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BEYOND THE DEEP BRAIN-STEM:
THE OPENNESS OF THE NATIVE DREAMER

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There is no easy way for science to authentically engage cultural and religious reports of *encounter* in dreams, to the extent that a communication is believed or known to be occurring between the dreamer and a larger encompassing reality. But there are reasons to go beyond neurological explanation of the functioning of the dream state, and avenues to do so. I will discuss an opening move or two in this shift in science, which demand a wider perspective on humanity, after introducing two understandings of dreaming, with telling differences.

The first perspective is Allan Hobson's activation-synthesis hypothesis. The dream state is "the best possible fit of intrinsically inchoate data produced by the auto-activated brain-mind." In sleep, some of the inhibitory restraints are removed from some brain circuits. With the shut-down of those neurons that inhibit the brain while awake, other brain cells become more active, running "free of restraint from both external stimuli and internal inhibition."¹ By other processes, external stimuli and signals are blocked out, and motor output (body movement) is temporarily cut off from the brain's motor commands. Separated almost entirely from the outside world, the mind-brain is captivated by a flow of random information signals internally generated from the lower brain stem. At the same time, the somewhat arrested brain lacks its attentional capacities to organize information and achieve full self-awareness; "it lacks the capacity to test both external and internal realities." The brain then "interprets its internally generated signals as if they were of external origin. Both orientation-in-the-world and self-critical perspective are lost."² We accept all manner of orientational discontinuities and "flagrant violations of natural law" as real. The dreaming brain then tries to interpret its "internally generated signals in terms of its previous experience with the outside world" stored in its memory. The brain-mind may "call upon its deepest myths to find a narrative frame that can contain the data," lending a colorful "meaning" to the dream events.³

The next perspective is one told by the Oglala Sioux holy man Black Elk in the late 1940s. He describes a several-day ritual of the young vision seeker, a ritual of extraordinary fullness. In a state of lamentation, the young man approaches an elder and gains advice, purification, and a ceremony which culminates in a communal send-off, aided by helpers, into the wilderness and isolation of the mountaintop. Preparing to receive instructions and advice, he becomes "poor in the things of this world," to become pure and so, receptive. He enters this experience in a state of lamentation, recognizing his vanishing smallness before Wakan-Tanka, "Him who is the source of all things." In his nothingness, in his lamentations, he realizes oneness with all that is. Obeying strictures and ritual space, and in prayer and dream for days, he receives guidance and wisdom. In his vision-dream-and-experience state, he encounters animals as

messengers, animals approaching, silently observing, and finally informing and affirming. The state of sleep-dream at the bare mountaintop, interlaced frequently with waking and praying, is more than “dream” – it is a teaching and a learning from Wakan-Tanka and spirit guides. It is input from something more than the dreamer. When he is finished, he returns to a communal ceremony and reception, and delivers his lessons and experiences to the community of interpreters.⁴

The key distinction I would like to make separating these two pictures of the dream state is not merely between a mechanical process and an active, lucid journey. It is between a closed system (the solitary “auto-activated” mind brain) and one radically open and receptive to (spiritual) input from outside of itself. Specifically, the latter is a vision of a person receiving knowledge and power, a person becoming a link in the path of entanglement by which spirit runs through one and all, and all are only in relation to other. It is through the linking – establishing a relationship – that wisdom (and care and love) and meaning, pass one to another.

These two ways – dream as communication, dream as internal phenomenon – seem radically disjointed. One vision connects the dreamer to a wider reality-framework of meaning; the other posits the dreamer as “meaning”-maker, at best effectively processing the events that weigh on her consciousness. By what avenues might these two interpretations begin to speak to each other? Neurological studies such as Hobson’s would seem, like their image of the dreaming mind shut off from the outside world, to be closed to any theory that sees dreams as directly receptive of messages from outside actors or forces or from a wider reality.

But neurological studies cannot be trusted to get a comprehensive grip on the kind of radical connectedness that dreamers sometimes report. Kelley Bulkeley points out that laboratory researchers simply cannot gain access to much of the material that makes dreams interesting in the first place, for sleep labs reveal only a person's most recent dream, no matter how banal (and even the content of dreams is actually constrained by the lab environment). These passing shrouds have little to do with the most memorable, intense, vivid and meaningful dreams – those which seem to be saying something to the dreamer.⁵ Other kinds of dream study – in particular, cultural studies of the content and context of significant dreams – can furnish a wealth of valid dream data that are beyond the scope of neurological studies, and this fact indicates that the neurological interpretation of dream states lacks the *gravitas* to stand alone. It seems a wider dialogue is necessary.

Bulkeley proposes that one way of opening up the dialogue is through the determined pursuit of cultural studies of dreaming, which can pry open a different and valid scientific frame of reference from a strict neurology – while avoiding the taint of a century of psychoanalytic speculation.⁶ Without a doubt, though, the problem will remain that granting great richness of meaning to dream contents is not the same thing as accepting that that meaning is being delivered to the dreamer, in some immediate and personal sense, from a wider external community beyond signals from the brain-stem.

One set of interpretive tools from the contemporary science-and-religion dialogue may help to bridge this gap. Multilevel theories of complex dynamic systems account for “global properties that are not predictable from their components.” Their “emergent properties” arise in pockets of higher-level order within a collection of systems operating at ascending levels of complexity, each having qualities that are only describable on its own terms. This understanding has been applied to such problems as weighing the determining influences of genes and culture, or distinguishing the conscious mind from the neuronal level.⁷

A multilevel theory would allow dreams to be understood as properties emerging from the neurological substrate. Without invalidating the lower level of explanation, such a theory asserts that the phenomena cannot be explained entirely in that level's terms. This is the difference between describing a dream element as an "epiphenomenon" or as an "emergent property"; obviously the latter is a more congenial frame. A question remains, though: must events at higher levels be *determined* by events at lower levels, or can they themselves be causally effective? For comparison, consider the case of culture versus genes: in the context of culture – an assemblage of individuals who are open, interacting, and influenced by each other – causal connections can easily be posed. For Ian Barbour, for example, cultural evolution trumps genetic determinism and biological evolution, as cultural innovation replaces mutations as the critical source of innovation, and as the transmission of information occurs through cognition and culture, not genes.⁸

With respect to dreams, though, it seems to me that this openness to influence becomes much more problematic from a scientific perspective. Dreams occur, ostensibly, in the enclosed privacy of the solitary head on the pillow – so where is the communication from outside to come from? Bulkeley points to a somewhat safer route when he raises the idea that perhaps there is an emotional connectedness, an intuitiveness about those to whom we are close, that is in some way picked up on during waking life; but, that while awake, we must attend to a vast stream of sensory perception, and this other data – obtained through the occluded receptive capacities of waking life – can only be *put together* in a dream state.⁹ Could even random firings from the brain stem then trigger processes of relating and ordering that reflect the latent realities of the original data, forming it into an interpretive knowing that is inaccessible in waking state? Such connection-making would, in its own way, re-form the mind-brain as surely as waking experiences do, and would leave its traces on the mind, whether consciously "known" in a later waking state, or "forgotten," as most dreams are.

Nonetheless, these solutions are far short of the *experience* Black Elk describes – a real bird-spirit speaks to the visionary; he learns directly from this communication things he would otherwise not have access to. The moment is not taken to be a reconstruction of prior perceptions, but an actual conversation with an actual other being. Looking for the point of engagement between scientific and religious perspectives, we are left asking: by what open channel are the dreamers' neurons affected and activated?

BIBLIOGRAPHY

Barbour, Ian. *Religion and Science: Historical and Contemporary Issues*, revised and expanded edition. New York: HarperCollins, 1997.

Hobson, Allan J.. *The Dreaming Brain*. New York: Basic Books, Inc.

Peacocke, Arthur. *Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human*, enlarged edition. Minneapolis: Fortress Press, 1993.

Tedlock, D. and Tedlock, B. *Teaching from the American Earth*. New York. 1975.

ENDNOTES

¹ Allan J. Hobson, *The Dreaming Brain* (New York: Basic Books, Inc.), 204-206.

² Ibid, 209-210.

³ Ibid, 212-214.

⁴ D. Tedlock and B. Tedlock, *Teaching from the American Earth* (New York, 1975).

⁵ Kelley Bulkeley, in-class discussion, Native American Studies 190, U.C. Berkeley, March 20, 2001.

⁶ Ibid.

⁷ Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human*, enlarged edition (Minneapolis: Fortress Press, 1993). 219.

⁸ Ian Barbour, *Religion and Science: Historical and Contemporary Issues*, revised and expanded edition, (New York: HarperCollins, 1997), 255.

⁹ Bulkeley.