

Neurotheology?

by [Wayne Proudfoot](#) in the [November 8, 2000](#) issue

*The Mystical Mind: Probing the Biology of Religious Experience*, by Eugene D'Aquili and Andrew B. Newberg

A century ago the psychologist William James identified what he saw as a common core in religious experience, universal across cultures, and he argued (in *The Varieties of Religious Experience*) against a "medical materialism" that would reduce and dismiss such experience. Since that time many have tried to understand religion through the study of religious experience, and many, like James, have given special attention to mysticism.

Now two psychiatrists at the University of Pennsylvania Medical School have written a book intended to develop "the study of theology from a neuropsychological perspective." More ambitious than James, they claim to be able to explain religious myth and ritual as well as religious experience. They propose to develop a neurotheology that "brings all the elements of religion, even those formerly considered irrational and thus not within the purview of theology, under a single rational explanatory mechanism."

The authors describe *The Mystical Mind* as the culmination of almost 25 years of research on the relationship between the brain and religious experience. This suggests that their theory carries the prestige and credibility of science. In fact, however, the model they offer is based on speculation, not laboratory science. There is nothing wrong with this. They are as entitled to speculate as are other theorists of religion, but their conclusions ought not to be given a special scientific status.

From phenomenology, the study of the ways in which religious people describe their experience and practice, d'Aquili and Newberg conclude that there are core elements in religious experience that "appear to be universal and can be separated from particular cultural matrices." The same kind of analysis tells them that group rituals and private devotion both involve emotional discharges related to sensations of awe, peace or ecstasy, and a unitary experience that correlates with those discharges. They speculate that these sensations and this unitary experience may

be caused by deafferentation, the cutting off of incoming information (afferents) to a brain structure. Passive or active meditation, the attempt to clear one's mind of all thought or to focus on a particular thought, can produce this deafferentation of different parts of the brain.

From speculation about the significance of the localization of different functions in different areas of the brain (e.g., language in the left hemisphere), the authors develop a biogenetic structuralism in which seven fundamental operators govern the mind. These include a holistic operator and abstractive, causal and emotional operators. From this model they conclude, for instance, that "the holistic operator might allow us to apprehend the unity of God or the oneness of the universe." This structuralism, combined with deafferentation, constitutes their model for religion.

D'Aquili and Newberg acknowledge the difficulty of testing this model. In a set of experiments using brain imaging on experienced meditators in the Tibetan Buddhist tradition, they found increased blood flow to various areas of the brain. This, they say, is consistent with deafferentation and with their explanatory model. Consistent this may be, but it does not provide experimental support for their theory, and it is the only experimental result reported in the book that is directly relevant to the theory.

Religious experience cannot be described or explained in biological terms. All experience is interpreted by the person experiencing it, and it is the interpretation of it that makes an experience religious. Two people can have the same experience, as described in biological terms (slower heart rate, decreasing blood flow to some area of the brain) or phenomenological terms (sense of oneness, calm). One person might understand what is happening to her in religious terms, as closeness to God or nirvana, and another might understand it entirely in secular terms. This is recognized in traditions that cultivate religious experience. Buddhists, for example, distinguish between calming the mind (what d'Aquili and Newberg call mystical experience) and discerning the real (insight). It is the latter that is religiously significant. The study of religious experience requires attention to the historical and cultural contexts from which interpretations of experiences come, and inquiry into the conditions under which persons understand what is happening to them in religious terms.

D'Aquili and Newberg are among those who want to circumvent historical and cultural analysis to provide an explanation that does not vary across times and places. Their appeal to operators that allegedly control the mind's sense of holism,

causation or emotion eliminates the need to study judgments and interpretations and the language and concepts by which they are made. As a result, they miss what makes religious experience religious.