



UPDATES IN NEUROETHICS

REFLECTIONS FROM WILLIAM P. CHESHIRE, JR., MD
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Advances in the neurosciences continue to open windows into the brain, inform our understanding of human nature and lead to new treatments for neurological diseases. These exciting new capabilities for probing and modifying the brain and emerging technologies for interfacing neurons with computers challenge our self-understanding and raise fascinating ethical questions concerning how to apply them wisely.

In 2009:

- The debate has continued over the use of stimulants and other cognitive-enhancing drugs by healthy individuals. Drugs targeted to the molecular basis of memory are in clinical trials and, once available, will likely invite off-label use.
- Among the ultra-healthy, Olympic athletes have teamed up with neuroscientists to study the psychological aspects of sports performance using functional MRI (fMRI), which detects localized changes in brain blood flow related to neural activity.
- Functional neuroimaging has also attracted the attention of lawyers. In California, a defense attorney sought to introduce fMRI-based “lie detection” evidence in a child protection case, but later withdrew his request following an evidentiary hearing, as fMRI is

not yet accepted by the scientific community as reliable in assessing brain patterns corresponding to truthfulness or deception. Future courtrooms may look increasingly to neuroscience to define the plausibility of evidence of mitigating factors for criminal culpability in defendants with neurologically impaired moral judgment.

- A study published in *Nature Neuroscience* showed that administration of a beta-blocker before reactivation of fearful memories disrupted their reconsolidation in a way that prevented the return of fear.¹ These results offer hope for patients suffering from posttraumatic stress disorder and also raise interesting ethical questions whether further advances in memory modification might alter how we regard biographical testimony and the integrity of personal identity.
- Movies that explored neuroethics questions such as mind transference, moral responsibility in virtual reality, and nonhuman intelligences were *Surrogates*, *Avatar*, and *Star Trek*.

¹ Merel Kindt, Marieke Soeter, and Bram Vervliet, “Beyond Extinction: Erasing Human Fear Responses and Preventing the Return of Fear” *Nature Neuroscience* 12 (2009): 256-258.

meet the staff



Greetings! My name is Michael Shafer. I am a research analyst with The Center for Bioethics & Human Dignity (CBHD). Please allow me a few moments to introduce myself, my interests in bioethics and my role at the Center. My academic journey began with a bachelor's degree in biblical studies from Boyce College, the undergraduate school of the Southern Baptist Theological Seminary. Near the end of that degree I developed a

strong interest in Christian ethics, particularly bioethics. In following this interest I discovered CBHD. After meeting the staff and spending some time learning what the Center was about I became a student at Trinity International University where I completed the MA in Bioethics in 2006.

I then continued my studies by pursuing a PhD in Theological Ethics at the University of Durham in the United Kingdom. I continue to work toward this degree part-time and expect to finish within the next twelve months. The topic of my doctoral work is the ethics of human genetic enhancement in sport. I am arguing that genetic enhancement poses a serious threat to more than some of the traditional concerns like fairness and the physical health of the athlete. It explores questions such as whether or not performance-enhancing drugs should be legal if they have no harmful side effects. Is there a moral distinction between the drugs we take and the equipment we use? Why do we allow biotechnology to be used in other areas of life but not sport? My thesis suggests that to begin answering these questions we need a more robust conception of sport that includes certain key philosophical and theological components.

My dissertation topic is the result of my broader interest in biotechnology (not to mention I'm a sports fanatic!). I am interested in ways in which society applies medical and technological progress to the human body. Outside of the dissertation I have largely focused my research on the

transhumanism movement that seeks to use technology to improve the human body both in the form of enhancements as well as the removal of disease, suffering, and ultimately death itself.

In my most recent position I served as the Chicago Area Director for the Christian Medical and Dental Associations. While there I was able to work closely with a number of physicians and see firsthand the ethical dilemmas facing those working in medicine. Therefore, in addition to viewing the issues academically, I have a good understanding of the practical questions and concerns that arise when thinking about bioethics. That experience will be beneficial in my role at CBHD as one of my primary functions is to help develop and maintain the Center's informational resources. We have more than a dozen different topics listed on the website (www.cbhd.org/resources). Each topic contains a great deal of information ranging from a bibliography to case studies to position statements. All of these materials are intended to be a key source of education for those, such as yourself, who are interested in learning more about the important bioethical challenges we face today.

Our goal is to make the resources informative and challenging. We are currently in the process of writing the Center's official position statements, which not only will articulate the Center's stance on the issues but also the rationale behind taking that position. These statements will be of high intellectual quality yet concise and accessible. We also plan to include a general overview of each topic explaining what is at stake as well as the Center's response to some of the arguments presented by those holding different points of view.

It is a real honor to be a part of the staff at CBHD, something I have wanted to do since becoming a student here several years ago. If I can be of assistance to you in any way or if you would like us to consider adding a resource that is not already included in the bibliography please feel free to contact me at mshafer@cbhd.org. God bless!