

Psychology and Neurobiology in a Postmaterialist World

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The current issue of *Psychology of Religion and Spirituality* provides three articles that address the relationship between spirituality and psychology in the context of the postmaterialist perspective. One of the unifying themes of these articles is the notion that spirituality may be truly separate from the mind and brain, but that such a distinction still provides fertile ground for scientific and psychological investigations. We have long argued for this general concept in work on neurotheology, which seeks to understand the relationship between spirituality and the brain (d'Aquili & Newberg, 1999). An important point in this context, and consistent with each of the articles, is the notion that we are not looking for a scientific study of spirituality per se, but at an integrated synthesis of science, religion, and spirituality. Such a synthesis might ultimately result in the kind of reductionist perspective that Bruce Greyson (2010) appropriately argues against in his discussion of near-death experiences (NDEs). As Greyson argues, and we would agree, a reductionist conclusion, while not impossible, seems unlikely to explain many elements of NDEs. Similarly, it would seem difficult for a purely reductionist or materialist perspective to address or explain all aspects of religious and spiritual phenomena.

Greyson makes an argument that many aspects of NDEs, such as greater mental functioning and particularly the ability to perceive events that the individual presumably has no access to, strongly suggest that there is more to the NDE than merely the brain dying in a particular manner. Scientific investigations may begin to get a glimpse of what is actually hap-

pening during the NDE. Thus, improved methods might yield important information about the biological correlates of such experiences. There also may be better methods for determining the accuracy of what is reported during the NDE. But even if there is conclusive evidence that people having an NDE are capable of perceiving things beyond the confines of their dying brain, there still remain substantial scientific, philosophical, and theological questions regarding what is actually happening. Is the brain capable of perceiving things even when it is dying? Is there a human soul or human consciousness that can extend beyond the brain? Many have argued this latter possibility, and NDEs appear to provide an important target for future research so that we might derive empirical evidence for or against the possibility of some nonmaterial part of ourselves going beyond the brain.

Whereas Greyson's article might tackle the issue of material reductionism directly, the other two articles speak more specifically to some of the practical implications of both the materialist and nonmaterialist perspectives. In his article, Sperry (2010) describes three clinical situations in which spirituality becomes important in the psychotherapeutic setting: (a) as a spiritual resource for coping, (b) in situations involving a crisis of faith or meaning in life, and (c) for the spiritual quest of increased well-being and awareness. It is important that the approach by Sperry again emphasizes the notion that, regardless of whether one takes a materialist or nonmaterialist perspective, addressing spiritual issues is still relevant and practical. In the practical context, however, it is important to realize that spiritual issues can have a substantial effect on the brain and psyche.

Sperry also makes a very important and significant contribution to the literature with regard to using a spiritually sensitive, more holistic approach to psychotherapy. He speaks about one's need and drive toward maintaining hap-

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pineness and well-being. He proposes that for true change to last, and for people to be able to handle distress and adversity, there must be an incorporation of self-conscious awareness, self-acceptance, and an attunement to the broader universe. This suggests that a personal focus on self-growth as well as a focus on one's awareness and conceptualization of the self within a broader universal concept are important to one's well-being and mental health.

Research on brain imaging studies has clearly shown how different religious and spiritual phenomena affect the brain (Newberg & Waldman, 2009). Different practices and beliefs appear to affect the brain differently. Overall, spiritual phenomena alter the activity in brain structures that underlie compassion, consciousness, the sense of self, and emotions. Thus, it is quite reasonable to surmise that spiritual issues must be effectively dealt with in the psychotherapeutic setting. In Sperry's four-level model of consciousness, he elaborates the ways in which psychotherapy might address spiritual issues. Therefore, on the basis of Sperry's model, there is a place in modern psychotherapy for the postmaterialist perspective. Such an approach also is commensurate with the notion of integrating spirituality with modern approaches to the mind. In this manner, the ultimate goal would be exploring a new synthesis that more fully integrates both perspectives.

The article by Richards (2010) investigates how spirituality influences or, more specifically, inspires those individuals in helping professions. Again, an important element is the synergy that arises out of a combination of spiritual and scientific perspectives. It is also important to note the rich diversity that arises from such multidisciplinary pursuits. For example, some professionals surveyed indicated that their inspiration took the form of a way of being, a state of sacredness, a divine insight, or heightened attributes or abilities. That those involved in various helping professions are inspired by their spiritual side certainly comports with a general understanding of religious and spiritual goals—to be a better person, to experience something greater than the self, and to expand our compassionate self. It is fascinating to consider how science can help us better understand the subjective nature of this inspiration by considering the neurobiology underlying such experiences.

When individuals have spiritual experiences or are inspired, there is clearly a subjective response as well as a biological one. Science can help toward an understanding of this biological underpinning of spiritual experiences. However, even if there are certain brain mechanisms associated with such experiences, at most one can conclude that there is an effect. It is much more difficult to determine whether the causal arrow of the effect flows from the brain to the spiritual, from the spiritual to the brain, or whether there is some kind of reciprocal flow. The strict materialist would undoubtedly accept that the causal arrow flows from the brain to the experience—that is, spirituality or inspiration is derived from the functioning of the brain. A devout religious person would likely argue that the causal arrow flows from God or the spirit to the brain—that is, the brain is merely affected by God or the spiritual. But in the postmaterialist approach, it might be argued that the third alternative should also be explored. The fundamental question about the true nature of the *realness* of the experience remains to be answered. Exploring all of the possible causal relationships would seem necessary before concluding which one represents the true reality.

The ability to explore both the scientific and spiritual sides, as well as to recognize that the flow of the causal arrow might be highly complex, would seem to be a natural new endeavor. Fields such as neurotheology already support the notion of a complex synergistic interaction between spirituality and the brain. This approach further recognizes that one must be open to all alternatives with respect to our understanding of the nature of reality. Other fields including psychology, medicine, anthropology, philosophy, religious studies, and theology must also embrace the interdisciplinary nature of the very topics that they investigate.

The articles in this issue are nicely representative of different but related paths toward understanding the nature of spiritual experiences and how spirituality might be incorporated into personal and clinical pursuits. Future research will have to elaborate on these findings. And, it is hoped, a better integration of all dimensions of the human person, including the biological and the spiritual, will yield a deeper understanding of ourselves and of reality.

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