

BEYOND THE GOD SPOT

Transcendence and the Brain

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NEWSPAPER HEADLINES about a ‘God spot’ in the human brain reaffirm the enduring fascination of trying to pin down the mysteries of religious experience through neuroscience. Brain imaging technology has captured both the popular and the scientific imaginations, and has added the glamour of its multicoloured images to a long-standing debate surrounding spiritual, religious and anomalous experience and the brain. Neuroscience has elucidated much, from the association of ‘alpha rhythms’ with meditation to Andrew Newberg’s fascinating experiments with meditating monks and nuns using the latest neuroimaging technology.¹

All this work enables us to have a clearer picture of how our brains are involved in that aspect of human experience labelled mystical or anomalous (depending on context and point of view). However, there is a danger that the real significance of such experience remains untouched by this body of research. As I have noted elsewhere, the warring parties of sceptics and believers tend to become entrenched around concepts such as the ‘God spot’, each claiming support for their position rather than trying to resolve the debate.²

I want to argue that the really significant aspects of our relationship with the divine can get lost in the search for associations with discrete bits of the brain. However, there are indeed clues to be found, both in some neuroscientific research and in how connections in the brain are organized—clues as to how this mysterious area of human experience might open the way to reaching beyond the individual, thus to creating space, at least, for the transcendent dimension that is lacking in so much of the debate.

¹ See James H. Austin, *Zen and the Brain* (Cambridge, Ma: MIT, 1999) and Andrew Newberg, Eugene d’Aquili and Vince Rouse, *Why God Won’t Go Away: Brain Science and the Biology of Belief* (New York: Ballantine, 2001).

² Isabel Clarke, *Madness, Mystery and the Survival of God* (Winchester: O-Books, 2008), 109.

I will first say a bit about my interest in this topic, then provide a brief outline of the most telling neuroscientific investigations to which I have alluded, and finally conclude by offering my own attempt to make sense of the linked areas of anomalous experience and transcendence. There is much more that neuroscience can tell us about religious experience than I am able to discuss here (see the work of B. Les Lancaster,³ for instance), but I have chosen the topics that have hit the headlines, and so become part of popular culture.

I am a psychologist, and therefore interested in the scientific study of human experience. As a clinical psychologist, working in acute mental health care in the British National Health Service, I am aware of the extremes of human experience, including anomalous experience, in my work. When I started practising in a hospital twenty years ago, I noted that the accounts of early breakdown I was privileged to hear from individuals labelled ‘chronic schizophrenic’ matched uncannily accounts with which I was familiar from the contemplative Christian literature.

I was familiar with this literature for two reasons: from being a lifelong Christian, with a particular interest in spiritual experience, and from the linked circumstance of having originally studied medieval history at university. I changed to psychology when the breakdown of a friend alerted me to how little was really understood about mental illness and what to do about it. Studying psychology, as well as making sense of human fragility and proneness to breakdown, offered me the opportunity to get a sense of what mystical experience was and where it fitted in. Interestingly, these two enquiries have tended to come together.

To return to the neuroscience of spiritual and anomalous experience, it is fair to say that Michael Persinger threw down the gauntlet by creating a specially designed helmet that stimulated areas of temporal lobe to produce a ‘sense of presence’.⁴ The phenomenon of mystical experience in the context of epileptic fits had long been recognised (Dostoyevsky’s novel *The Idiot* features a vivid account, based on the author’s own experience) and traced to temporal lobe dysfunction. The title of Persinger’s earlier theoretical study, ‘Religious and Mystical Experiences as Artifacts of

³ B. Les Lancaster, ‘Cognitive Neuroscience, Spirituality and Mysticism: Recent Developments’, in *Psychosis and Spirituality: Consolidating the New Paradigm*, edited by Isabel Clarke, second edn (Chichester: Wiley, 2010), 19–34.

⁴ Leslie A. Ruttan, Michael A. Persinger and Stanley Koren, ‘Enhancement of Temporal Lobe-Related Experiences during Brief Exposures to Milligauss Intensity Extremely Low Frequency Magnetic Fields’, *Journal of Bioelectricity*, 9/1 (1990), 33–54.



Michael Persinger's original 'God helmet'

Temporal Lobe Function', reveals his own reductionist stance by presenting religious experiences as brain artefacts.⁵ However, his general line of argument is consistent with the conclusion that the interpretation of such experiences—whether they are taken as an encounter with God or some other supernatural being, or merely as a somewhat uncanny episode—depended on the participants' prior religious and philosophical context.

This research was hailed as the discovery of the 'God spot', and was interpreted variously as having explained religion away; having explained it as an evolutionarily useful self-delusion; or having proved that there really is 'something there'. Subsequent headlines about religion and neuroscience, in April 2012, were noticeably more muted than the fanfare that greeted earlier 'God spot' reports, and represented a broader and more nuanced insight into the discoveries.⁶ Two lines of study have come together here to reinforce the same conclusions. The 2012 headlines were responding to Brick Johnstone's work with people who had suffered traumatic brain injury in discrete areas of the brain; he summarises his conclusions as follows:

⁵ Michael A. Persinger, 'Religious and Mystical Experiences as Artifacts of Temporal Lobe Function: A General Hypothesis', *Perceptual and Motor Skills*, 57/3.2 (December 1983), 1255–1262.

⁶ 'The God Spots Revealed: Scientists Find Areas of the Brain Responsible for Spirituality', *Daily Mail* (21 April 2012), available at <http://www.dailymail.co.uk/news/article-2133032/There-God-spot-new-research-claims-instead-spirituality-exists-brain.html>, accessed 2 November 2013.

We have found a neuropsychological basis for spirituality, but it's not isolated to one specific area of the brain. Spirituality is a much more dynamic concept that uses many parts of the brain. Certain parts of the brain play more predominant roles, but they all work together to facilitate individuals' spiritual experiences.⁷

Johnstone's conclusions mirror those of Newberg, who used single photon emission computed tomography to measure blood flow into the various parts of the brains of Franciscan nuns as they meditated.⁸ Newberg and his collaborators found that meditation produced blood flow towards areas of the brain associated with concentrated attention, which is easy to understand; but particularly interesting was the finding that blood was withdrawn from the parietal lobe, which has been associated with the sense of self. Johnstone's participants reported a sense of being part of something greater than themselves, as their narrow concentration on the individual self diminished.

The conclusion from the temporal lobe work seems to be that our capacity for strange experiences can be a by-product of brain pathology, and that it can be manipulated. This is not news to aficionados of hallucinogenic substances. It also tells us that we have the capacity to



⁷ Brick Johnstone and others, 'Right Parietal Lobe-Related "Selflessness" as the Neuropsychological Basis of Spiritual Transcendence', *International Journal of the Psychology of Religion*, 22/4 (2012), 267–284.

⁸ Eugene D'Aquili and Andrew Newberg, *The Mystical Mind: Probing the Biology of Religious Experience* (Minneapolis: Fortress, 1999).

disengage from our individuality and step into a wider arena. This is interesting and comes closer to notions of transcendence.

I identify two related themes here. The nature of spiritual and anomalous experiences and how they differ from the everyday is one. Of itself, this could be trivial. People seek such experiences in a variety of ways, including illegal drug use as well as spiritual practice, and if the experience is the only object it becomes simply a 'trip'. Such exploration is truly spiritual or religious only when it occurs in the context of relationship—relationship with what is beyond (however understood) and/or internal relationship, self with self. In both cases (and they tend to operate together) there is capacity for creativity and transformation: capacity for the transcendent.

I have sought to understand how this relationship dimension, which I would argue is crucial, can be understood in terms of brain organization—how this capacity is fundamental to the make-up of the human being. In brief (and I have written about this extensively elsewhere),⁹ the observation that we have access to two distinct ways of experiencing—the mystical or anomalous and the everyday—is an artefact of the organization of the brain.

There appear to be two separate overall circuits in the brain, very roughly corresponding to the logical and the emotional. One concerns the precise, logical, verbally based aspects of our thinking apparatus, that we acquired late in our evolutionary journey from apes to humans. The emotional circuit bypasses this cumbersome, verbal, new-brain thinking. It comprises the sensory and body-based systems. It reacts rapidly and impulsively.

Normally the two circuits work smoothly together, but neither is in overall control, which explains why human beings are so wobbly and prone to break down under stress. When that stress is extreme, or when under the influence of certain practices or substances, the two circuits drift apart. We are left with the older, less precise, more supernatural-feeling one. This idea of two overarching meaning-making systems, taking turns to be in control, comes from the Teasdale and Barnard's Interacting Cognitive Subsystems (ICS) model of cognitive architecture.¹⁰

⁹ Clarke, *Madness, Mystery and the Survival of God*; and Isabel Clarke, 'Psychosis and Spirituality: The Discontinuity Model', in *Psychosis and Spirituality*, edited by Clarke, 101–114.

¹⁰ Philip J. Barnard and John D. Teasdale, *Affect, Cognition and Change: Remodelling Depressive Thought* (Hove: Lawrence Erlbaum, 1993). For a more accessible take on this see Clarke, *Madness, Mystery and the Survival of God*, 95–101.

Along with our capacity for language and precise logical thinking, we have, in our evolutionary journey as human beings, acquired self-consciousness and the powerful sense of individuality that this gives us. We tend to assume that this is who we are. Access to the other way of experiencing, however, opens the door to a more connected way of being—stepping beyond the individual and into relationship. The emotional circuit is designed to organize relationships, both with others and with ourselves. We are not the unitary creatures we perceive ourselves to be: we are relationship.

This is very evident to someone like myself who works in mental health. Mental ill-health is always the product of a disruption in inner relationship. The potential for the ‘other’ circuit to take charge also means that we may lose the tight boundedness that we tend to take for granted. The sense of being at one with the whole, of empathy and connection, characteristic of spiritual experiences comes from stepping out of our individuality into that place of relationship. But the sense of invasion and loss of privacy of thought that is sometimes met in psychosis comes from the same source. It is interesting that both Newberg’s and Johnstone’s research come up with a neurological basis for this disengagement from individuality. What ICS adds is the powerful notion that the two very different systems share control: that there is no boss, and our subjective sense of unitary selfhood is an illusion. Newberg’s meditating nuns *chose* to shift their attention away from the self and so enter that more expansive potential space. Others arrive less prepared.

What can this model say about transcendence? The first important clue concerns the limitations of our precise, logical, processing mental capacity. It is very effective as far as it goes, but it acquires its precision at the expense of something larger. This is the expanded reality perceived by explorers beyond the threshold that is held in place by the two systems working tightly together: the mystics, the poets, the artists and the mad people. They can attempt to convey what they have perceived to the rest of us, but the task is a daunting one.

A more everyday example of this dichotomy is to look at the contrast between how we know facts, say about science, and how we know about relationships. For most people, the latter knowledge is far more crucial, but the important information is ‘felt’; we ‘get a sense of’ in contrast to the relative certainty of scientific knowledge. We do not discount our judgments about relationships because of this lack of precision. Transcendence—the sense of being in communication with something or

someone beyond ourselves, but perhaps within which we are contained—comes into just this category of knowing.

Words, labels and scientific certainty do not belong in this realm. It is governed by a different logic, not a logic of either/or but of both/and, a logic of paradox, ‘symmetric logic’ to use Matte Blanco’s descriptor.¹¹ Viewed from this perspective, questions about the existence or non-existence of God, or about what name we should use for this ultimate Being, retreat into incoherence. Experience as a way of knowing needs equal recognition with rationality—but it also needs to be treated with circumspection. It cannot ever provide precise answers, but used with humility it can bestow only wisdom.

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¹¹ Rodney Bomford, ‘Ignatio Matte Blanco and the Logic of God’, in *Ways of Knowing: Science and Mysticism Today*, edited by Chris Clarke (Exeter: Imprint Academica, 2005), 129–142.