



Bioethics Notes

July, 2004

"Good judgment comes from experience, and a lot of that comes from bad judgment."

unknown Cowboy proverb

Consult Services

We would like to remind you that the Bioethics Review and Advisory Committee in Danville provides ethics consultation services. We have an alphanumeric pager (2229). Anyone can request an ethics consultation. Page directly by phone, or leave a text message using the Infoweb Phone Directory. Enter "2229" in the Directory Search and then click on the "Quick Page" button.

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Case Study

Please consider two classic ethical dilemmas. One such dilemma is the **trolley dilemma**. A runaway trolley is headed for five people who will be killed if it proceeds on its present course. If you hit a switch, the trolley will switch to another track, saving these five people but killing one person on the other track. Would *you* hit the switch so that only one person is killed instead of five? Most people would.

Consider a similar problem: the **footbridge dilemma**. As in the first case, the trolley threatens to run into five people. You are standing on a bridge that spans the track, next to a large stranger. The only way to save the five people is to push the stranger off the bridge onto the tracks below, similarly resulting in the death of one person instead of five. Would *you* do it? Most people would not.

These and other dilemmas have been discussed by ethicists. For example, according to deontologists such as Kant, people reject the footbridge option because it literally uses one person as a means to an end. However, utilitarians, such as Mill, would argue that one should act as to produce the greatest sum of happiness, so saving five lives at the cost of one is ethical.

Joshua Greene has classified ethical dilemmas as either "impersonal" moral dilemmas (e.g. trolley) or "personal" moral dilemmas (e.g. footbridge) and studied the areas of the brain involved in making these ethical decisions, using functional magnetic resonance imaging. He found that areas of the brain involved in working memory are involved in impersonal moral decisions, whereas areas of the brain involved with emotion are involved in personal moral decisions (*Science* 293: 2105-2108, 2001).

He argues that an evolutionary perspective favors altruistic instincts under the right conditions. That is, people in need in an "up close and personal" way push our emotional buttons. Thus, one is more likely to give food to a poor person on the street but ignore television ads for world hunger. Likewise, one is less likely to push an individual off the footbridge because it pushes our emotional buttons (*Nature Reviews Neuroscience* 4: 846-849, 2003).

Aristotle has argued that happiness in life is achieved by the fullest development and exercise of our capacities that is compatible with living in society and is achieved by virtuous behavior (*eudaimonia*), the "golden mean" between two extremes. For example, generosity is the mean between profligacy and meanness.

Resources

Further Reading

[The Biological Basis of Morality](#)

Edward O. Wilson

[The Biological Basis of Ethics](#)

Peter Singer

e-mail

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bioethics@geisinger.edu

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William Casebeer has discussed the neurobiology of ethics in detail; for example, examining what parts of the brain are involved in various aspects of making moral decisions. (*Nature Reviews Neuroscience* [4: 841-846](#), 2003). He supports the idea of a moral state-space as a way of conceptualizing how the brain processes moral concepts. Activity of the frontal cortex and the limbic/brainstem axis move in space, allowing us to aggregate various regions of the brain in the processing of moral concepts. Moreover, Casebeer lists several limitations to the methodology of using functional magnetic resonance imaging to study moral processing. In contrast to Joshua Greene, he believes that Aristotle's virtue theory is the most neurobiologically plausible.

This discussion has attempted to minimize some of the complexities of the neurobiological basis of moral decision making. However, we do want to introduce everyone to the exciting development of **neuroethics**—the biological basis of moral decision making. This field is new, so don't expect a bioethics consultant to order PET scans or MRIs (yet!).

Respectfully submitted,
Joel Berberich

The Bioethics Review and Advisory Committee gratefully acknowledges *The Degenstein Foundation*, whose funding helps support the educational activities of our committee. Feel free to forward *Bioethics Notes* to anyone interested. They can join by using the link below.

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