

Chronicle

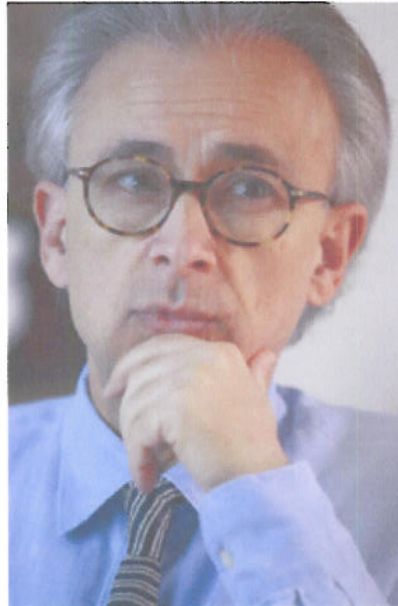
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Moral Judgment Fails Without Feelings

By Carl Marziali
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“The feeling of aversion normally blocks humans from harming each other”.
Study co-authored by USC College neuroscientist Antonio Damasio traces harmful moral choices to damaged emotional circuits.

Consider the following scenario: A runaway train car is heading for several workers, who will die if nothing is done. You are on a footbridge over the tracks, next to a large stranger whose weight could stop the train car before it hits the workers.

Do you push him to his death?

Most people waver or say they could not, even if they agree that in theory they should. But according to a new study in the journal *Nature*, subjects with damage to a part of the frontal lobe make a less personal calculation.

The logical choice, they say, is to sacrifice one life to save many.

Conducted by researchers at USC, Harvard University, Caltech and the University of Iowa, the study shows that emotion plays an important role in scenarios that pose a moral dilemma.

If certain emotions are blocked, we make decisions that – right or wrong – seem unnaturally cold.

The scenarios in the study are extreme, but the core dilemma is not: Should one confront a co-worker, challenge a neighbor or scold a loved one in the interest of the greater good?

A total of 30 subjects of both genders faced a set of scenarios pitting immediate harm to one person against future certain harm to many. Six had damage to the ventromedial prefrontal cortex (VMPC), a small region behind the forehead, while 12 had brain damage elsewhere, and another 12 had no damage.

The subjects with VMPC damage stood out in their stated willingness to harm an individual – a prospect that usually generates strong aversion.

“In those circumstances, most people without this specific brain damage will be torn. But these particular subjects seem to lack that conflict,” said co-senior author [Antonio Damasio](#), director of the [Brain and Creativity Institute](#) and holder of the David Dornsife Chair in Neuroscience in USC College.

“Our work provides the first causal account of the role of emotions in moral judgments,” said co-senior author [Marc Hauser](#), professor of psychology at Harvard and Harvard College Professor.

But, Hauser added, not all moral reasoning depends so strongly on emotion.

“What is absolutely astonishing about our results is how selective the deficit is,” he said. “Damage to the frontal lobe leaves intact a suite of moral problem-solving abilities but damages judgments in which an aversive action is put into direct conflict with a strong utilitarian outcome.”

It is the feeling of aversion that normally blocks humans from harming each other. Damasio described it as “a combination of rejection of the act but combined with the social emotion of compassion for that particular person.”

The study will inform a classic philosophical debate on whether humans make moral judgments based on norms and societal rules or based on their emotions.

The study holds another implication for philosophy.

By showing that humans are neurologically unfit for strict utilitarian thinking, the study suggests that neuroscience may be able to test different philosophies for compatibility with human nature.

The *Nature* study expands on work on emotion and decision-making that Damasio began in the early 1990s and that caught the public eye in his first book, [Descartes' Error](#) (Putnam, 1994).

Marc Hauser, whose behavioral work in animals has attempted to identify precursors to moral behavior, then teamed up with Damasio's group to extend those observations.

Other authors on the study were Fiery Cushman and Liane Young of Harvard, Ralph Adolphs of Caltech, and Michael Koenigs and Daniel Tranel of the University of Iowa.

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The mission of the Brain and Creativity Institute is to study the neurological roots of human emotions, memory and communication and to apply the findings to problems in the biomedical and sociocultural arenas. The institute brings together technology and the social sciences in a novel interdisciplinary setting. For more information, go to <http://www.usc.edu/schools/college/bci/index.html>