



# GOD ON THE BRAIN

## WHY GOD WON'T GO AWAY: SCIENCE AND THE BIOLOGY OF BELIEF

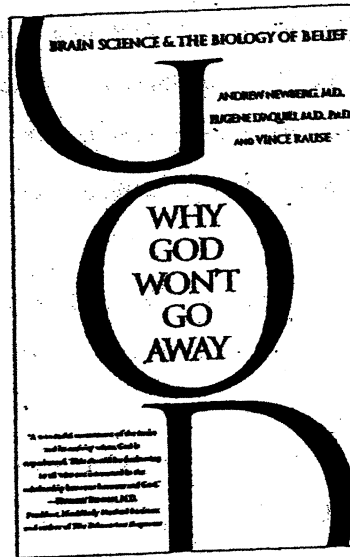
Andrew Newberg, M.D., Eugene D'Aquili, M.D., and Vince Rause  
(Ballantine Books, 2001)

Reviewed by Michael Shermer, Ph.D.

God is puzzling. According to the Oxford *World Christian Encyclopedia*, there are no fewer than 10,000 distinct religions worldwide, with a total of 5.1 billion adherents. The quantity and diversity of beliefs means that something is going on here that cries out for explanation.

That explanation, say Andrew Newberg, M.D., and his late colleague Eugene D'Aquili, M.D., both affiliated with the University of Pennsylvania and pioneers in the neurological research of religion, is to be found in the brain. We are, they say, wired for God.

To understand this wiring Newberg and D'Aquili studied Buddhist monks as they meditated and Franciscan nuns during prayer. When their subjects slipped into an altered state of



consciousness, the scientists injected them with a radioactive substance and then tracked the changing activity of their brains. The researchers did this with Single Photon Emission Computed Tomography, or SPECT, a device similar to the more familiar CAT and PET scan machines.

The most dramatic finding in the book, primarily (and admirably) written by journalist Vince Rause, concerns a portion of the brain the authors call the orientation association area (OAA). The OAA, say Newberg and D'Aquili, is largely responsible for helping us distinguish between ourselves and other things. People with damage to this part of the brain have problems navigating their way around a room: They actually cannot discriminate between their bodies and the furniture. The researchers discovered that during meditation and prayer, at the moment when the monks were at one with the universe and the nuns felt the presence of a universal spirit, there was reduced activity in the OAA. Like patients

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## WHY BELIEVERS SHOULDNT TAKE THE SCIENCE OF SPIRITUALITY SERIOUSLY

with damage to this brain area, their selves became indistinguishable from their nonselves. From these findings the authors conclude "that spiritual experience, at its very root, is intimately interwoven with human biology. That biology, in some way, compels the spiritual urge."

If the book ended there, I would have no qualms about recommending it to anyone interested in why people believe in God. It is reasonable to posit that one of the variables that shape religious beliefs is the brain with which we believe. (Other variables no doubt include genetics, parental upbringing, sibling dynamics, peer influence and mentoring, among others.)

Unfortunately, the authors add another hundred pages of what they themselves call "terrifically unscientific" speculations. Our brains may not be generating spiritual experiences, they suggest, so much as they are opening a window into some spiritual realm that exists outside the brain. How the brain makes contact with this transcendent being or place is not discussed, of course, because no one has a clue. (This has not, of course, prevented countless New Age authors from prattling on about how quantum states account for ESP, telekinesis and other flapdoodle, including talking to the dead and to God.)

The book then descends into evolutionary just-so stories about how existentially depressed Neanderthals invented religion to cope with the realization that life has no meaning. "Just as medieval mystics might feel joyfully absorbed into the transcendent reality of Jesus... the hunter might feel himself in the presence of a powerful, primal deity—one of the great animal spirits that was among humanity's first gods." The authors admit that "this is a highly speculative scenario." Indeed.

Speculations aside, the facts related in the book suggest that religious experience is a product of human biology. Like so many other attempts to use science to explain religion, this one runs the risk of reducing God to a biological artifact: We don't believe in God because He exists, but because our brains trick us into believing that He does. That conclusion is fine by me, because I'm a religious skeptic. But it seems strange that so many believers embrace books like this one, apparently convinced that it somehow endorses their religious faith. They don't seem to realize that if we do find God in the crevices of the brain, He will, indeed, go away.

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