

Neuroscience and Spiritual Practices
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November 30, 2008

A Buddhist monk visiting New York City walked up to a hot dog vendor and handed him a twenty dollar bill. The monk said, “Make me one with everything.” The vendor pocketed the money and handed the Buddhist monk his hot dog. After waiting for a moment, the monk asked for his change. The hot dog vendor looked at him and said, “Change comes from within.” With a wistful smile, the monk walked away.¹

It is not difficult for babies to feel themselves to be one with everything. In fact, for babies, it is impossible to avoid. Child development specialists say that when we were born, every single one of us felt ourselves to be one with everything. Eventually we figured out that neither our environment nor mama were part of ourselves. So began the bumpy process of becoming an individual.

Babies are not the only ones to feel themselves to be one with everything, to enjoy that fully loaded hot dog, so to speak. Such experiences can happen to children, teens, young adults, middle aged adults, and elders. They can happen to religious people and to people who are not religious. Sometimes the experiences are spoken about, and sometimes they are not. They can happen to the ethical and compassionate, as well as to criminals and sociopaths. The experience of feeling one with everything is one way (though not the only way) to describe mystical experiences.

What does neuroscience have to say about such experiences? First, a disclaimer: Although I have in my possession this “Illustrated Guide to Brain Surgery,” complete with authentic brain Jell-O mold, non-surgically sharpened scalpel, forceps to remove foreign *and* domestic objects, and a 64-page medical manual with advanced surgical techniques, I am neither a brain surgeon nor a neuroscientist.² Nevertheless, I have an interest in states of consciousness and stages of

¹ See http://www.clown-ministry.com/index_1.php?site/articles/clean_funny_jokes_make_me_one_with_everything/.

² This is a gag gift available here www.hogwildtoys.com.

consciousness development, so I try to follow developments in neuroscience as related to spirituality.

As I understand it, there is a part of the brain that keeps track of where we are in space. It is called the “orientation association area.” From moment to moment, the neural networks in that part of the brain keep track of whether we are standing upright or falling down or lying down or leaning to the left or leaning to the right. Something happens in the orientation association area during “mystical” experiences. People may feel as though they are in no space or in infinite space; people may feel as though they are one with everything. Psychiatrist Eugene d’Aquili, who is now deceased, and radiologist Andrew Newberg published research on this.

In a recent publication by the Center for Process Studies, John D. Gilroy, Jr., says that “D’Aquili and Newberg’s brain function studies on spirituality found that during meditation or prayer, the subjects’ orientation association area underwent decreased blood flow, suggestive of a process known as ‘deafferentation,’ in which neuronal input to one brain area may be blocked by other brain areas . . . Their speculation is that the altered space of mystical states results from the orientation association area striving to function on its own, without benefit of its usual input from the external world via afferent neurons.”³

Gilroy continues, “I argue that [d’Aquili and Newberg’s] brain experiments at the root of their neurotheology leave open the central question of whether God exists . . . The inherent ambivalence of the evidence is the reason why some critics of d’Aquili and Newberg have responded with a ‘See, our very brains are attuned to God, so God must exist,’ while others have viewed the same evidence and replied, ‘See, our brains have ‘God areas’ in them, so theism must be a figment of our brains.”⁴

One person who is wading into this water from a different shore is Richard J. Davidson, a neuroscientist and professor of psychology and psychiatry at the University of Wisconsin –

³ “Process Thought and Neuropsychology: A Conversation with John D. Gilroy, Jr.” by Steve Hulbert, *Process Perspectives: Newsmagazine of the Center for Process Studies*, Vol. 31, Number 2, Fall 2008, p. 1 or go to www.ctr4process.org/publications/ProcessStudies/PSS/.

⁴ Ibid, p. 4.

Madison. With a \$2.5 million, five-year grant, Davidson and his team are hoping to find the neurological hallmarks of love, compassion, and forgiveness.⁵ “This grant is really meant to launch a new field where the wisdom of the contemplative traditions can intersect with hard-nosed science to understand how the brain can be transformed, through certain exercises, to strengthen these kinds of positive qualities.”

Fortunately, we do not have to wait five years to receive a few pointers. At last month’s “Neuroscience and Spiritual Practices” conference at the Claremont School of Theology, Rick Hanson, Ph.D., addressed how the brain can be transformed, through certain exercises, to strengthen wholesome states of mind.⁶ Check out the www.WiseBrain.org website.

Hanson said the brain is “Velcro” for negative experience and “Teflon” for positive experience. Human evolution favored the wary, the vigilant, the anxious. Animals, accidents, and enemies were out to get us. A part of the brain called the amygdala contributes to this “negativity bias” of the brain. It is primed to label stimuli as threatening. “Negative experiences trump positive ones and lead to vicious cycles,” said Hanson. “Unless this bias is offset by many positive experiences, the result is an unfairly negative view of oneself and the world, and a slowly accumulating tilt toward the negative in emotional memory.”⁷ The brain’s negativity bias plays out in our personal lives, and it plays out in the bloody events that make news from day to day.

We need underpinnings, facilitating conditions, in order to steady the mind, according to Hanson. My analogy is this: Our life is a bridge under construction whose foundation is rickety. The foundation, our brain, is rickety, no disrespect intended. The human brain is amazing in many ways, and yet it has a negative tilt. Contemplative practices such as meditation or prayer cannot counteract the negative tilt of the brain in and of themselves.

⁵ See

http://www.uwalumni.com/home/alumniandfriends/onwisconsin/archives/owwinter2008/winter08_philanthropy.asp.

⁶ See www.neurospirituality.blogspot.com regarding the conference. Dr. Hanson’s presentations were “Forming Your Spirit: Practical Ways to Use Brain Science to Cultivate Wholesome States of Mind” (the source for the remarks in the homily) and “The Neuroscience of Jewish Contemplative Practices.” See www.WiseBrain.org for background on Wellspring Institute for Neuroscience and Contemplative Wisdom, which he co-founded with Richard Medius, M.D. Rick Hanson has recently begun the first longitudinal survey of contemplative practice, comparing Buddhist, Christian, and TM practitioners.

⁷ This information is from the handout by Rick Hanson, Ph.D., distributed at the “Forming Your Spirit” presentation.

To shore up the foundation prior to meditation or prayer -- or prior to daily life -- we can form an intention (this establishes frontal lobe direction), we can activate the relaxing parasympathetic nervous system (“rest and digest” instead of “fight or flight”), we can increase concentration by calling for positive emotions such as gratitude, happiness, or contentment, and we can reinforce wholesome experiences in emotional memory by actively savoring them. Hanson puts it this way: We can turn positive events into positive experiences.

In a world that is intermittently dangerous (a world much more dangerous for people living outside that United States than it is for those of us living inside the United States), it is vital that we cultivate a feeling of being safer (not absolutely safe, but safer). It is vital that we neutralize the amygdals’s tilt toward feeling threatened. The idea is to shift our “feeling tone” from anxious to neutral. Anxiety is not the substrate for enlightenment. Tradition has it that the Buddha reached enlightenment under the Bodhi tree. The tree “had his back,” so to speak.⁸ Whenever someone or some thing has our back, we can shift gears from anxious to neutral, and amazing things are possible.

Neurons that fire together, wire together.⁹ Conscious and unconscious mental activity *matters*, leaving an enduring trace behind, says Hanson. Neurology “midwives” the mind. We can use the mind to change the brain to affect the mind. What a source of hope and comfort! We can use the mind to change the brain to affect the mind.

As to whether there is a “God area” in the brain (making God a figment of our brain) or whether our very brains are attuned to God (making God’s existence more likely, if not certain), here is my take on the matter. Brain function studies will never be able to prove anything about God, Spirit, or non-local consciousness. Brain function studies look at physical manifestations of *states* of consciousness, but states of consciousness matter far less than *stages* of consciousness development.¹⁰

⁸ Rick Hanson said this during the “Forming Your Spirit” presentation.

⁹ Donald Hems reportedly coined this phrase.

¹⁰ Ken Wilber distinguishes between states of consciousness and stages of consciousness.

Babies, children, teenagers, and adults have differing capacities for consciousness based largely upon the neural networks present in their brain. The brain is more “plastic” than past generations ever imagined. Networks of neurons (networks of brain cells) are not static but rather are open to be changed. *States* of consciousness are interpreted according to the *stage* of consciousness development of the interpreter. Babies interpret the feeling of being one with everything one way; saints and sages interpret the same feeling another way. The rest of us are somewhere in between.

Stages of consciousness development matter in particular when we interpret unusual experiences. Unusual experiences can occur within the realm of our interior life -- as sights, sounds, impulses, and insights that seem out of the ordinary. Unusual experiences can occur outside of our skin. We may perceive unusual things and wonder whether to trust our perceptions. The good news is that we do not have to interpret anything in a vacuum. Among the benefits of participating in congregational life are opportunities to talk with others about unusual experiences. This helps us to situate our interpretation somewhere in a range of possible interpretations. Most likely, we will come to realize that while we are not “special” in a narcissistic sense, neither are we unique.

“Is a genuinely integral theory of consciousness even possible?” asks the philosopher Ken Wilber. “Well, that would be my question to you all, and that would be my challenge. How big is your umbrella? How wide and how deep can we throw our net of good will? How many voices will we allow in this chorus of consciousness? How many faces of the Divine will smile on our endeavor? How many colors will we genuinely acknowledge in our rainbow coalition?”¹¹

May we know that while we are not “special,” neither are we unique. May we honor the reach and the limitations of brain function research. As we share the ordinary experiences of daily life with each other, so also may we share the unusual experiences in hopes of more adequate interpretation. May it be so!

¹¹ *The Simple Feeling of Being: Embracing Your True Nature* by Ken Wilber, compiled and edited by Mark Palmer, Sean Hargens, Vipassana Esbjorn, and Adam Leonard, Shambhala Publications, Boston, 2004, p. 152.