

# Comments on "A Neurobiological Model for Near-Death Experiences"

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Juan C. Saavedra-Aguilar and Juan S. Gómez-Jeria present the readers of this Journal with the most sophisticated and comprehensive neurophysiological model for near-death experiences (NDEs) ever to appear in print. We commend their efforts to connect the psychological with the physiological. In our own work on out-of-body experiences (Gabbard and Twemlow, 1984), we noted the importance of Herbert Feigl's identity thesis (Feigl, 1975), namely, that mind is brain in action. However, as sympathetic as we are to their valiant effort, we must comment on several shortcomings of their model.

A central problem with the physiological explanation proposed by Saavedra-Aguilar and Gómez-Jeria is that it is far too nonspecific to be useful in elucidating a phenomenon as specific as the near-death experience. The authors draw parallels between temporal lobe seizure phenomena and NDEs. In cataloguing the mental phenomena that

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often accompany partial complex seizures deriving from the temporal lobe, the authors include somatosensory phenomena, motor phenomena, autonomic phenomena, hallucinations or illusions in all sensory modalities, emotions, and a myriad of other human experiences. What other mental phenomena are left? Virtually all meaningful human experience has connections to the limbic structures that the authors cite as central to temporal lobe seizure phenomena. In other words, since motor, sensory, autonomic, cognitive, perceptual, and emotional phenomena are all connected with the limbic system, to assert that NDEs originate in that neuroanatomical locus is of limited heuristic value.

There is yet another problem with the use of temporal lobe seizure phenomena as an analog to the near-death experience. The authors leap from phenomenological similarity to the presumption of similar causation. This direct linkage bypasses the psychological realm, in which unique conscious and unconscious issues contribute to the end-product of brain functioning. Like all other mental events, NDEs result from the interplay of a variety of factors according to the principles of overdetermination and multiple causation. As we noted elsewhere, the proponents of neurobiological models make a "fundamental error in assuming that because certain perceived phenomena are similar, they can be presumed to have the same underlying cause. Phenomenological similarities abound in nature, without adherence to unicity" (Gabbard and Twemlow, 1984, p. 131).

Like most models of the NDE, this construct proposed by Saavedra-Aguilar and Gómez-Jeria can only account for *some* of the accumulated data. Critical to their formulation is one of two triggering mechanisms: hypoxia/ischemia or stress. In their view limbic discharges must be precipitated by either of these factors. While they acknowledge that proximity to death does not appear to be a requirement to produce an NDE, they assert that NDE subjects who are not near death are nevertheless in a stressful situation. In our own work (Gabbard and Twemlow, 1984), we reported five subjects who had classic NDEs without being near death. At least three of those five subjects had no physical or mental stress whatsoever at the time of the experience. On the contrary, they were in states of physical relaxation and mental calmness. In light of those reports and others, the authors' statement that their model is in agreement with all existing relevant scientific evidence is erroneous and makes the generalizability more limited than they imply.

The authors' tendency to overlook or misinterpret data that are not in keeping with their model is also a problem in their attempt to

correlate out-of-body experiences (OBEs) with various personality variables. They assert that "OBEs seem to correlate with personality variables like absorption, imagination, introversion, internal locus of control, and narcissistic personality (Lukianowicz, 1958; Tobacyk and Mitchell, 1987)." The first reference they cite is, in fact, unrelated to out-of-body experiences. It focuses on autoscopic phenomena, involving the appearance of a double of one's self, without the subject ever having experienced his or her mind as separate from the body. The findings of the second reference were actually diametrically opposed to what Saavedra-Aguilar and Gómez-Jeria assert. Jerome Tobacyk and Thomas Mitchell, in fact, did not measure absorption, imagination, locus of control, or introversion. They wrote: "... college students reporting out-of-body experiences showed no evidence of less effective personality adjustment than that of nonreporters based on scores from assessment instruments for death orientation, defensive style, narcissism, self-concept, and social desirability" (1987, p. 369). They concluded that subjects with out-of-body experiences were virtually indistinguishable from subjects who had never had OBEs by all psychological criteria used in their study.

We applaud the authors' cautious approach to the problem of understanding the near-death experience. We share their concern that sober scientific investigation is urgently needed in a field where leaps of faith are commonplace. We sincerely hope that this opportunity to exchange ideas about their model will stimulate further research.

## References

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