Book Review

The Ethical Brain By Michael S. Gazzaniga [201 pp. Dana Press, 2005]

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A man stands on trial for assaulting another man in a bar. A neuroscientist takes the stand and the jury are shown a panoply of functional MRI scans and neurophysiological data about the defendant, leading them to the conclusion that his dysfunctional brain made him do it, so he is not responsible for his actions. The jury, dazzled by science, accept the man's arguments and he walks free.

This nearly absurd 21st century manifestation of the old English 'M'Naghten rules' is not so far fetched according to Michael Gazzaniga, in his new book The Ethical Brain. In this engaging introduction to the fledgling field of neuroethics, Gazzaniga adumbrates a number of the ethical challenges presented to us by the recent progress in the neurosciences. Best known for his work in the so-called 'spilt-brain' experiments, Gazzaniga is the director of the Centre of Cognitive Neuroscience at Dartmouth College and sits on President Bush's "Council on Bioethics". Whilst recent discourse in contemporary bioethics has focussed upon dilemmas created by possible technologies in cloning and the stem cell research, these areas are still on the cusp of science fiction. Since the decade of the brain however, the ethical problems arising from the advances in the neurosciences are very much science fact.

The early chapters of The Ethical Brain read a little like material from the New Scientist. Gazzaniga postulates about the problems posed by the potential identification of genes that code for intelligence and the possibility of the creation of a generation of Nietzschean intelectual ubermenschen. In pondering the prospect for artificial manipulation of the nervous system producing elite athleticism, Gazzaniga speculates that sportspeople will eventually be endorsing biotech and pharmaceutical companies instead of manufacturers of running shoes and sports drinks. This style of writing unfortunately disillusions the serious reader, and undermines the book's true contribution to moral philosophy, which appears in its later chapters.

The issue of moral responsibility first appeared in the Nichomachean Ethics and has challenged the legal and psychiatric professions since. In a testimony to the sagacity of Aristotle's notion of coercion vitiating responsibility, Gazzaniga's exploration of this area in the context of neuroscience raises questions that are as much about language and ontology as ethics. We are taken through Benjamin Libet's experiments and the implications of the 'readiness potential' for individual responsibility (Libet, 1999). Gazzaniga then outlines how neuroscience currently, and in the near future, is likely to further clarify this issue. Gazzaniga seems to assume a variant of the 'compatablist' position, which sees a potential relationship between the free-will of persons and the determinism of the central nervous system. In considering this, Gazzaniga puts it to us that the brain is determined by the physical universe. If the brain determines mind then the mind is therefore determined by the physical universe. Gazzaniga appears to take a materialist position and casts issues such as responsibility and personhood as being social constructs. As such, issues of physical determinism cannot be attributed to non-physical entities. In the conditional proposition put to us, the sufficient condition i.e., the brain determines the mind, is not convincingly affirmed and so the argument is therefore invalid. Gazzaniga thus sees responsibility as an attribute of the socially constructed world. He sees personal responsibility as a public concept existing in a group, not within an individual.

This issue lies at the heart of the philosophical implications of the commisurotomy experiments outlined in Gazzaniga's earlier book, Nature's Mind (Gazzaniga 1992). This issue was well developed by other thinkers in this area such as Derek Parfit in Oxford, who defined personhood in terms of the metaphor of 'a club' - no single building, structure or person, but rather a concept which bundles the components together. As Parfit says of the split-brain patient, "the number of persons is none" (Parfit 1987). So too in The Ethical Brain, responsibility cannot, in Gazzaniga's thesis, be attributed to an overactive amygdala or a sluggish frontal lobe. Brains are physical entities, persons, and the 'responsibility' for their actions, are social ones.

The book's true contribution to moral philosophy is found in the last few chapters. Ethics, simply defined, is the means of living a life with reference to a conception of the 'good'. Normative ethical theories, particularly those that arose out of the political and rational movements of the Enlightenment, are prescriptive in duties, rights and responsibilities, yet provide these without a coherent or universal conception of the good. Those keen to expostulate against Kant or Mill use this limitation to show how either moral theory could be used as justification of the banal evil of the next Eichmann or Milosevic. Attempts to define the 'good' in terms of eudaemonic happiness, divine command or feminist 'care' (Baier, 1994) have ultimately failed to provide the universalism needed for a comprehensive moral philosophy. The Ethical Brain attempts to provide us with the neural substrate that may underlie the elusive good sought by moral philosophers and bioethicists alike. Building upon the tenets of theory of mind, Gazzaniga describes altruism as emerging from a neurological basis akin to mirror neurons. "Simulation theory", in which the brain's limbic system is activated by the witnessing of the travails of another, provides

us with a neurological basis of empathy, which not only accounts for compassion, but perhaps moral agency. If one is called to moral action by the same limbic drives as that experienced by our fellow species member, whose suffering we witness, then this may be the universal good we have been seeking for millennia. Hume's idea of reason being 'the slave of the passions' and moral agency being predicated on sympathy can now be seen in a new light (Hume, 1998) - the pleasure which motivates moral action is indeed the abolition of the emotional pain we experience when our limbic systems fire in response to this phenomenon. Epicurus and the ethical hedonists were right after all.

In Gazzaniga's thesis, moral agency has an evolutionary advantage. Any behaviour that survives natural selection must have a species preserving or species enhancing function. Here we see more evidence of what Daniel Dennett described as "Darwin's dangerous idea" (Dennett, 1995). Whilst there is great appeal of a plausible universal conception of 'the good', the sense of unease created by the greedy reductionism of Darwinian ideas is equally troubling. In the light of Darwin's theories appearing to dissolve others like an industrial-strength intellectual solvent (or "acid" in Dennett's words), one finds oneself uncomfortably in the proximity of creationism or intelligent design in the process of challenging them.

In grappling with the concept of an ethical good in the last chapters of The Ethical Brain, we have certainly transcended Socrates' intellectual gymnastics with Euthypro over the Divine command basis of moral philosophy. We now find ourselves potentially wedded to a molecular conception of 'the good'. Protagoras was not quite right in averring that man is the measure of all things; the synapse may well be. If Gazzaniga is right, we will need to rework the Delphic injunction of 'know thyself' to 'know thy brain'

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