

NEUROTHEOLOGY AND EVOLUTIONARY THEOLOGY: REFLECTIONS ON *THE MYSTICAL MIND*

by Karl E. Peters

Abstract. Eugene d'Aquili and Andrew B. Newberg in their book *The Mystical Mind* suggest that their neurotheology is both a meta-theology and a megatheology. In this commentary I question whether neurotheology is comprehensive enough and suggest that it needs to and possibly can take into account the moral and social dimensions of religion. I then propose an alternative metatheology and megatheology: evolutionary theology grounded in the science of biocultural evolution and focusing on ultimate reality as creatively immanent in natural and human history. Neurotheology and evolutionary theology may complement one another. Evolutionary theology accounts for both the neurology of the brain and culturally evolved ideas and practices of particular religions and their theologies. Hence it seems more comprehensive than neurotheology. However, because ultimate reality in evolutionary theology is immanent in the world of space and time, of baseline experience, it cannot account for the mystic experience of absolute unitary being. In accounting for this transcendent experience and its reality, neurotheology is more comprehensive. However, neither theology can account for how transcendent ultimate reality, experienced by the mystic as absolute unitary being, gives rise to the changing world experienced as baseline reality.

Keywords: biocultural evolution; evolutionary theology; megatheology; metatheology; mystical experience; neurotheology.

In *The Mystical Mind* (1999) Eugene d'Aquili and Andrew B. Newberg offer three exciting proposals for future work in science and religion. One is a scientific model about what happens in the human brain when people are having religious experiences (pp. 109–20). The second is a phenomenological argument that what is experienced in mystical states is just as

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real as or more real than what is experienced in our daily experiences, what they call baseline experience (pp. 178–93). The third is a suggestion for two new kinds of theology, metatheology and megatheology, which go beyond the theologies of particular religious traditions while complementing them and which also open up the opportunity for some new, more universal theologies (pp. 177, 195–203). In this commentary I focus on d’Aquili and Newberg’s proposal that their neurotheology provides the basis for a metatheology and a megatheology. First, I ask whether neurotheology, as they present it, is comprehensive enough to take into account all aspects of religion. Second, I compare neurotheology with evolutionary theology, assessing some strengths and weaknesses of each.

A working definition of religion, which I have developed over several years, may be stated as follows: *a religion is a system of ideas, rituals, moral codes, and experiences that maintains and transforms individuals and societies by relating them to what is understood to be sacred*. Most of this definition is compatible with the neurotheology of d’Aquili and Newberg. The sacred in *The Mystical Mind* is understood as either an ultimate being or an ultimate state of being. Ultimate beings and ultimate states of being are described in the world’s religious myths and in theologies that rationally develop the insights of the myths. Human beings are related to the sacred through processes of ritual and meditative transformation that bring them into a variety of experiences of the sacred, the most profound experience being that of Absolute Unitary Being (AUB). Transformed by such experiences, people live their everyday lives with greater understanding and love.

What is not prominent in *The Mystical Mind* is the moral dimension of religion. At considerable length, d’Aquili and Newberg discuss the neurobiology of the formation of myths, of religious ritual (including the “private” rituals of meditation), and of religious experience. However, they make little mention of morality, one of the most important aspects of religion. A possible reason for this is that the moral aspects of religion are related more to ordinary baseline experiences than to mystical experiences. Of course, mystical experiences can transform people into more moral beings in the sense that they become more loving and compassionate toward other humans and indeed toward all living beings. Yet, what constitutes a morality in the particular religious culture that provides the context for the loving life of the mystic and how it is worked out is conditioned not only by human biology but also by the processes of cultural evolution. Another reason the moral dimension of religion is not developed in d’Aquili and Newberg’s book may be that the wonderful experiences that are described and explained are those only individuals can have. They are experiences within a particular person. Moral codes guide the relationships and experiences *between* humans in societies. While religion is certainly a matter of what happens within individuals, it is equally a social phenomenon.

That the moral dimension of religion does not play a prominent role in *The Mystical Mind* is also seen when one looks at the criteria d'Aquili and Newberg use in explaining the task of an "ultimate metatheology," which "can be understood as the overall principles underlying any and all religions or ultimate belief systems and their theologies" (p. 195). A metatheology must, first, "describe how and why foundational, creation, and soteriological myths are formed. Second, it must describe how and why such myths are elaborated into complex logical systems that we call specific theologies. Third, it must describe how and why the basic myths and certain aspects of their theological elaboration are objectified in the motor behavior that we call ceremonial ritual" (p. 195). In light of my working definition of religion, these three tasks encompass almost all of the theological aspects of religion. And d'Aquili and Newberg make a unique contribution by showing how a metatheology should account for the presence and meaning of ritual activity in religion. This their neurotheology does, while in most particular theologies ritual remains independent of theology, and in some cases it is almost ignored as when religion is considered primarily a matter of "right belief." However, d'Aquili and Newberg leave out what I think should be a fourth task of metatheology if it is to take into account the overall principles underlying all religious systems. They leave out moral feelings and ethical behavior. Therefore, I would add to d'Aquili and Newberg's set of three criteria for a viable metatheology, a fourth criterion: it must describe the development of moral codes and their relationship to the basic myths and their theological elaborations, to the religious ritual that objectifies the myths, and to experiences of the sacred.

One way in which neurotheology could take into account this fourth criterion would be to develop the evolved neurophysiology of moral experience. The "moral experience of obligation" is one of six types of religious experience suggested by Frederick Streng and used by Ian Barbour (p. 15). As d'Aquili and Newberg point out, all these experiences are "interpreted and modulated by the human brain" (p. 15). A starting point for developing this side of religion neurobiologically might be the "value operator," the network of neurons involving the limbic system and the frontal lobes that give a value tone to all experience, ranging from baseline to AUB experiences (pp. 56–57). This could be further elaborated with work on the neurobiology of moral sentiments such as empathy, of selfish sentiments such as jealousy, of feelings of fairness and a sense of justice, and of free will and feelings of responsibility. Finally, morality in religion could be linked to d'Aquili and Newberg's discussions of the "binary operator" (p. 55), which in religious myth poses problems of living in terms of good and evil (pp. 83, 86–87). However, instead of only reaching their ultimate resolution through an experiential union of opposites, facilitated by ritual (including meditation), mythic problems would also need to lead to resolutions in ordinary baseline states of experience, in order to provide moral

guidance for humans in society and in relation to the wider natural world in daily living.

A second way to take into account the moral aspect of religion and its social dimension would be to develop an alternative megatheology. While a metatheology

is devoid of content, a megatheology should contain content of such a universal nature that it could be adopted by most, if not all, of the world's great religions as a basic element without any serious violation of their essential doctrines. Alternatively, a megatheology should have such universal content that it could be used as the basis for the development of a new specific theology, one, it is to be hoped, more universal in nature than those arising from the cultural exigencies of humanity's remote past. (p. 198)

As a possible alternative to their own megatheology—neurotheology—d'Aquili and Newberg suggest the kind of theology worked out by Philip Hefner in *The Human Factor: Evolution, Culture and Religion* (1993). While the scientific paradigm from which d'Aquili and Newberg work is neuropsychology, they suggest (on p. 12) that Hefner's paradigm might be called "scientific ecology."¹ I suggest that an alternative theology might be an evolutionary theology and that its scientific base would be a combination of biological and cultural anthropology that Solomon H. Katz has called "biocultural evolution" (Katz 1990; 1999, 242–43).

Part of the scientific base for an evolutionary megatheology would be the same as that used by d'Aquili and Newberg. The human brain, as they occasionally point out, is shaped by evolutionary processes. For example, the sympathetic and parasympathetic parts of the autonomic nervous system were developed as adaptive strategies to various environmental stimuli and hence were selected through natural selection (p. 23). The same is the case for the various association areas and functional operators of the central nervous system. While they focus on those that are especially relevant to myth, ritual, and mystical experiences, I have suggested that we also have evolved capacities in our bodies and brains for moral feelings and behaviors.

A second scientific base for an evolutionary megatheology are the processes of cultural evolution that give rise to the particular myths, rituals, and moral codes of a particular society. This includes particular understandings of ultimate beings and states of being. Hence, a biocultural evolutionary megatheology would help us understand not only the neurological capacities for various aspects of religion but also the more specific content of particular religions. At the same time, a biocultural paradigm could help us understand the rise of modern science and provide the basis for an evolutionary megatheology growing out of science with a myth called the "epic of evolution," with rituals and forms of meditation associated with creation spirituality, and with a moral code that provides a global ethic of human rights and responsibilities for societies and the planet. An

example of such a theology would be Connie Barlow's *Green Space, Green Time* (1997).

When one compares neurotheology and evolutionary theology as two kinds of megatheology, some interesting differences arise. Both theologies are grounded in ordinary baseline experiences and rational thinking of the sciences. However, the neurotheology developed by d'Aquili and Newberg shows how scientific thought might account for extraordinary experiences culminating in the mystical state of Absolute Unitary Being (AUB). On the other hand, an evolutionary theology remains for the most part in the realm of baseline reality. This difference leads to an important difference in the focus of one's understanding of ultimate reality. Neurotheology focuses on the atemporal experience of a transcendent ultimate being or state of being—illustrated by the Absolute Love of the Western mystics and the Hindu Brahman Without Form. Evolutionary theology focuses on an immanent ultimate at work in human and natural history—illustrated by the God who frees the oppressed from bondage and the Tao that is present in the ongoing rhythms of life.

Neither of these ways of focusing theology, on transcendence or on immanence, needs to exclude the other. Evolutionary theology, even as it seeks to understand the workings and purposes of the sacred in and through natural and historical events, still can be open to considering a transcendent ground of all becoming. It can appreciate the phenomenological claims of those who experience the reality of AUB and the implication of this experience that the entire evolving universe originates from a single source and is a complex but integrated whole. Likewise, neurotheology might understand that the processes of evolution that created the human brain are themselves the manifestation of the ultimate as immanent in its ongoing activity in the creation of the cosmos, life, humanity, societies, religions, and even the sciences and various theologies. There is in such an ongoing creativity in the universe also a kind of transcendence—not the mystical transcendence of space-time but the transcendence of an open-ended future to which one is called to respond in faith and hope for morally better human beings in a more just and humane world.

In these ways, neurotheology and evolutionary theology might be regarded as complementary megatheologies, both grounded in science and both able to open theological windows to the ultimate. Still, in spite of their respective, complementary roles in scientifically grounded religious thought, I wonder if one is more comprehensive than the other in that one might include the other.

If one begins in baseline reality, it seems that an evolutionary theology grounded in scientifically informed views of biocultural evolution would include neurotheology. This is because the human nervous system itself is a product of natural selection, which an evolutionary theology interprets as the immanent creativity of ultimate reality. Also, a biocultural evolutionary

perspective has the capacity for accounting for particular religious systems, each with its own myths, rituals, and moral codes. These arise not just from the nervous system but from the interactions of human brains working with culturally evolved ideas and other tools to adapt to the challenges of particular environments. Furthermore, the specific culturally evolved aspects of particular religious systems allow us to understand a variety of mystical experiences other than AUB.

In *The Mystical Mind* d'Aquili and Newberg acknowledge the role that particular cultures play in shaping experiences beyond baseline reality that are this side of the experience of AUB. In discussing the "Near-Death Experience as a Mystical Phenomenon," they develop the neurobiology of two universals, the archetypes of dissolution and of transcendent integration, to account for the main features of the near-death experience. They further suggest that the neurobiology of such archetypes is biologically evolved (pp. 128–33). However, to explain the fact that the near-death experiences of contemporary Westerners have only a muted sense of the archetype of dissolution, a buzzing noise for example, while medieval Europeans and Asians often experience this archetype with the grizzly horrors of purgatories and hells, d'Aquili and Newberg suggest that "cultural preparation" is also a factor shaping the experience (p. 139). A strict neurotheology does not, it seems to me, include such cultural components as well as a biocultural evolutionary theology does.

Similarly, when d'Aquili and Newberg develop their megatheology, grounded in neurotheology, they focus on the "most extreme form of hyperlucid consciousness, namely, AUB," because they wish to use its universality to support the phenomenological reality of such experiences (p. 200). Even though they have reduced "agreement intersubjectively as to what is real" to "the subjective vivid sense of reality" in individual experiencing subjects (p. 191), they seem to offer the universality of the experience of AUB as a kind of intersubjective criterion. But, to do this they put to one side other kinds of religious experience.

There can be no doubt that AUB exists. The mystical literature of all the world's high religions, certainly across cultures and centuries, provides startlingly similar, and even virtually identical descriptions. The same cannot be said of other hyperlucid states because they have discrete elements of perception and cognition; their superficial content is strongly influenced by the cultures from which they arise. We would maintain that their deep, unitary content is the same across cultures, but these other hyperlucid states are at least superficially different across cultures and religions. This argument does not apply to AUB, however. (p. 200)

In order to handle the cultural variation in non-AUB mystical experiences, d'Aquili and Newberg make a distinction between the deep content and the superficial content, which reminds me of a common philosophical distinction between an underlying, permanent essence of something and its changing, "accidental" appearances. But the question remains, why the

changing appearances and what is their meaning? It is an unsupported claim to call them “superficial.” From an evolutionary theology grounded in biocultural evolution, the cultural shaping of mystical experiences is as important as the cultural shaping of baseline experiences. The diversity of both baseline experiences and of various mystical experiences can be valued as the result of the immanent aspect of ultimate reality as it continually transforms the universe and gives rise to a richness of experience of all kinds.

For these reasons, I am tempted to say that an evolutionary megatheology is more comprehensive and can include neurotheology. However, there is one thing that an evolutionary theology cannot include as a part of its system of thought. It cannot include the transcendent ground of all becoming. Being historical and temporal, evolutionary theology cannot include the eternal and unchanging source of all. If evolutionary theology asserts this, it goes beyond its sources of baseline experience and the science of biocultural evolution. Because of this, one can make the case that neurotheology is more comprehensive than evolutionary theology, in that it helps to account for an experience of that which transcends space and time but which is thought to give rise to space and time—the Tao that cannot be named, Brahman Without Form, the Creator of all that is. Yet, when one recognizes this, the further question arises: How did ultimate transcendent being, experienced in the remarkable brain state hypothesized by d’Aquili and Newberg as absolute unitary being, give rise to baseline reality, the world of space and time? Neurotheology, grounded in the brain states of created beings, does not seem to have an answer. Neither does evolutionary theology, grounded in the temporal processes of nature and history. How the finite comes forth from the infinite, how the temporal originates in the eternal, how the sacred is both transcendent and immanent—these are part of the mystery that has given rise to our own existence and before which we stand in wonder and gratitude.

NOTE

1. When speaking of Hefner’s approach they call it a metatheology. However, it seems to me that at this point it is better to understand *The Human Factor* as a research program for a megatheology. While this theology contains a formal, pragmatic criterion that would make it a candidate for a metatheology (Hefner 1993, 60–61, 155, 187, 224–25), it also develops considerable content including the idea of humans as “created co-creators” (pp. 35–40), and the moral imperative of the “love command,” which Hefner links to myth, ritual, and morality (pp. 177–94).

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