

Saffron Robes and Lab Coats

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by Dean Nelson, from Science & Spirit

Last fall, more than 700 scientists signed a petition demanding that the Society for Neuroscience rescind its invitation to Tenzin Gyatso, the 14th Dalai Lama, to deliver the keynote address at the society's annual gathering in Washington, D.C.

The petition, which was ultimately unsuccessful, held that incorporating a religious leader's ideas into the proceedings would threaten the credibility of the scientific community.

"We are witnessing an antiscience movement in this country, in part from Washington, but all across the land," said Philip Pizzo, dean of Stanford University's medical school. "But there is also an antireligion movement that is coming from the science community. We have a chance to study the brain in a broad, interdisciplinary manner. We are not about to apply the scientific method to faith or apply faith to science. But we do acknowledge that they are part of the same dimension." Noting that the protest in Washington served only to illuminate the present polarization of discourse in the United States, Pizzo said it was more necessary than ever to respectfully integrate faith and science.

Those willing to embrace Pizzo's assessment were able to benefit from Gyatso's participation in a different, less controversial event last fall: "Craving, Suffering, and Choice: Spiritual and Scientific Explorations of Human Experience." In this forum at Stanford, science and religion shared the stage in an open and honest exchange of ideas.

While one discipline uses methods developed in recent years to track activity in specific parts of the brain and the other uses 2,500-year-old practices to develop introspective inquiry of the mind, both neuroscience and Buddhism address the same issue: suffering. This shared purpose, according to William Mobley, director of Stanford's Neuroscience Institute, is the reason he organized the conference. Both disciplines, he said, "pursue knowledge about the brain and mind. They just go about it differently."

The conference explored scientific and Buddhist definitions of craving and suffering, along with possible responses to those conditions—altruism and compassion.

Craving, according to Buddhist thought and explained by Alan Wallace of the Santa Barbara Institute for Consciousness Studies, is "a kind of desire in which one falsely superimposes agreeable qualities upon an object, cognitively screens out its disagreeable qualities, and then desires the object as a true source of pleasure and well-being." Things people commonly crave are wealth, sensual objects, praise, and the esteem of others, he said.

True well-being, however, does not come from an outside stimulus, but from "a healthy and balanced mind,"

he said. The challenge lies in cultivating desires that lead to genuine well-being for oneself and others while minimizing craving.

The neuroscientific definition of craving focuses on what happens in brain cells when there is a motivation to reach a goal, countered Howard Fields, director of the Wheeler Center for the Neurobiology of Addiction at the University of California in San Francisco. “The goal could be something needed to maintain a state that is necessary for individual survival, including food, drink, warmth, or rest,” he said. But individuals can also develop motivation for unhealthy actions such as overeating, drinking alcohol, or using tobacco or addictive drugs.

“Whatever the goal,” Fields said, “the neurobiological view is that cravings arise from chemical changes in the brain that lead to activity in neurons that are connected to the sense organs and muscles. The activity of specific groups of these neurons leads to the unhealthy actions and to the subjective experience of strong craving.”

In the Tibetan language, the Dalai Lama said, the translation for craving is “an afflicted state of desire.” Desire is not in itself wrong, he said, nor is it a form of affliction. “It can be a neutral state of mind—even a virtuous state,” he said. All participants agreed that a desire to alleviate suffering, for example, is virtuous.

The scientists and the Buddhists also agreed that the type of craving that leads to an unhealthy life is a misapprehension of reality—desire taken to a destructive level. Buddhist practice holds that the correct view of reality comes through contemplation, while neuroscience focuses on localizing the brain activity associated with craving and then treating that specific brain function. It is not as simple as meditation versus medication, but those are the respective constructs from which each group begins.

Mathieu Ricard, a Buddhist monk and the Dalai Lama’s private secretary, explained that suffering has many causes—some of which we can control and some we cannot—and that unhappiness is the way in which we experience suffering.

“Unhappiness may indeed be associated with physical or moral pain inflicted by exterior conditions,” Ricard said, “but it is not essentially linked to it. Just as it is the mind that translated suffering into unhappiness, it is the mind’s responsibility to master its perception.”

In contrast, David Spiegel, of the Stanford medical school’s psychiatry department, explained the neuroscientific view of suffering as “an activation of neural subsystems that trigger emotions associated with distress: pain, fear, sadness, depression, anxiety.”

These neural subsystems, he said, can be stimulated by external sensory stimuli and exacerbated by reverberating circuits involving internal stimuli, such as anxiety and depression. “Western scientific notions of suffering, including pain, depression, and anxiety, treat suffering as a problem to be eliminated by reducing noxious input or the brain mechanisms that perpetuate it,” Spiegel concluded.

While their approaches to suffering may sound different, Mobley said, neuroscience and Buddhism both acknowledge the Four Noble Truths regarding suffering: There is the fact of suffering, the cause of suffering, the end of suffering, and the path to end suffering.

“The traditional Western approach to end suffering is to block the inputs” that cause it, said Spiegel. “But that’s not the whole answer.” Spiegel noted that there are more neuronal connections in one person’s brain than there are stars in the universe, and that focusing on compassion, for instance, makes it possible for those connections to “reset” the brain. “Reverberating circuits can amplify or dismiss pain and depression,” he said.

How those circuits get reset is where Buddhism can inform science, said Ricard. “It is possible to change the content of the mental construct,” he said. “Practicing altruism and compassion can alleviate your own pain.”

The Dalai Lama appreciates how science can inform religious belief. Western science, he said, teaches people how to investigate and ask questions, which Buddhism values. “Questions bring about investigation, and investigation brings better understanding of reality,” he said. “Modern science is much more advanced than Buddhism. We have much to learn from scientists.”

Similarly, Mobley said, Buddhists have methods for introspective inquiry of the mind that might inform science—provided science is willing to listen.