

THE ‘GOD HELMET’ AND NEURO-SPIRITUALITY : THE PEDAGOGICAL RAMIFICATIONS FOR RELIGIOUS AND MORAL EDUCATION

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Abstract

What if we could recreate a religious experience by simply flipping a switch in the brain? What if we could produce the feeling that someone or something is watching over us on demand? According to neuroscientific research conducted with The God Helmet, this may be possible. The God Helmet is the popular name given to a laboratory apparatus called the “Koren Helmet”, after Stanley Koren of Laurentian University’s Neuroscience Department, who built it for Dr. M.A. Persinger, director of the programme. Used as a research tool to investigate the brain's role in religious and mystic experiences, the Koren Helmet has been given the name God Helmet. A few Journalists gave it this name when they learned that some people had visions of God while participating in Koren Helmet experiments. The Koren Helmet is connected to a PC computer through a 'black box' which cycles the signals through four coils on each side of the head over the temporal lobes of the brain. The temporal lobes are the area of the brain many researchers feel is the source of spiritual and religious experiences. The hypothetical question is: Can the God Helmet be used to improve the quality of moral or religious education? This paper discusses this question and suggests a possible line of research to investigate this issue further.

[Keywords: God Helmet; neuro-spirituality; moral education; religious education; technology and religion.]

Introduction

Can we artificially induce religious experiences in people? Believers never question whether or not god is real. However it has been suggested by neuroscientists that god may in fact be a product of the human mind. Recent discoveries in neurobiology have led some scientists to believe that there may be a specific part of the brain that causes religious feelings in humans.

God Spot

Dr. Persinger has designed a helmet that produces a very weak rotating magnetic field of between ten nanotesla and one microtesla over the temporal lobes of the brain. This is placed on the subject's head and they are placed in a quiet chamber while blindfolded, so that there is no risk of 'suggestion', the only information that the subjects are given is that they are going in for a relaxation experiment. Neither the subject nor the experimenter carrying out the test has any idea of the true purpose of the experiment. In addition to this, the experiment is also run with the field switched both off and on. This procedure Dr. Persinger claims will induce an experience in over 80% of test subjects. (Dr. Michael A. Persinger is a cognitive neuroscience researcher and university professor with over 200 peer-reviewed publications. He is based at Laurentian University, located in Sudbury, Ontario, and is the Director of Laurentian University's Mind Consciousness Research Laboratory.)

Dr Persinger hypothesizes that religious and spiritual experiences originate in the temporal lobes and uses this experiment to demonstrate that electromagnetic stimulation of the temporal lobe can simulate spiritual and other-worldly experiences. The temporal lobe has been identified as a possible "god spot" in the brain, as temporal lobe seizures have been known to induce personality changes including increased "philosophic religiosity"(1). Dr. Persinger has suggested that belief in god, specifically spiritual experiences in which one feels as if they are interacting with god may stem from seizures or electromagnetic stimulation in the temporal lobe of the brain.

God Helmet

In order to test his theory, Persinger developed the "god helmet", which emits weak electromagnetic fields that are meant to stimulate the temporal lobe (2). In this paper I would like to explore the idea of the "god spot" in the brain, through both Persinger's "god helmet" experiments and other similar ones. The temporal lobe is the part of the brain containing the hippocampus and the amygdaloid nucleus. The temporal lobe contributes to auditory perception, language, memory, and emotion (3). Temporal lobe seizures are referred to as

simple partial seizures, and can be caused by a variety of agitators, including traumatic injury, infection, stroke or brain tumor. The seizures can produce visual, olfactory or auditory hallucinations, or odd emotional changes (3). Temporal lobe seizures can often cause feelings of euphoria, or fear (3). Patients who have had temporal lobe seizures can often experience noticeable personality change such as humorlessness, obsessiveness or an increased faith in god (3).

In conducting his "god helmet" experiments, Persinger studied a number of cases in which patients claimed to have had religious visions, or to have communed with God in some way, that may have been effected by increased electromagnetic stimulation to the temporal lobe (4). One of these cases was a young woman who had felt a presence, which she believed to be God, late at night (4). During these instances of a sensed presence, the woman felt stimulation



in her vagina and uterus and claimed to feel the outline of a baby on her left shoulder (4). She interpreted this stimulation as a signal that God had chosen her to have a child (4). It was then discovered that the young woman had sustained injuries to her left frontal lobe as a child, which had never caused any irregularities up to that point (4). The young woman did, however, sleep with an electronic clock close to her head which may have evoked an electromagnetic field strong enough to cause electrical seizures in the temporal lobe (4). In the god helmet experiments, Persinger used eight electrodes on the scalp, along with a helmet which contains sensors to stimulate the right temporal lobe with low electromagnetic fields (5). Persinger's goal in this experiment is to cause the patient to experience a "sensed presence" in the room as a result of stimulation to the temporal lobe (4). 80 percent of participants in Persinger's experiment reported feeling a sensed presence while the magnetic fields were stimulating the temporal lobe (5). However, many patients did not recognize God as the sensed presence, or have any other religious awakening (5). Persinger has accounted for this difference by stating that temporal lobe sensitivity varies individually, and that people who have temporal lobe epilepsy may be particularly susceptible to magnetic fields (5).

God Spot Disclaimers

Other experiments have been conducted that explore the possibility of a god spot, that do not focus on stimulation of the temporal lobe in order to create a religious experience, but instead attempt to track which elements of the brain are activated during an organic religious experience. Mario Beauregard, of the University of Montreal, performed an experiment on over a dozen cloistered nuns who had all reported feeling an intense union with god (6). The nuns were placed in an MRI and asked to relive the experience in their minds. The MRI scans showed that when the nuns recalled the memory of an intense experience with god, multiple parts of the brain were activated rather than a singular area (6). Andrew Newberg of the University of Pennsylvania conducted a similar experiment, in which he studied the mind of a Buddhist man during meditation through radioactive tracers in the man's bloodstream (5). Newberg found that the temporal lobe was activated while the man was meditating (5). However, Newberg also found that the parietal lobes, which provide perception of the body and the space around it, were almost completely inactive during the height of meditation (5). Many claim that these experiments refute Persinger's theory of the temporal lobe as the "god spot". While there may be specific triggers for "spiritual experiences", it seems illogical that there would be one specific site in the brain that creates a faith in god. These experiments attempt to address faith as existing outside of the I- function, as if the concept of God were the result of specific brain functions. However, it seems that Religion and faith are far more complicated than that, and most certainly heavily influenced by the social and cultural environment in which one was raised, and the experiences we have. While these experiments have successfully proven that cathartic religious experiences may often have neurological roots, it seems that faith and religion must be a part of the I-function. While there may be "god spots" in the brain that generate religious impulses, it is the way that our brain interprets these spiritual instincts generated by these spots, or other cultural, social or personal experiences, that creates our faith.

In December 2004 *Nature* reported that a group of Swedish researchers led by Pehr Granqvist, a psychologist at Uppsala University in Sweden, had attempted to replicate Persinger's experiments under double-blind conditions, and were not able to reproduce the effect. The study was published in *Neuroscience Letters* in 2005. Granqvist *et al.* concluded

that the presence or absence of the magnetic field had no relationship with any religious or spiritual experience reported by the participants, but was predicted entirely by their suggestibility and personality traits. Persinger, however, takes issue with the Swedish attempts to replicate his work. "They didn't replicate it, not even close," he says. He argues that the Swedish group did not expose the subjects to magnetic fields for long enough to produce an effect, but Granqvist *et al.* respond that Persinger agreed with their proposed methodology beforehand and they stand by their replication.

TLE and Spirituality

The correlation drawn between temporal lobe epilepsy and religious experience, as discussed by Persinger, has been questioned. The auditory and visual hallucinations as well as emotional states experienced by Temporal Lobe Epilepsy (TLE) patients during the seizure state typically induce sensations of malcontent, rather than ecstatic or pleasant sensations that are integral to spiritual experience, as noted by neurologist John R Hughes: "Auditory and visual hallucinations are very uncommon in epilepsy. Epileptic phenomena are nearly always brief and primitive, like light flashes" Persinger insists that even though only a small percent of TLE seizures include religious experiences, the study of these individuals nevertheless provides important evidence concerning the neural basis for religious and mystic experiences.

One published attempt to test Persinger's theories regarding the psychological effects of environmental magnetic fields, used whole-body exposure to magnetic fields and ultrasound in freely-moving participants to create a "haunted room" within which it was hoped subjects would sense a "presence." The study found that reports of unusual experiences were uncorrelated with the presence or absence of "complex" environmental electromagnetic fields similar to Persinger's. Reports of unusual experiences *were* however, predicted by the personality characteristics and suggestibility of participants.

The "God Helmet" is a misleading name. It gives the impression that it can produce the experience of God. In fact, only one percent of the subjects had the experience. It also passes over the crucial role of sensory deprivation—above all, the completely silent environment provided for the subjects. In contrast to the one percent who "saw God", 80% of the subjects felt a presence of some kind, but did not call it God. This is an interesting bit of neuroscience. It may well be that Dr. Persinger can, in fact, **simulate** spiritual and religious experience by electromagnetic stimulation of the temporal lobe. However, it is not surprising that electrical stimulation of this part of the brain results in visual hallucinations and other perceptual disturbances. Rather than simulating religious experiences, Dr. Persinger is merely simulating **Temporal Lobe Epilepsy (TLE)**, where endogenous electrical discharges in the temporal lobe produce a classic spectrum of symptoms such as auditory/visual hallucinations, déjà vu, jamais vu, taste/olfactory hallucinations, dysphoria, euphoria, out-of-body experiences and intense emotions such as fear and anger. So rather than finding the origin of God, Dr Persinger has merely stimulated the neuro-anatomical area responsible for temporal lobe epilepsy!

If we grant, for the sake of argument, that the temporal lobes are the seat of spiritual experience, Dr Persinger has made another unwarranted and unsupported assumption. He assumes that the temporal lobes are the endogenous *origin* of spiritual experience or God-

perceptions. He has in no way proven this. It is also equally feasible that, rather than being the origin of such endogenous and internal experiences, the temporal lobes are merely a “**tuner**” or “**spiritual antenna**” for religious experiences. It makes sense that if God made us to be able to communicate in a supernatural and spiritual way, He would also give us the equipment with which to “tune in” to God. So Dr Persinger’s experiments may have directed us to the temporal lobes as the possible neuro-anatomical **mediator** of religious and spiritual experiences, but by no means has demonstrated that it is the **origin** of such experiences.

In the same way, merely observing the temporal lobes being more active during prayer or spiritual experiences (for instance on functional MRI) by no means proves this area of the brain to be the **origin** of such experience. It merely demonstrates that this is the part of the brain being utilized during prayer and religious experience. The source of such experience could originate, and in my opinion, in fact does originate from **outside** the person – from an external transcendent source we commonly call God.

God Helmet in the Classroom

Having said all that, I propose to take up Persinger’s challenge and test his god helmet in the context of the classroom. This is not to attempt to prove or disprove his claims, but rather to explore the pedagogical possibilities of neuro-spiritual stimulation for the enhancement of religious and moral education. The study will be conducted at the International Islamic University Malaysia, Gombak, involving participants from the Kullyyah (Faculty) of Islamic Revealed Knowledge and Human Sciences. It will be a qualitative phenomenological study of the subjective experiences of ten *huffaz* (Quranic memorizers), under the influence of Persinger’s “god helmet” or something very similar. The main purpose of the study is to ascertain the qualitative differences among the *huffaz* in their “Persinger” experiences. (These *huffaz* have undergone intense Quranic immersion and reflection through memorization and constant recitals.) They would presumably be perfect subjects to experience the sort of experiences described by Persinger, Beauregard and others in the neuro-spirituality research domain. It is hoped that much can be learned from the unique subjective experiences of these *huffaz* to shed light on the enhancement of Islamic education in general.

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