaniga's proposed solution is to argue that responsibility is "a social construct that exists in the rules of a society [but not] in the neuronal structures of the brain." Yet I did not find this argument convincing. The justice system, held together by moral rules and concepts of accountability, is an emergent property of large numbers of brains. It may be dauntingly complex, but that does not put it beyond the realm of scientific study. Indeed, social neuroscience is an emerging field of research, and neuroimagers can now examine the mechanisms underlying not only people's own moral decisions, but also their perceptions about the accountability of other individuals.

Gazzaniga is understandably concerned about neuroscience being drawn into the courtroom, but he acknowledges that it is inevitable. The challenge for neuroethicists, then, will be to help lawyers sort the wheat from the chaff, to recognize valid arguments for exculpation or leniency, while rejecting the abuses that will surely become increasingly tempting to defense counsels as brain science continues to advance.

*The Ethical Brain* is not the last word on these difficult issues, but it does provide a clear and useful introduction to the field. Gazzaniga's fans include Tom Wolfe, who gives the book a cameo role in his novel *I Am Charlotte Simmons*, where it appears as recommended reading for a college course. In this case life would do well to imitate art—*The Ethical Brain* would be an excellent introduction for anyone who is interested in learning more about 'the next big thing' in bioethics. ■

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