saving activity of Jesus to the activity of God understood nonpersonally as creativity, so that in Jesus, creativity (God) emerges into a new modality of creative, *agape* love. It is the light of this love that can guide Christians and non-Christians alike (and traditional and modern thinkers alike) as together we creatively seek to address the challenges we face, so that human civilization can survive in a sustainable, just, and peaceful manner in harmony with the rest of our planet.

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The Ethical Brain. By MICHAEL S. GAZZANIGA. New York and Washington, D.C.: Dana Press, 2005. 232 pages. $25.00.

During a recent morning talk-radio show, the host questioned a prominent neuroscientist about the possibility of making judges and juries superfluous by using neuroscientific scans. Asking the appropriate questions would activate specific areas of the brain allowing us to assert the truth in the suspect's intentions, regardless of the given answers. Naturally, the interviewed neuroscientist acknowledged that it would not be that simple. However, we might safely assume that a majority of the wider population has the same assumption as the host.

There is a growing field in contemporary society whose inferences follow this line of logic, even though its details are extensively esoteric. It goes by the name *neuroethics*, and its meaning follows its etymology: ethical implications from neuroscience. The esteemed neuroscientist Michael Gazzaniga has written an introductory book, *The Ethical Brain*, spelling out the field of neuroethics and dealing with many of the issues popular in today's society, including suspect culpability. This book is timely because there is no doubt that as the sciences of the brain continue to advance, repercussions for society will be inevitable.

As the director of the Center for Cognitive Neuroscience at Dartmouth College and a member of the U.S. president's council on bioethics, Gazzaniga's is a voice worth listening to. He covers the major themes that arise at the intersection between societal configurations, especially legal systems, and achievements in the scientific community. These themes include concerns relating to the beginning of life (a central issue in discussions associated with abortion and stem-cell research), the societal consequences from genetic alteration and engineering, the long-debated free will versus determinism question, and the relationship between an individual's rights and brain imaging techniques.

As befits an introductory book, Gazzaniga explores the prominent and important issues. For instance, he devotes a section of the book to the nature and variety of brain enhancement possibilities. He explores topics such as parental choice in various offspring characteristics, including variables such as sex, intelligence, and disease avoidance. Gazzaniga does a nice job of emphasizing the complexity involved with such issues. He asks, for instance, if it is even feasible to believe in our ability to genetically manipulate a child's intelligence when it seems likely that intelligence involves more than just genes. Asking such a question is his way of showing that the science is still incomplete but also a way of preempting the

question: Is it ethical? Of importance is his assertion that as advances continue in the genetic sciences, these will surely be the types of questions that arise.

Although Gazzaniga's neuroscientific expertise makes this an interesting read, those trained in ethics will likely find his approaches unpersuasive and questionable. Throughout the book, Gazzaniga continually displays a naive optimism in relation to the use of scientific advances, as exhibited in his belief that we "will always understand what is ultimately good for the species and what is not" (p. 54). Given potential genetic enhancements, Gazzaniga is confident in the self-regulation of scientists to keep things within ethical parameters. And if scientists move outside these parameters—which is probable considering science's exploration of the unknown—they will be reined back in (by whom?), as occurred with the atomic bomb: "Sure we humans built it, but we humans are dead set on never using it again" (p. 53). In light of the twentieth century's horrific events—in Auschwitz, Cambodia, Iraq, Bosnia, Rwanda, and Kosovo, to name a few—this stance is highly contentious. The ambiguity in *Homo sapiens*' ability to "serve the greatest good" (p. 177) should give us pause in relation to excessively idealistic ethical concepts. This is not to say that Gazzaniga's desire to further scientific progress is inappropriate. Rather, it is a plea to parallel this desire with a more realistic ethical outlook.

In relation to the science fiction issue of brain transplantation, Gazzaniga recognizes its unlikelihood because "you are your brain" (p. 31). Presumably he means that if you put someone else's brain into your skull you will no longer be you. This seems reasonable, but when he writes on free will and responsibility he separates the person and the brain: "the brain is determined, but the person is free" (p. 99). This dualistic move is surprising from a neuroscientist, and Gazzaniga makes no effort to relieve the tension it creates. In this process he declares that neuroscience cannot tell us about responsibility because it is a societal construction. This disconnect occurs because Gazzaniga loosely holds together two seemingly different phenomena. On the one hand, he is a neuroscientist and must claim that our descriptions of ourselves and the experiences we have are dependent on the neurons in our brains—we are our brains. On the other hand, he wants to affirm that there is a person separate from the neurons who is free to act and thus responsible for his or her actions. Gazzaniga's argument fits with our basic inclinations that we are free and responsible persons who are intimately related with our brain processes. However, this obvious description offers little to expand explanation of this special relationship. (Those interested in more robust assessments of free will would benefit from *The Oxford Handbook of Free Will*, edited by Robert Kane [Oxford and New York: Oxford Univ. Press, 2002]).

An unsatisfying aspect of Gazzaniga's methodology is the explication of an intricate topic, followed by criticism of those who attempt to simplify the issues by way of basic beliefs, concluding with a proposed alternative that seems to be equally basic. For instance, Gazzaniga notes that "Religious beliefs have been around for a very long time" (p. 152) and that "Humans are belief-formation machines" (p. 161), but he contends that those who accept these beliefs are living in a fairy tale world which puts them "out of the loop" (p. 164). Although critiques of religious perspectives are legitimate, they remain hollow without a viable alternative that deals with the former's shortcomings. Instead, Gazzaniga substitutes a "story" that proposes, "There could be a universal set of biological responses to moral

dilemmas, a sort of ethics, built into our brains" (p. xix). Gazzaniga has simply swapped "stories"—a religious one for a scientific one. In the end, this is a claim for a type of metaethics that can be based in neuroscience. At present, this is merely a leap of faith.

Gazzaniga knows the public's appetite for scientific explanation, as a way of either justifying or stymieing further research. He should advocate the further education of the public on important scientific issues rather than promoting rhetoric disguised as science. Gazzaniga's book is an entrance into the burgeoning field of neuroethics as it helpfully presents a few of the major themes pertinent for this field. However, this book is *only* an entrance. Those unfamiliar with basic understandings in the field of ethics, such as the distinction between normative and descriptive ethics, could possibly be lost in the minimalism of Gazzaniga's "commonsense" approach. This book clearly was written by a neuroscientist, and for that, it deserves much praise. As an assessment of ethical themes, it is wanting in many ways.

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