

The Human Brain is a Receptor for the “Waves” of God

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Abstract

The theme of mystical experience has been addressed in numerous works. Normally, mystical experience is defined in a general way as a state of ineffable feeling, so that the one who experiences such a situation is unable to verbally convey its importance and content, providing a glimpse of the vast omnipresence that underlies all reality.

The aim of this paper is to make as detailed a classification as possible of the concept of “mystical experience” and its relationship with brain activity.

On the other hand, an attempt is made to debate through reasonable arguments a unique aspect of the human brain: the potentiality it possesses for the necessary being (God) to act in this complex organ and at the same time promote its capacity to transcend with the participation of the human person.

Keywords: Human Brain; Receptor; “Waves” of God

Definition of the mystical experience

Martín Velasco speaks of the difficulty in specifying the meaning of mystical experience, since it is a term used in a variety of senses, so different and distant that they make it imprecise and vague. What happens with this term is what happens with others, which by dint of overusing them end up losing their limits [1].

Therefore, when speaking of the mystical experience, it is convenient to specify what is being spoken of in order to circumscribe the subject in an adequate way.

The mystical experience is understood as an experience of direct contact, interaction or communication with a higher reality, God. Most important of all, the mystic’s first word is God, known and experienced as love. It is the point of arrival of all experience: the knowledge of God. In general terms, three types of mysticism can be distinguished. The “ordinary” mysticism, attainable by all and which can be manifested in prayer, interior recollection, locutions; the “special” or “peculiar” mysticism, such as the granting of charisms; and the “extraordinary” mysticism, with gifts that usually break the laws of nature such as hearings, ecstasies, visions..., and that God grants to very specific people [2]. An example of this type of experience is Christian mysticism.

Another different phenomenon is the mystical experience of the Eastern type. In it, silent, isolated interiority is sought. It would be a meditation without God. There is no commitment to the world, since the goal is total detachment from the world, the search for the extinction of the self. One would experience the dissolution of the self, but not to meet God as in the previous case, but to merge with the universe, one becomes one with the totality in a sense of timelessness. With this you can achieve a state of stillness of desire. An inexplicable feeling. In this type of meditation there are no boundaries between God and the creature. There is no personal concept of God nor is there dialogue between God and the person. It is a natural phenomenon caused by the individual himself [3].

There are other mystical phenomena that we could call “numinous”, which can be produced by psychoactive substances, in which there can be a vast plurality of elements and different nuances in which beliefs, forms of behavior, ritual practices, symbolic systems and subjective experiences can be mixed. The numinous experience is a non-rational experience whose primary and immediate object is beyond itself, and presents itself as an all-embracing presence, in a condition in which the human being is completely bewildered. The sensation may come suddenly as a gentle tide that permeates the mind with a calm mood. There may be a loss of a sense of space and time; positive feelings of peace and deep joy; experience of happy absorption, feelings of vitality and physical and mental well-being [4].

Mystical delusions are of pathological origin and are characterized by the variegated nature of religious ideas with a certain tendency to extravagant and exaggerated asceticism, as well as excessive religious practice. The delirious mystic seeks to find the rhetorical figure of a terrible god who restores and puts a stop to the horrific internal panorama that breaks and undoes him. In the delirious state, God’s voice is soon heard in the form of prophetic messages, announcements, or commands. The patient usually suffers from visual hallucinations of a celestial nature. The difference between the mystical delusions of a mentally ill person and the mystical phenomena that virtuous people whose life trajectory is marked by the love of God can have is evident [5].

A well-known symptom of temporal lobe epilepsy is religious ecstasy that some patients have experienced during a seizure. This phenomenon would also be framed within the pathological origin that can give rise to a sensation of these characteristics [6].

The mystical experience and its relationship with brain activity

A large percentage of studies focused on prayer and meditation using Functional Magnetic Resonance Imaging (fMRI) [7] have highlighted the correlation of nerve structures in relation to mystical experience. It is worth mentioning that not all facets that can occur in experiences of these characteristics can be the object of research with this neuroimaging technique. I am going to point out two forms of mystical experience that have been studied with FMR: Christian prayer as an ordinary experience and meditation of the oriental type. Later I will refer to non-invasive brain stimulation that can probably be related to a mystical phenomenon probably of a “numinous” type.

Christian prayer

Mario Beauregard and Vincent Paquette identified the neural correlates of a mystical experience by fMRI. The brain activity of 15 Carmelite nuns, in perfect mental state, was measured while they were subjectively in a state of union with God through prayer. This state was associated with significant brain areas of activation in the right medial orbitofrontal cortex,

the right medial temporal cortex, the right inferior and superior parietal lobes, the right caudate, the left medial prefrontal cortex, the left anterior cingulate cortex, the left inferior parietal lobe, the left insula, the left part of the caudate, and the left brainstem. Other activation locations were observed in the extra-striatal visual cortex. These results suggest that prayer with God activates several brain regions and systems [8].

Uffe Schjoedt used fMRI imaging to investigate brain activity when performing an impromptu prayer in a group of Danish Christians. The improvised prayer activated the temporo-polar region, the medial prefrontal cortex, the temporo-parietal cortex, and the precuneus. This finding supported the hypothesis that religious subjects, who regard God as “real,” are able to activate areas of social cognition when they pray. They argued that praying to God is an intersubjective experience comparable to “normal” interpersonal interaction. In terms of brain function, these results suggest that the participants who prayed thought of God as a person rather than as an abstract entity [9].

Nina Azari and colleagues from the Department of Neuropsychology at the University of Düsseldorf explored the brain activities of participants reading the biblical Psalm 23, comparing a group of devout Christians with one of avowed atheists. During the recitation of the psalm, the religious subjects activated a frontal-parietal circuit, composed of the dorsumal lateral prefrontal cortex, dorsumal medial frontal and medial parietal cortex. Previous studies indicate that these areas play a profound role in maintaining reflective thinking assessment [10].

Oriental meditation

Kieran Fox systematically reviewed 78 functional neuroimaging studies (fMRI and PET) [11] of people practicing meditation as an Eastern practice. They found patterns of brain activation and deactivation for four common styles of meditation (focused attention, mantra recitation, open monitoring, and compassion/kindness), and suggestive differences for three others (visualization, retraction of the senses, and non-dual-awareness practices). The study supported neurophysiological dissociability from meditation practices [12].

A fMRI study investigated differences in brain activation during meditation between meditators and non-meditators. Meditators showed stronger activations in the rostral anterior cingulate cortex and dorsal medial prefrontal cortex bilaterally, compared to non-meditators. Activation of the superior rostral anterior cingulate cortex in meditators may reflect stronger processing of distracting events. Increased activation in the medial prefrontal cortex may reflect that meditators are stronger in emotional processing [13].

According to Newberg, in this mystical phenomenology of the Eastern type, there is no specific circuit, but there are many areas that appear connected in different ways, depending on the experience [14].

Brain stimulation and mystical phenomena

There has been research in which using a series of non-invasive brain neurostimulation methods such as transcranial magnetic stimulation and transcranial electrical current stimulation, they have activated brain areas related to mystical experience [15].

It is known that Dr. Michael Persinger, by means of transcranial magnetic stimulation, made several individuals believe that they had felt the presence of God or had had a similar mystical experience. Persinger devised a helmet with electromag-

nets that he placed on the head of a volunteer and created a weak magnetic field and discovered that this field caused bursts of electrical activity to appear in the temporal lobes, thus producing sensations that the volunteers described as spiritual [16].

Has the brain been thought of?

Various authors would say no. For them, the brain is nothing more than the product of biological evolution and blind forces, which would have developed units of information stored cellularly, together with sophisticated correction methods, introduced at random, to correct coding errors due to mutations. Therefore, the appearance of the brain in the world would be accidental and the decisive factors in the evolution of man were the increase in the size of the brain and its restructuring, that is, greater neurological complexity and a sudden acceleration of brain development.

To say that the brain obeys a design by a clairvoyant and superlative intelligence, which has used evolutionary processes to shape it, would be a debatable statement. Belief in God, as the ideologue of the brain, is nothing more than the expression of a universal human instinct inscribed in the genome. Thus, the brain would be genetically structured to generate this belief. Dean Hammer argues that the existence of an individual predisposition to belief is influenced by genetic factors, proposing the VMAT2 gene, underlying conscious and emotional states, as one of several genes that affect this tendency [17].

With this same argument, they consider that the mystical experience is only a product of neural activity.

The neuroscientist F.J. Rubia is one of those who opts for the opinion that the mystical experience would be nothing more than a certain functional state of the brain without there being any transcendent phenomenon or reality, so that it would be nothing more than a mere neurophysiological epiphenomenon. There would be nothing beyond that [18].

The prestigious Indian neurophysiologist V. S. Ramachandran also states that “all the richness of our mental life, namely, all our sensations, emotions, thoughts, ambitions, love lives, religious feelings, and even what each of us considers his own private and intimate self, is simply the activity of those little specks of jelly (the neurons) located in our heads, in our brains. There is nothing else” [19].

Grafman states: “The learning, representation, and expression of cognition and religious beliefs depend on brain networks (...). In the coming decades, we expect the neural basis of religious beliefs and practices to become an increasingly prominent focus of research for scientists who wish to uncover the mysterious workings of the human mind. This importance demands that we continue to provide a deeper understanding of religious beliefs by investigating their neural underpinnings” [20].

Therefore, for these authors, the brain is the origin of the idea of God and the experiential relationship with God is caused by a brain activity that occurs in a specific neural network, like other human experiences.

Now, if the brain has not been thought, how is it possible that it can think? Does reason come from unreason?

How is it possible that an organ that comes from a casual and random evolution allows it to have a transcendental dimension?

How can it be that one can speculate on the concept of eternity, in which there is no past or future, but a continuous present without end, if neurons have a temporal-spatial limitation and their number obeys a certain quantity?

The key is that these scientists ignore evidence that challenges their materialistic prejudices, clinging to the narrow view that our experiences are explainable only by neurobiological and neurochemical causes. However, scientific materialism cannot irrefutably explain the nature of a relational experience with God [21].

It is therefore highly coherent to emphasize that the brain has been thought of by “Someone” (God) who is capable of devising an organ of this complexity and beauty. An organ that is not only made up of atoms, molecular structures and particles governed by the laws of quantum physics, but that has “something” constitutionally immaterial that, forming a single nature with the brain tissue, allows operations to be carried out that intrinsically do not have a physical support, such as the presence of the “I”, of the will, of freedom and of the intellectual principle [22].

The “waves” of God

God is the one who initiates the mystical experience, it is not the brain that, independently, makes a random firing of a neural network. God has the initiative for this phenomenon to occur in the human person, although, in this experience, the brain has a metabolic activity as described above. It is important to understand that God works in anything insofar as anything needs His power to act. Its power is its very being and is within anything, not as part of its essence, but as sustaining it in being [23].

If God awakens the mystical experience in the person’s brain and therefore the establishment of a relationship with himself, it seems appropriate to consider the brain as a receiver of God’s “waves”, logically bridging all distances.

What would be the nature of God’s “waves”? Are they electromagnetic in nature? Electromagnetic waves are oscillations of electric and magnetic fields that propagate through space. They can move even in a vacuum. These waves are organized in the electromagnetic spectrum and include radio waves, gamma rays, microwaves, infrared, visible light, ultraviolet light, and X-rays.

Could they be equated to a magnetic field? A magnetic field is a region of space where a force is exerted on objects that have magnetic properties, such as magnets or ferromagnetic materials. This field is generated by moving electric charges, such as those found in a conductor through which electric current flows.

Could they be considered an ultrasound? Sound is a vibration that travels through a medium, such as air, water, or even solids. These vibrations are perceived by our ears and are interpreted in our brain as what we know as “sound”.

All these phenomena imply materiality. In fact, they are part of God’s creation. The nature of God’s “waves” is unknown, because it cannot be subjected to its own detectors used in the laboratory. They are neither electromagnetic waves, nor a magnetic field nor ultrasound. God’s “waves” are immaterial and intangible because God is immaterial, that is, he has no length, no width, no depth, no volume, no limits, no surface, no size, no place, no position, no direction; it is not possible to observe him, or touch him, or feel him, measure him, or see him.

If there is an immaterial reality in the brain forming a single nature with its neural matter, it can behave perfectly as a receiver of the “waves” of God. This immaterial reality will never be verified (but only inferred) in an experimental scientific study because it is not the object of this type of science.

God has promoted neural circuits and neurotransmitters that, forming a single nature with the human spirit, allow us to enter into communion with Him. This is not in contradiction with other potentialities that can arise from brain physiology nor with the pathology that can occur, distorting aspects and elements that are part of this nervous structure.

To speak of the brain as a receiver of the “waves” of God does not imply that this organ is a kind of antenna that upon receiving these “signals”, the person becomes a kind of bionic android acting accordingly.

It is precisely this receiver (of the person) that has autonomy. A person can perceive them in their brain and for the sake of their freedom, assent to that emission. However, it is also possible to reject them or be “impervious” to them. The relationship between the brain and the “waves” of God cannot be established as a mathematical equation, but rather as an extremely complex interaction. Although God is not accessible to the senses, He is accessible through His utterances. However, the knowledge we possess is not enough to understand how God acts, because, in addition, there is the mystery: there are divine actions that have no valid analogy with human actions. But there are other actions, if we are to understand God in some way, that do admit analogies [24].

In any case, God always has the initiative to send his “waves” and the human person, perceiving them in his brain, can accept or reject them. To better understand this concept, an analogy can be made, which will always be didactic and pedagogical, and will never explain in detail this relationship between God and the person through the brain.

In English there are two verbs that are used to refer to the action of turning on: “Turn on” and turn off: “Turn off”. A person’s brain can be turned on to receive God’s “waves,” i.e., be “On,” or it can be turned off and therefore “Off”.

It is not the purpose of this article to analyze and delve into why someone can have their brains “On” or “Off”. It depends on a series of circumstances and aspects such as education, culture, the influence of an ideological position, the training received, one’s own will, conduct and, ultimately, human freedom. However, these two situations are not static.

It is worth mentioning that animals, particularly large mammals, do not have this ability. Your brain is not wired to receive God’s “waves”. For this reason, among others, the difference between an animal and a human person, although there are common elements, is ontologically absolute.

Ordinary, charismatic mystical phenomena and extraordinary mystical experiences are stirred up by the “waves” of God.

The most common is that which is within everyone’s reach, and therefore, ordinary experiences are the ones that most frequently occur in people with a normal life.

Thus the “waves” of God, perceived in the brain and assumed, can illuminate (intellectually) the intelligence and can give an impulse to the will to assent to those revelations that God has made to human beings throughout history.

They produce an inner tendency to talk to God expecting a response from Him in a loving relationship.

They can arouse love and a longing for God himself.

They enable the human person to perceive that life has meaning.

Brain plasticity and conversion

Cerebral plasticity

The brain is continuously undergoing plastic remodeling. Plasticity is not an occasional state of the nervous system, but the state of normality throughout life.

Work has been carried out that highlights this functional and anatomical phenomenon. Thus, musical training has the necessary conditions to be able to study brain plasticity in humans, since it is one of the most complex and multimodal activities of daily life. The research yields highly relevant information on how the human brain is constantly reorganizing itself when faced with new demands or certain environmental influences. The research described above leads to account for the differences found between musicians and non-musicians. Musicians have structural and functional differences with non-musicians due to the intense training carried out throughout life [25].

There is a two-way correlation between human behavior and brain plasticity. The current findings have led to a greater understanding of how changes occur in both brain functioning and behavior [26].

It must be considered that behavior is determined by many components that are not directly visible, the result of previous learning, often not directly accessible to consciousness.

The brain, therefore, must have the ability to change dynamically in response to changing stimuli and demands.

Conversion

Christian conversion is a new birth. A mystical experience gives rise to a new life that begins, everything is transformed [27].

A conversion, among other things, entails a change in behaviour. This change is not necessarily sudden, but can be due to a more or less long process. It is only God who converts man. Conversion is always the consequence and fruit of the action of God’s “waves”.

It depends entirely on God’s free initiative. It surpasses the capacities of intelligence and the forces of human will. God’s “waves” are necessary to arouse and sustain the collaboration of the person, for without him we can do nothing. God’s free initiative demands the free response of the human being, that is, he must take on God’s “waves”.

In a process of Christian conversion for the love of God, the brain, which forms a spirit-neural unity, must undergo changes and modifications that are technologically imperceptible. It does not seem absurd to think that these changes are produced in some way by the action of the “waves” in question.

Therefore, although it is not possible to demonstrate this phenomenon experimentally, it is not without foundation. The action of God’s “waves” could produce a process of modulation through neural networks, followed, probably, by more stable structural changes. All this would promote modifications in the brain organization and changes in the behavior of the convert. Plastic variations in all brain systems would vary depending on the differences in existing connection patterns and in the molecular and genetic control factors that would define the scope, magnitude, stability and chronometry of neuroplasticity.

Conclusion

The property of the human brain has been reasonably emphasized, not only in terms of its neural structure but also in terms of a constitutionally immaterial element forming a single nature with the nervous tissue, for the relationship with God. In this interaction, brain activity has been identified and the possibility that there may be modifications in neuronal plasticity in this existential relationship cannot be ruled out. Therefore, not only can we know that God exists but we can love him freely, which results in joy by multiplying the capacity for happiness in the human person.

Bibliography

1. J Martín Velasco. “The mystical phenomenon. Comparative study”. Trotta (2009).
2. Sesé J Mística. “Dictionary of St. Josemaría Escrivá de Balaguer”. Editorial Monte Carmelo (2014).
3. A Muntané, *et al.* “The brain. The neurological and the transcendental”. EUNSA (2008).
4. Otto R. “The holy, the rational and the irrational in the idea of God”. Alianza Editorial, Madrid (1996).
5. A Muntané, *et al.* “The brain. The neurological and the transcendental”. EUNSA (2008).
6. Akira Ogata and Taihei Miyakawa. “Religious experiences in epileptic patients with focus on ictus-related episodes”. *Psychiatry Clinical Neuroscience* 52.3 (1998): 321-325.
7. T Labbé Atenas, *et al.* “Resonancia magnética funcional: principios básicos y aplicaciones en neurociencias”. *Radiología* 60.5 (2018): 368-377.
8. M Beauregard and V Paquette. “Neural correlates of a mystical experience in Carmelite nuns”. *Neuroscience Letters* 405.3 (2006): 186-190.
9. Schjoedt U, *et al.* “Highly religious participants recruit areas of social cognition in personal prayer”. *Social Cognitive and Affective Neuroscience* 4.2 (2009): 199-207.
10. Azari NP, *et al.* “Neural correlates of religious experience”. *European Journal of Neuroscience* 13.8 (2001): 1649-1652.
11. Agencia de Evaluación de Tecnologías Sanitarias (AETS) Instituto de Salud Carlos III - Ministerio de Sanidad y Consumo. “Tomografía por emisión de positrones con fluorodeoxiglucosa (FDG-PET) en Neurología”. Madrid: AETS - Instituto de Salud Carlos III (1999).
12. Fox KCR, *et al.* “Functional neuroanatomy of meditation: a review and meta-analysis of 78 functional neuroimaging investigations”. *Neuroscience & Biobehavioral Reviews* 65 (2016): 208-228.
13. Hoelzel BK, *et al.* “Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept Meditators and non-Meditators”. *Neuroscience Letters* 421.1 (2007): 16-21.
14. Newberg AB and Waldman MR. “How God changes your brain”. Ballantine Books (2009).
15. Crescentini C, *et al.* “Virtual lesions of the inferior parietal cortex induce fast changes of implicit religiousness/spirituality”. *Cortex* 54 (2014): 1-15.
16. M Persinger. “Neurophysiological basis of God beliefs”. Praeger Publishers, New York-Londres (1987).

17. Hamer DH. “The God gene. How faith is hardwired into our genes”. Doubleday, Nueva York (2004).
18. FJ Rubia. “Religion and the brain”. In F. Díez de Velasco and F. García Bazán (eds.), *El estudio de la religion*, Madrid, Trotta (2002).
19. VS Ramachandran. “The Labyrinths of the Brain”. Barcelona, La Liebre de Marzo (2008).
20. Grafman J., *et al.* “The neural basis of religious cognition”. *Current Directions in Psychological Science* 29.2 (2020): 126-133.
21. Beauregard M and O’Leary D. “The spiritual brain: A neuroscientist’s case for the existence of the soul”. HarperOne/HarperCollins (2007).
22. Amadeo Muntané Sánchez., *et al.* “Can neuroscience explain the global functioning of the brain?” *Cuadernos de Neuropsicología/Panamerican Journal of Neuropsychology* 14.1 (2020): 103-111.
23. González AL and Moros E. “Introduction, translation and notes De Potentia Dei, question 3 of Thomas Aquinas”. *Cuadernos de anuario filosófico* (1991).
24. Moros E. “On divine action in the world”. Science, Reason and Faith Group. University of Navarra (2010).
25. Justel N and Díaz V. “Brain plasticity: participation in musical training”. *Suma Psicológica* 19.2 (2012).
26. Kleim J and Jones T. “Principles of experience-dependent neural plasticity: Implications for rehabilitation after brain damage”. *Journal of Speech, Language, and Hearing Research* 51.S1 (2008): 225-239.
27. Van Der Leeuw G. “Religion in its essence and its manifestations”. *Phenomenology of Religion*, Paris: Payot (1970): 517-518.

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