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Letter to Editor

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Ability to gain religious experiences as a part of cognitive abilities

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I eagerly studied Sayadmansour's article.¹ To my knowledge, this is the first study introducing neurotheology to Iranian readers. However, the article is more than just an introduction and many interesting points can be found among the lines; a particularly remarkable point was including some elements like numbers and better performance of brain through following a series of mathematical systems that are also presented in Islam and Shi'a. The present article can be an opening for a new study due to the fact that most neurotheology studies have been conducted on faithful followers of Christianity and Buddhism and new studies on Muslims can open a new window into the field.

The author correctly refers to the necessity of establishing a relationship between neuroscience and theology and the point that this can lead to achieving new insights in the field of neuroscience and the manner of human exposure to the surrounding world as well as promoting theological perceptions; however, I believe that the article does not determine the position of neurotheology. We cannot figure out the limits of neurotheology and more importantly, unfair expectations from this newfound science after studying the article. In my opinion, only a historical outlook to neurotheology can answer this question.

Perhaps one of the primary objectives of neurotheology was demoting religious and mystic experiences to neurophysiologic activities. God Helmet made by Michael Persinger² was a true picture of the same belief. It was actually an apparatus through which, the temporal lobe was exposed to a weak magnetic field. Persinger has reported that many of the examinees had a "sensed presence".2 He concluded that most mystical experiences are associated with the temporal lobe, and they can occur merely by stimulating the temporal role without the presence of a religious object. Although Persinger's work was criticized, searching for a God spot continued. Newberg et al.3 has also conducted remarkable studies on the same field. Following a research on Buddhist monks using single-photon emission computed tomography, Newberg cited that feeling of integrity with the world seen in different mystical schools results from the reduction in the parietal lobe activity.3 Studies brought hope for scientists to define a neurophysiologic framework for mystical experiences. Yet, studies of Beauregard carried out using functional magnetic resonance imaging showed that mystical and religious experiences, like many other higher cortical functions, are complicated, and several spots are involved.⁴ In other words, there is no God spot. This might seem to be a hasty assumption, but the complexity of religious experiences imply that such experiences might be a part of human cognitive abilities that grows; at the same time, with others such as language, dream, and reasoning; that is, the human brain is planned to acquire religious experiences through evolution and natural selection. The process does not suggest that religious experiences are originated from our cognitive power; instead, it just shows that our brain is quite ready for acquiring such experiences.

A short response to "Ability to gain religious experiences as a part of cognitive abilities"

Alireza Sayadmansour¹

First of all, I would wholeheartedly like to thank the sender of the letter for his/her concentration upon my most recent publication. The letter has definitely been written with an open eye on current neurotheological literature. There are a few illustrating point to raise though (my essential words are italicized).

As neurotheology is an emerging (newly born) field of study, both in terms of content and applicability, it sounds quite difficult to ascertain the field's position among many more. Accordingly, to determine the boundaries of neurotheology is to be a matter of understanding its *multidisciplinarity* drawing attention to the intersection of the brain and religion from at least seven divergent fields. Having pursued current neurotheological debates, one can find out the fact that the sender is right-minded about maintaining that "only a historical outlook" (which is *future-orientedly progressive*) can supply curious minds with an appropriate response to the question whether or not we can disclose "unfair expectations from this newfound science".

As for the colliding utterance which reminds us about "perhaps one of the primary objectives of neurotheology" as such, is to *degrade* spiritual experiences to "neurophysiologic activities", I should warn the readers against such a reductionistic standpoint! To me, future neurotheological scholarship must seek for a potentially better

evaluation of the specifics of distinctive brain processes so as to determine if and how they belong to religious concepts in general. Generally speaking, there are two main possible attitudes toward neurotheology: the first attitude throws light of inquiry upon neurothological issues from a theospiritual perspective according to which a real religious entity compels the brain to generate religious experiences; therefore, the arrow of neurotheology extends from religion to the brain causally. Conversely, the second one considers the arrow as extending from the brain (more empirically seen) to religion. In other words, many neuroscientists tend to treat theo-spiritual experiences as originating from neurophysiologic processes. That is why Newberg and D'Aquili speak enthusiastically of "photographs of God".5 Ultimately, I encourage readers to have both arrow-directions in mind when conducting research on neurotheology.

Conflict of Interests

The authors declare no conflict of interest in this study.

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