

*CONTEMPLATIVE SCIENCE: WHERE BUDDHISM AND NEUROSCIENCE CONVERGE.* By B. Alan Wallace. Columbia University Press 2007. Pp. 211. \$29.50. ISBN: 0-231-13834-2.

The last fifty years have seen the emergence of a new discipline: science and religion. While the majority of contributors to this nascent field attempt to bring the Western religions into dialogue with current science, few have sought to consider the overlap with Eastern traditions. Alan Wallace, in a recent book entitled *Contemplative Science*, attempts to bring the meditative Eastern traditions into conversation with science. Wallace, an eclectic individual himself, brings a diverse background to his writing. He was educated in ecology, physics, and religion in the West, and studied Buddhism in India for over ten years in close contact with H.H., the Dalai Lama. Since that time he has written many books, translated important Buddhist texts, and led research into the health benefits of meditation. Currently, he coordinates the Santa Barbara Institute for Consciousness Studies.

*Contemplative Science* is a novel phrase created by Wallace to signal the theme of his book. The reader is immediately greeted with this novel combination of terms and left to wonder how Wallace will explain the vision behind this audacious title. Is *contemplative science* a new discipline within the sciences? Does it branch from neuroscience or the philosophy of science? Is *contemplative science* an innovative technique for scientists to attain altered brain states to augment the creative process behind experimental design and discovery? While the mysterious title beckons any number of readers from diverse backgrounds, the subtitle misleads the potential reader about the topics pursued in the text. The book is subtitled *Where Buddhism and Neuroscience Converge*. While the book does ask the reader to explore some aspects of Buddhism and consciousness studies, it is not ostensibly about neuroscience. A quick peek at Wallace's bibliography reveals virtually no reference to scientific papers from neuroscience. Wallace's ideas are not irrelevant to neuroscience, but the subtitle is very misleading to the potential scientific reader. The book is, however, full of reference to the humanities, classic philosophical and religious texts, in addition to current popular science writings.

So if the book is not really about neuroscience, what is the general trajectory of *Contemplative Science*? Wallace begins by suggesting the

presence of a spiritual void ubiquitous in today's materialist consumer society. The immense wealth of the Western world, acquired in part because of the power and success of science, has failed to engender genuine happiness and virtuosity in people. While Wallace acknowledges science's invaluable contribution to human thriving, he opines that contemplative traditions, such as Buddhism, can make an important contribution to humankind's pursuit of happiness. Wallace stretches this idea further to assert that the meditative traditions can enrich the sciences and even catalyze a paradigmatic shift in the way science is approached.

Emphasizing the urgency of the situation, Wallace points to psychological imbalances as the problem—he speaks of conative (volitional) imbalances, attention imbalances, cognitive imbalances, and affective imbalances. Wallace argues that these imbalances lead to a general sense of spiritual dissatisfaction evident in a consumer culture. In Wallace's view, the fault is in part because of the reductive scientific world-view. By contrast, contemplative traditions were long practiced in a world devoid of penicillin and Paxil. In other words, human pursuit of truth and happiness has a much richer history than that of the recent science-dominated world. Western medicine's reticence about addressing spirituality is at the core of this problem. This is the essential tension in the text that Wallace seeks to resolve.

Wallace's vision of a *contemplative science* is the alleged panacea for this spiritual crisis. His vision is a spirituality based on *samatha*, a meditative quiescent state practiced by the Dzogchen school of Tibetan Buddhism. Wallace suggests the power of *samadhi*, a Buddhist meditative technique, to bring science, philosophy, and religion into unity. Consequently, humanity will progress more effectively toward authentic happiness and truth. The power in this quiescent state, known as *samatha*, affords the individual access to a "ground state of consciousness," which according to ancient Tibetan Buddhism is a state of mind from which all conscious streams of thought emerge. This is important to Wallace's argument for the following reasons. He sets up the problem to be solved by pointing to a current "explanatory gap" in science's understanding of the mind/brain. The explanatory gap is science's inability to explain mental events in terms of neural events. That is, the endless burst of biochemical energy across synaptic brain space does not adequately explain the *qualia* of conscious experience. According to Wallace, neural activity can never explain mental events. These two related phenomena are unbridgeable with the current tools of science. The subjective first-person experience of the colors of an

abstract piece of art, for instance, cannot be adequately explained by light energy twisting molecules in the back of the eye as neurons subsequently tap their Morse code on the brain space of the skull. As Wallace argues in the text, this explanatory gap is transcended by a *contemplative science* predicated on *samatha* quiescent meditative states. This ground state of consciousness is the “entity” from which all mind states emerge. He concedes that neural events shape the expression of brain states in space and time, but the true source of all conscious experience is the absolute ground state attained in *samatha*.

After laying out this bold thesis in the first chapter, Wallace proceeds to explore related issues. Wallace mentions that a few vociferous scientists have pressed reductionism into the public purview attempting to use the authority of science to undermine religion. Wallace rightly points out the disservice done to the public’s understanding of science when scientists speak incautiously by stretching the implications of empirical findings into ontological domains. The reductive-materialist perspective is symptomatic of society’s vacuous spirituality, and Wallace uses this space to insert his ideas about Buddhism.

For those unfamiliar with Buddhism, Wallace draws from his expertise to explicate views of the divine from differing strands of Buddhism. Much like Christianity and Judaism, varying schools of thought cohabit within Buddhism—the Theravada, Mahayana, and Vajrayana traditions. They vary immensely in views about the divine ranging from polytheism to quasi-atheism. Wallace prefers the Theravada (Tibetan) Buddhist tradition and its meditative techniques. There are no compensatory deities or other cosmological baggage to confound the issue of consciousness. To Wallace, this sort of atheism is more amenable to the sciences and consciousness studies. The ground state of consciousness attained through *samatha* gives access to a primordial consciousness that connects the individual to others and all reality. Openness to this contemplative practice is the key to explaining the ultimate cause of all mind events. Wallace believes that this ground state of consciousness is fundamental to our understanding of reality.

Acquainting the reader with Buddhist contemplative practice, Wallace explains the stages of *samatha* meditation. With practice, one can quickly advance through each stage to approach harmonized attention and balance, known as *samatha*. The process begins with an object of focus and eventually evolves into an objectless state of awareness. This objectless state is the apparent ground state of awareness that gives one access to the source of all conscious states—

that state from which all streams of thought flow.

In an attempt to connect his idea of contemplative science to the history of thought, Wallace details the historical importance of first-person perspectives for our current understanding of consciousness. Wallace believes that the nature of reality is bound up in our own consciousness. He wants the science community to consider the immateriality of mental events. In return, empirical science could steer the meditative tradition in the direction that yields the most health benefits. Wallace concludes the book urging the reader to see beyond the scientific materialist perspective of consciousness and engage a more base state of consciousness that interconnects self, space, and ultimate reality.

There are strengths and weaknesses to Wallace's book. To begin with what I saw as valuable, I was impressed by Wallace's general openness and willingness to grapple with a very wide-open, yet far-reaching vision. Wallace is willing to make connections across religious traditions, especially Judeo-Christian world-views. This makes the book enriching for a broad gamut of readers. In addition, Wallace rightly highlights the transgressions of several scientists, who lack circumspection, and have overstepped their bounds when speaking about the philosophical implications of their research. This type of polarization is counterproductive and tends to oversimplify the historically complex relationship between science and religion. Lastly, it is important for physicians and researchers to be open to acknowledging and exploring potential health benefits from contemplative meditation.

Despite the many positive aspects of the text, in my opinion, there were several glaring weaknesses. While Wallace is willing to take on an immense array of subjects, this tremendous breadth takes away from the depth of Wallace's conjectures. Granted, the space between breadth and depth is tough to navigate in any popular publication; yet, I felt as though the ideas were juxtaposed instead of integrated. Ideas superficially alluded to for argument without sufficient explanation become ideas unattached, moving merely alongside one another, instead of being truly integrated together. For instance, Wallace speaks of nonlocality, mind/matter, and subject/object distinctions all within a single sentence. The reason this is confounding rather than illuminating is more than just an issue of word choice and style. Nonlocality is an idea encountered in quantum physics that scientists scarcely comprehend. To use this term in a sentence about consciousness is not only highly speculative, but it is nonsensical to most readers including

scientists. Further, to mention nonlocality in the same sentence with the subject/object distinction is even more confusing. The subject/object debate is a philosophical problem with as many alleged answers as thinkers who have taken on this conundrum. Referencing terms from diverse disciplines that have associations, whether linguistic or conceptual, does little to bring them into productive, mutually informing dialogue. To further illustrate, Wallace solves the mind/matter problem by simply asserting that the ground state of consciousness attained through *samatha* is the source of all mind-based events. So, by sheer assertion, Wallace claims he has solved the mind/brain problem. It is doubtful that scientists will be amenable to Wallace's esoteric, unverifiable Buddhist statements, because contemplative science is not a falsifiable or testable theory. Without invoking Wallace's idea of a contemplative science, researchers can still shove monks into machines and allow magnets to skate across their fluctuating cognitive states. It seems doubtful that neuroscientists will be enlightened by Wallace's claim to call profound meditative states *primordial substrates of consciousness* that transcend space and time. In this respect, as I mentioned previously, the subtitle is highly misleading: Neuroscience is hardly dealt with in the text. Wallace prefers to deal with metaphysical solutions rather than data sets.

In addition, humanities academics exploring the relations between science and religion will most likely be unimpressed. The last half of the twentieth century saw a gradual emergence of science and religion as a new discipline. Ian Barbour, Arthur Peacocke, and numerous others began to map potential directions for this new discipline. They developed frameworks and typologies for thinking about the historical interaction between science and religion. Wallace does not seem to follow the precedent set by these formative thinkers in the field. He uses so many adjectives to describe the relationship between science and religion that the reader is thoroughly benighted instead of being enlightened. Within just the first chapter, Wallace describes the relationship between science and religion as colliding, reconcilable, integrated, complementary, bridged, compatible, and consistent. Diverse relations between science and religion do exist depending on how these terms are defined, but Wallace does not attempt to clarify what exactly he intends when using these varied adjectives.

Even given this mixed review, I still found Wallace's text to be worthwhile and engaging. As a future physician-scientist with an academic background in the study of philosophy and religion, I am hopeful for the future implications of research on meditative practice

and the potential therapeutic value for patients' mental and physical wellbeing. Generally speaking, Wallace has read across a variety of disciplines and one experiences his book as if one is immersed in a pond teeming with ideas, some interdependent and alive and others dead and ill-fitted to survive. Placing oneself into the environment of this book is likely to provoke thought and free associations that one previously would have never considered.

*Paul Butler\**

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\* Boston University School of Medicine M.D./Ph.D. candidate in Behavioral Neuroscience; Master's in Theology, Philosophy, and Ethics, Boston, Massachusetts.