

Sensing God and the Limits of Neuroscience

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Biology cannot account for transcendence.



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Recently, renowned neurologist Oliver Sacks published an article on *The Atlantic* entitled "[Seeing God in the Third Millennium](#)." In it he referred to numerous descriptions in medical literature of life-altering religious experiences associated with neurologic abnormalities. He also quoted accounts of ecstatic seizures by Fyodor Dostoyevsky and recollections of a coma from neurosurgeon Eben Alexander (which he had described in a widely read *Newsweek* cover article), both of whom believe they experienced something transcendent -- perhaps even God -- during an altered brain state.



Seeing God in the Third Millennium

Sacks pointed to recent studies showing that such epiphanies can be precisely linked to altered electrical activity in specific parts of the brain, especially the right temporal lobe. And he reported that such experiences are becoming more common, largely because more patients who would once have simply expired are being brought back from cardiopulmonary arrest and reporting remarkable near-death experiences. These often involve an out-of-body component, meaning that patients felt that they were watching themselves from an external vantage point. Some investigators have even shown that such out-of-body experiences can be replicated using an apparatus that includes video goggles, mannequins, and prosthetic limbs.

How to explain such experiences is a difficult problem that can never be definitively solved, but Sacks urged us to avoid denying natural explanations -- those framed in terms of the structure and function of the brain -- as possibilities. In particular, he condemned neurosurgeon Alexander's refusal to entertain a naturalistic explanation for an experience that he concluded represents definitive evidence of an afterlife, marking Alexander's account as "more than unscientific -- it is antiscientific." In stark contrast, Sacks argued that naturalistic accounts offer the best available explanation of such phenomena. He believes that such experiences most likely represent neurologically mediated hallucinations, given meaning by a deep human longing for the transcendent.

Before proceeding, we need to pause to consider what we mean by "transcendent." Literally, "transcend" means to climb beyond. The idea of transcendence has deep roots in our culture. For example, the fourth president of the United States and principal author of the U.S. Constitution, James Madison, refers to the establishment of a new government as an act of "transcendent authority," which the people alone have the right to perform. Likewise, one of the greatest American writers, Nathaniel Hawthorne, describes the voice of an improbable singer, "as if some transcendent musician should draw a soul-thrilling sweetness out a cracked instrument, which makes its physical imperfection heard in the mist of ethereal harmony."

In the religious context, transcendence implies a reality that is not purely material. Are there things in this world that are real but not physical, in the sense that they have no mass, size, shape, location, or color, emit no sound, and cannot be touched, tasted, or smelled? A thorough-going materialist might deny that such things even exist, arguing that talk of God or gods is mere poppycock. From a materialistic point of view, references to the divine, as well as those to ethereal qualities such as love, beauty, and goodness, merely refer to patterns of human behavior, or what amounts to the same thing, patterns of electrochemical activity in the brain. In contrast, Jews, Christians, and Muslims assert that God's transcendence is self-evident, since God created everything material.

What are we to make of the fact that some experiences attributed to a divine presence or an encounter with a transcendent reality are associated with characteristic changes in the function of a particular part of the brain, and that stimulating a part of the brain can produce such experiences in experimental subjects? Does this indicate that these

experiences, and perhaps all such experiences, are therefore false? No one is contesting that the subjects involved genuinely believe in the validity of such experiences. Yet perhaps, as Sacks suggests, they are mere hallucinations, the same sorts of altered states sometimes produced by head trauma, drugs, and even nightly dreams. Are such experiences of the transcendent mere misfirings of the brain?

To put this question in a slightly different but more helpful form, would it be accurate to say that a perfectly functioning human brain would have no sense of the transcendent? If we could eliminate all toxins, aberrant electrical activity, and neurotransmitter imbalances from our brains, and also ensure an adequate supply of oxygen, glucose, and other necessary substances, would we thereby achieve a permanently non-transcendent state of mind? Would we remain, from day to day and even second to second, in a permanent state of immanence, aware only of the objects presented to us by our senses, and utterly devoid of the sorts of misperceptions that sometimes lead people to believe that they have encountered God?

Perhaps we should not be too quick to abandon the transcendent. What if the transcendent is no different from any other aspect of human experience, in at least one crucial respect? Namely, that there are both false and true experiences of the transcendent, just as there are false and true experiences associated with the senses, with reason, and with feeling. Sometimes what we think to be the crying of a baby turns out to be the whine of a machine, what seems to be a proven conclusion turns out to be based on an erroneous assumption, and what we suppose to be love turns out to be merely a fleeting infatuation. If we are smart, we recognize that we are fallible. Yet our fallibility does not lead us to conclude that we can never truly experience, know, or feel anything.



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Let us grant, at least provisionally, something that cannot be proved. Let us suppose for the moment that all human experiences, whether illusory or real, whether immanent or transcendent, are accompanied by neurochemical changes in the brain. Let us further suppose that no experience is possible without such neurochemical changes, and that individuals whose brains have ceased to function can experience nothing. Let us also grant that tinkering with neurochemistry alters experience, sometimes merely by changing its timbres and hues, but in other cases by causing us to experience things that clearly never happened. Would granting all of these points prove that all experiences of the transcendent are unreal?

Like Mac Davis, I believe in music. When I listen to music, or at least certain kinds of music, I feel transported to another place, my mood is elevated, I feel a new sense of harmony, and I am able to focus more clearly on what seems to matter most. A physicist might come along and say that what I call music is merely the scraping of horse's hairs across cat gut, a mechanical vibration in a particular frequency range. A neurologist might come along and explain that I am merely experiencing the transduction of kinetic energy into electrical energy as processed by neurons in the auditory and higher associative cortices of the brain. And yet, there is something about the music that is hard to reckon in such terms. It would be like saying that a passionate embrace is merely the pressing of flesh on flesh.

Consider these remarks by the physician-essayist Lewis Thomas concerning Mahler's Ninth Symphony:

There was a time, not long ago, when what I heard, especially in the final movement, was an open acknowledgement of death and at the same time a quiet celebration of the tranquility connected to the process. I took this music as a metaphor for reassurance, confirming my own strong hunch that the dying of every living creature, the most natural of all experiences, has to be a peaceful experience. I rely on nature. The long passages on all the strings at the end, as close as music can come to expressing silence itself, I used to hear as Mahler's idea of leave-taking at its best.

Is Thomas describing a reality outside the human mind, something beyond mere airy vibrations and the firing of neurons? Were composers such as Mahler, Beethoven, and Mozart engaged in mere sleight of hand, deceiving us with something false? Or were they engaged in the creation of something real, capturing something essential and beautiful, and through music offering us an opportunity to experience the transcendent?

Whether we are talking about the music of Beethoven and Mozart, the paintings of Rembrandt and Van Gogh, or the poetry of John Donne and William Butler Yeats, we are encountering the works of geniuses who thought they were answering a call to express the transcendent. Interestingly, even some of the greatest scientists, including Newton and Einstein, seem to have thought much the same. In each case, it would be apt to say that these men understood their works as affording them, and to some extent us as well, a glimpse of the mind of God. They believed that it was not only possible but necessary for human beings to meditate on certain transcendent themes, such as death and love, in order to understand our true position in the larger scheme of creation.

Of course, not every composer is a Mahler, nor every painter a Van Gogh, every poet a Yeats, or every scientist an Einstein. Great music is real, but so is bad music, and the same can be said regarding art, poetry, and science. Sometimes people simply get it wrong. But getting it wrong, no less than getting it right, is associated with certain neurochemical changes in the brain. In other words, the mere fact that neurochemical changes are taking place does nothing to help us distinguish between good and bad, the great and the merely insipid. The truth or falsehood of such expressions is not simply a matter of correspondence with some verifiable material state. It is also a matter of elegance, rhythm, balance, and above all, beauty, qualities that are to some degree transcendent.

Ultimately, we cannot define the beautiful in strictly material terms. We cannot prove on solely material grounds that Dostoyevsky's *The Brothers Karamazov* is one of the greatest works of world literature, no matter how many copies it sells or how long it remains in print. When our child or grandchild asks us why anyone should read a Dostoyevsky novel, or visit a Van Gogh exhibit, or attend a performance of Mahler, we can offer no material proof. We can only try to describe the difference such works have made in our own lives, and offer up the hope that they will discover something similar.