

Toward an Integrative Science of Mind- Posted on April 21, 2010 on "The Meditative Life," a blog for *Psychology Today*.

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Recently I attended a meeting on Neuroscience, Consciousness and Spirituality with a particular focus on meditation. It was held in a lovely European setting, with gracious accommodations and about 30 thoughtful participants - both scientists and philosophers -- from Europe, North America, and China. Characteristic of the offerings was Britta Hötzel's fine presentation of neuroscientific studies performed at Massachusetts General Hospital and Harvard Medical School that demonstrated a variety of changes in the structure and density of gray matter in the brain due to meditation. In session after session fMRI images flashed on the screen showing which areas of the brain lit up and under what contemplative conditions. As fascinating as it was, by the end of the meeting one wondered what in fact had been learned. One participant commented that it seemed like a modern form of phrenology that located mental functions, but one learned little about meditation itself. One noteworthy feature was that the studies systematically lacked personal accounts of the experiences had by those whose brains were lighting up, i.e. the meditators. As interesting and even important as the fMRI images might be to neuroscience, experience was missing. It was as if one were intent on making a map of San Francisco but forgot its million inhabitants.

Why do we consistently leave human experience out of scientific research and replace it with the output data produced by sophisticated electronic instrumentation or the second-hand reports of experts? Of course, it is because science has a deep-set concern about the "subjective." And yet the subjective is where we live our lives, including even our lives as scientists. Moreover, from a merely pragmatic standpoint, human experience is often a first, crucial factor in good research, one that is not sufficiently valued. For instance, in the March 11 issue of the *New England Journal of Medicine*, Dr. Ethan Basch of Memorial Sloan-Kettering Cancer Center in New York reports on the serious delay and underreporting of side effects and other problems associated with new drugs being evaluated by doctors and nurses because researchers do not listen to patients. The patients, the ones actually taking the drugs and experiencing the problems, more reliably and more quickly report the problematic symptoms associated with the drugs. As Denise Grady reports in the April 15 issue of the *International Herald Tribune*, "He [Basch] argues that doctors, researchers, drug makers and regulators should pay more attention to patients' firsthand reports of their symptoms while they take medicines, because their information could help to guide treatment and research, and uncover safety problems."

Ten years ago a special issue of the *Journal for Consciousness Studies* appeared, edited by the French neuroscientist Francisco Varela and Jonathan Shear. Entitled "The View from Within," it argued

cogently and convincingly that in order to understand the mind a first-person perspective was an essential complement to the third-person data provided by EEG and fMRI. Moreover, in order to gain reliable and exact first-person experience of the mind, meditative training in mental observation would prove invaluable. Varela was a founder of the Mind and Life Institute, a researcher in Paris at the École Polytechnique, and advocated tirelessly for a "neurophenomenology" that combined the best of both the meditative traditions and contemporary neuroscience. Since his death in 2001 it has been left to others to take on Varela's vision for an integrated science of the mind that does not ignore the valuable contribution of subjective but well-disciplined human experience. As William James put it in 1890, "introspective observation is what we have to rely on first and foremost and always"

This year another special issue of the *Journal for Consciousness Studies* was published with the title "Ten Years of Viewing from Within." While some progress has been made in the development of the first-person perspective in consciousness research, far too few researchers have taken up the challenge. If the meeting I attended is any indication, we still suffer from the same imbalance of methods, even among those most interested in a science of meditation. I feel convinced that we can and should develop a simple scientific and meditative protocol that could be a first step toward an integrative research methodology suited to the study of the mind through experience as well as instrumentation. More than ever we need an integrative approach to understanding the human mind that combines the high-tech of modern neuroscience with the subtle and astounding powers of direct human observation, even in the complex arena of human consciousness. Meditative schooling can make important contributions to this future science, if we can overcome our fear of the subjective, and replace it with contemplative engagement and practice.

We would do well to remember the lessons learned by François Lelord's character Hector in *Hector and the Search for Happiness*. When Hector visited the famous west coast Professor of Happiness, he was shown pictures of his own brain. Hector was "glad he knew which bit of his brain was being activated when he was happy." But as the professor explained to him, "these images were very useful for knowing how the brain worked, but that they didn't explain happiness any more than your smile explains why you are happy." Indeed, not only happiness, but everything we experience is missed by these images. Happiness and suffering, thoughts and feelings, are lived experiences and not to be confused with local oxygen levels or transmembrane potentials along an axon. Why not attend carefully then to the experiences themselves so that they too can teach us about such things as happiness? A true science of the mind will one day set aside its fear of the subjective and make use of all human modalities for knowing, both outer and inner.