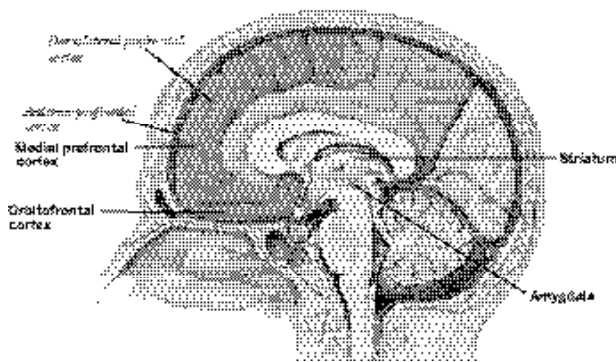## A Society of Minds

Immediate moral quandaries trigger activity in the emotional processing regions of the brain (in bold). Under other conditions, regions of more-rational thought processes (in italics) come alive.

This theory resolves long-standing conundrums in various fields, such as the inconsistencies of individual moral behavior illustrated by the switch and footbridge scenarios.

In the switch scenario, individuals are asked if they would flip a switch to divert a trolley car onto a sidetrack if it would kill one person but save five others who are on the main track. Most people say yes.

In the footbridge scenario, they are asked if they would push a man off a footbridge onto the track below to save the same five people; in this instance, most people say no. We instinctively recoil from the idea of pushing someone off a bridge, but if we can flip a switch from a distance, we seem able to make the rational choice.

What explains the difference? In his work using magnetic resonance imaging (MRI) to monitor brain activity, Cohen sees an answer in the "society of minds" theory.

In people faced with dilemmas like the footbridge scenario, MRIs revealed activity in the emotional processing regions of the brain, such as the medial prefrontal cortex. The switch scenario, however, triggered activity in the anterior and dorsolateral areas of the prefrontal cortex, home of more-rational thought processes.

Cohen is careful to note that MRIs, which measure changes in blood oxygen in specific areas of the brain, are not a decisive indicator of brain activity. And even a correlation between brain activity and behavior does not prove that one *caused* the other.

Why would people have developed a negative emotional response to pushing someone off a bridge? One possibility is that an aversion to killing arose because it fostered the creation of cooperative social structures that conferred an evolutionary advantage.

Many seemingly irrational human decisions observed by behavioral economists can also be explained by the dominance of evolutionarily old emotional responses. In the ultimatum game, for example, a player is given a sum of money and instructed to make an offer to a partner about how it should be split between them. If they can't agree on a split, both players get nothing. Surprisingly, people in tests run in many different cultures generally reject offers of less than 20 percent of the sum, often walking away empty handed.

This, too, seems to be a deeply embedded response—Cohen suggests that early humans living in small groups needed to show their fellows that they couldn't be taken advantage of—and it's associated with activity in more primitive areas of the brain. The contemporary human preference for immediate consumption (think failure to save) also falls into this category; the best place for our evolutionary ancestors to store food was in their bellies.

It's the rational mind that has created today's complex technological societies, Cohen observes, but the often discordant "society of minds" in our heads isn't always up to the challenges those modern societies pose.

Drinking Lessons

FROM THE FRONTIERS OF SCIENCE comes important insight into how to pour yourself a drink. Or, more to the point, what kind of glass to use.

Brian Wansink and Koert van Ittersum, marketing professors at Cornell University and the Georgia Institute of Technology, respectively, armed a group of 198 college students and 86 bartenders with bottles of ersatz rum, whiskey, and vodka, and asked them to pour a shot (1.5 ounces) to make a mixed drink. But some participants were given short, wide tumblers while others were given tall, slender highball glasses. The result: Virtually all those given tumblers

poured with a heavier hand than those given highball glasses.

Maybe it's not surprising that the college students overpoured by 30 percent, but even experienced bartenders who were told to take their time poured 20.5 percent more into the tumblers than they did into the highball glasses. So if you down two rum and cokes at a bar, chances are you have actually consumed closer to two and a half.

These findings have far-reaching consequences. Surveys of alcohol consumption, for example, fail to take into account the tumbler effect. Bar owners with an eye on the bottom line obviously would be well advised to switch to highball glasses, while parents who want their children to drink more milk should switch to tumblers. And while the authors don't make this suggestion, tipplers who want to cut back might consider sipping their next Absolut from a bud vase.

A subject for further research: the influence of stemmed versus unstemmed martini glasses on the pouring of clear spirits.

A short glass makes for a bigger pour.

Medicine's Mirage

THE SOURCE: "Conservatives, Liberals, and Medical Progress" by Daniel Callahan, in *The New Atlantis*, Fall 2005.

REGARDLESS OF WHETHER THE health care system is market-dominated, as in the United States, or government-financed, as in Canada and Western Europe, expenditures keep increasing faster than the rate of inflation, with only small health gains the result. That suggests that both conservatives and liberals err in thinking that there's an organizational fix for rising costs, argues Daniel Callahan, cofounder of the Hastings Center, a bio-ethics think tank. It's time to look at a deeper cause: society's war against death.

Economists calculate that "progress-driven technological innovation"—both the development of new technologies and the intensified use of older ones—is responsible for up to half of the annual increase in health care expenses. Certain drugs to treat colorectal cancer, for example, can cost up to $161,000 for a 12-week course of treatments, yet the gain can be as little as seven additional months of survival. Society is rightly reluctant to say such added months of life "aren't worth it," Callahan acknowledges. But the dollars spent on "expensive medications at the end of life" could be spent instead on "other goods and obligations, including the obligation to provide basic medical care to the poor."

New attitudes toward death can be seen in the rise of the palliative care movement, which emphasizes giving comfort to the dying and relieving their suffering, fostering an acceptance of death. But much of mainstream medicine still strives through research to find cures for all lethal diseases, and regards death as the enemy—as, in effect, a curable disease itself.

"Much of the health care cost pressure in developed countries can be traced to the war against death," Callahan writes. The National Institutes of Health, with a budget of $28 billion, has spent much more research money on combating lethal diseases such as cancer and heart disease than on fighting chronic diseases such as arthritis and osteoporosis, which affect many

> Because the leading lethal diseases "are primarily diseases of aging," an ethicist believes they should have a lower priority.

more people and can drastically diminish their quality of life. Because the leading lethal diseases "are primarily diseases of aging," he urges, they should have "a lower research priority."

"At the clinical level, it would seem appropriate to insist on a strong likelihood of success—a decent prospect for more years, not just months, of life in good health—before proceeding with treatment in intensive care units or the prescription of enormously expensive devices and drugs."

Meanwhile, says Callahan, there should be "more research and clinical work on the disabilities and frailties of old age," and more emphasis on long-term care. "In caring for the elderly, we should focus on quality of life, not length of life.... At age 75, I do not look for medicine to give me more years, but I do want my remaining years to be good years, with mind and body reasonably intact."