

How to Govern Our Lives Through Neuroethics

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In Michael Gazzaniga's persuasive book *The Ethical Brain*, he advocates a neurological philosophy to solve life's ethical issues. Currently there is no set of rules that govern ethical challenges arising in today's society. Neuroethics provides a stable framework for answering these ethical issues, but in the end our own beliefs should govern ethical dilemmas.

A neurological viewpoint on the ethics of abortions is well sanctioned. The ethics of aborting a fetus is a very controversial topic. According to Gazzaniga, "around week 23 the fetus can survive outside the womb, with medical support; also around this time the fetus can respond to aversive stimuli" (Gazzaniga, 2005, p. 6). This statement seems to provide evidence that fetuses cannot survive until the 23rd week of pregnancy. Before this time, the fetus is simply a mass of cells growing inside the womb that possesses the ability to become a human being. Simply possessing the ability to become a human doesn't mean that a human will be produced. Up until the 23rd week, abortions should be legalized since the fetus cannot survive on its own. The fact that the fetus also responds to stimuli suggests that the fetus is somewhat aware of its surroundings. Before the 23rd week, the fetus doesn't respond to stimuli. This response is a critical milestone in becoming a human being. According to experts at BabyCenter (2013), an embryo doesn't become a fetus until the tenth week of pregnancy and heartbeats begin roughly at week five. Arguments centered around the ethics of growing stem cells and then discarding the embryos from which they arise have no real value. The embryos are discarded after two weeks so they do not possess a heartbeat, internal or external organs, and cannot survive on their own. The 23rd week cutoff is an excellent place to stop abortions from happening since this is the point at which the fetus becomes a living human.

The notion that brains produce unreliable memories and shouldn't be trusted can be debated in many ways. Gazzaniga mentions that memories are sometimes misremembered and cannot be trusted in court. He provides an example that a woman gets raped and "had been watching that TV interview when her assailant attacked, and her memory had misattributed Thompson's face to the rapist" (Gazzaniga, 2005, p. 125). In this case the memory cannot be trusted for the safety of an innocent person, but in other scenarios memories should be used, even if they are slightly skewed or not genuine. A study performed on Gulf War veterans showed that 88% of veterans surveyed changed their recollection of traumatic events that occurred during the war (Peace & Porter, 2004). After traumatic experiences, the rate of skewed memories is astonishingly high, but what's more interesting is the fact that once questioned later, 70% of soldiers reported memories not previously reported while 46% did not recall memories previously reported (Peace & Porter, 2004). This data is perplexing in the sense that the mind seems to reveal more information over time and yet masks memories as time progresses too. The memory loss could simply be natural memory loss or it might be a protective measure enacted by the mind. Posttraumatic Stress Disorder patients' amygdalas are overactive and their prefrontal cortices cannot suppress the amygdalas, which causes their frontal cortices to lose the ability to form memories (The Dana Foundation, 2009). These memories may return to soldiers as their amygdalas become less hypersensitive and their prefrontal cortices can better process thoughts. Most cases where bad memory is scrutinized involve traumatic cases such as murder and rape. In cases of this graphic nature, details are meticulously mulled over by the legal system and any minor flaw in memory can throw a whole case. But can we honestly expect every last detail to be taken in by someone experiencing a life-altering event? No is the morally correct answer but it isn't the ethically correct answer at all times. People would take advantage of any generosity given to victims of traumatic events and the judicial system cannot allow for the guilty to walk or for the innocent to be wrongly accused. A remedy for this issue would be to allow victims of traumatic events to take the time to recall their memories, but this isn't very practical. Recalling these memories could take centuries and the judicial system isn't going to keep someone locked away for years just to allow someone to recall memories. At which point will the line be drawn where we don't put emphasis on having to have every detail correct? What makes it so that in one case a flawed memory is allowed in court, but not another? These are questions that I don't think we can answer yet so I believe that the courts need to make their own decision on what sorts of memories should be allowed in court and which ones cannot.

Pre-genetic diagnosis should not be considered under the neurological philosophies proposed by Gazzaniga. Gazzaniga argues that the PGD will be used to screen for and prevent genetic diseases. Other scientists in the field advocate for the use of PGD due to the fact that it has the potential to limit the number of fetuses aborted due to lethal diseases (Bredenwood et al., 2008). The CDC also states that "Genetic tests have been developed for more than 2,200 diseases, of which about 2,000 are currently available for use in clinical settings" (Centers for Disease Control, n.d.). While both of these reasons are immense benefits to society, abuse of the system will eventually take place. Aside from the intended use of PGD, it will be used to look at the genes a child will inherit and eventually to select which genes a child will inherit. This selection of genes will only lead to problems in society that will tear apart our social system.

Parents who can afford to make these genetically modified super babies will create children who feel superior to normal children. This will result in a stratification of the social system where the superior feeling super kids exclude the naturally born children of parents who can't afford or chose not to use the PGD. Gazzaniga doesn't look at the full spectrum when addressing this situation.

Gazzaniga's proposal of neuroethics as a way to address our society's ethical issues has many good points throughout it but also has a handful of major flaws within it. Gazzaniga refuses to think out the complications that will arise from some of his proposals he offers to the public. If the public were to adopt Gazzaniga's proposal, he would have to add some clauses that protect against abuse of the some of his suggestions. Clearance forms or waivers that protect against selecting genes through PGD testing, drugs should be developed to aid in the recollection of memories, and physicians shouldn't partake in abortions after the 23rd week of pregnancy. While Gazzaniga's proposal is a good start to solving the ethical dilemmas that surround us, a refining process needs to be undertaken.

References

BabyCenter (n.d.). Inside your womb: Fetal development timeline. *BabyCenter.com*. Retrieved from http://www.babycenter.com/0_fetal-development-time_line_10357636.bc.

Bredenwood, A.L., Dondorp, W., Pennings, G., De Die-Smulders, C., & De Wert, G. (2008). PGD to reduce reproductive risk: the case of mitochondrial disorders. *Human Reproduction*, 23, 2392-2401. doi:10.1093/humrep/den290

Centers for Disease Control (n.d.). Public Health Genomics. Genomic Testing. *CDC.gov*. Retrieved from <http://www.cdc.gov/genomics/gtest>