

ON GOD INDETERMINISM AND NONLOCALITY

Narcis ZĂRNESCU*

Abstract. Since centuries, men have been “hunting” God. Questions as “which came first, God or the brain?” or “which came first: Religion or the brain?” are revealing a part of the human and universe drama concerning the consciousness and the belief. In this paper, I argue that an account of consciousness will involve both local indeterminism and nonlocality. I conclude by outlining the relevance of quantum mechanics to consciousness.

Key words: superconsciousness, neuro-theology, HVN, quantum coherence, bicameral mind, nonlocality

1. Since centuries, men have been “hunting” God. In other words, since some seconds in universe history, *id est* from a God perspective. It is unknown when the concept of God or gods was first developed, but it was likely recent in human history (10-50,000 years), as evidenced by the development of ritualistic behavior, construction of temples, etc. Questions as “which came first, God or the brain?” or “which came first: Religion or the brain?” are revealing a part of the human and universe drama concerning the consciousness and the belief. Most specific theories of consciousness – whether cognitive, neural or quantum mechanical – aim to explain or model consciousness as a natural feature of the physical world. David Chalmers (1996)¹ has promoted a version of panpsychism which appeals to the notion of information not only to explain psycho-physical invariances between phenomenal and physically realized information spaces but also to possibly explain the ontology of the physical as itself derived from the informational. Gregg Rosenberg (2004)² has offered an account of consciousness that simultaneously addresses the ultimate categorical basis of causal relations: in both the causal case and the conscious case, his theory argues the relational-functional facts must ultimately depend upon a categorical non-relational base.

1.1. The “traps” for capturing God are spreaded across the world. It was the the first (semi)virtual net, envisioned by humanity: rites, rituals, myths, religions,

* PhD, Editor in Chief “Academica” Romanian Academy’s Journal, Bucharest.

¹ Chalmers, D. 1996. *The Conscious Mind*. Oxford: Oxford University Press; *Idem*, 2002. In T. Gendler and J. Hawthorne eds. *Conceivability and Possibility*. Oxford: Oxford University Press; *Idem*, 2003. “The content and epistemology of phenomenal belief.” In A. Jokic and Q. Smith eds. *Consciousness: New Philosophical Perspectives*. Oxford: Oxford University Press.

² Rosenberg, G. 2004. *A Place for Consciousness: Probing the Deep Structure of the Natural World*. New York: Oxford University Press.

temples, churches. The first globalization. The laboratory of Michael Persinger is one of the most recent “traps”. This is the Persinger's quest for the God spot. For him, the Almighty isn't dead, he's an energy field. And the human mind is an electromagnetic map to the soul. The cognitive neuroscience researcher has tickled the temporal lobes of more than 900 people and has concluded that different subjects label this ghostly perception with the names that their cultures have trained them to use: Elijah, Jesus, the Virgin Mary, Mohammed, the Sky Spirit. But Persinger is not the first to theorize that the Creator exists only in the brain. In his 1976 book, *The Origin of Consciousness in the Breakdown of the Bicameral Mind*¹ Julian Jaynes argued that the brain activity of ancient people would have resembled that of modern schizophrenics (for the psycho-mechanism see Fig. 1, infra).

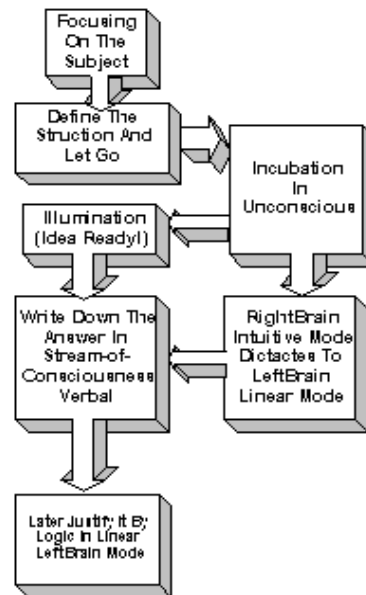


Fig. 1

He proposed that man had no consciousness until 1000 BC. According to the Jaynes' hypothesis, between 10 000 and 1000 BC the bicameral mind operated in humans. The left hemisphere was the site for speech, and the right hemisphere was the site for hallucinations that expressed voices and commands of gods and demons. Hallucinations were a normal phenomenon. The end of the dominance of the bicameral mind and the beginning of modern consciousness were caused by “the weakening of the auditory by the advent of writing, the inherent fragility of hallucinating control, the unworkableness of gods in the chaos of historic upheaval,

¹ Jaynes J. 1976. *The origin of consciousness in the breakdown of the bicameral mind*. Boston: Houghton Mifflin Company.

the positing of internal cause in the observation of differences in others (...) and a modicum of natural selection.”¹ Contemporary regressions to the bicameral mind include schizophrenia, possession states, religious prophecy, hypnosis and some other phenomena. In other words, Jaynes proposed that there are 3 forms of human awareness: the bicameral or god-run man; the modern or problem-solving man; and contemporary forms of throwbacks to bicamerality.²

Finally, according to Jaynes, it is a 'mental tool box' largely based on metaphor, and the 'invention' of subjective consciousness took shape in the course of centuries, thereby replacing the former mentality. This old mental make-up was what Jaynes calls the *bicameral mind*: a mind that was occupied by so-called gods, who directly spoke to man. Jaynes insists that these 'gods' were in no sense 'a way of speaking': «The gods were in no sense 'figments of the imagination' of anyone. They *were* man's volition»³. Jaynes inferred that these *voices* came from the right brain counterparts of the left brain language centres (cf. Wernicke's and Broca's area). These regions are dormant in the right brains of most modern humans, but some studies (Daniel Smith) show that auditory hallucinations correspond to increased activity in these areas of the brain.⁴ Smith describes the *Hearing Voices Network*, an advocacy group based in Great Britain.⁵ Building in part on the work of Marius Romme and Sandra Escher's *Accepting Voices* (1993) and Ivan Leuder and Philip Thomas's *Voices of Reason, Voices of Insanity* (2000), books that critique traditional psychiatric responses to voices, the Hearing Voices Network (HVN) offers support groups where people who hear voices can talk openly about their experiences. HVN is a radical departure from most modern psychiatric approaches, which generally view auditory hallucinations as mere symptoms of mental illness best treated with psychiatric pharmaceuticals.

1.2. Jaynes maintained that, like schizophrenics, the ancients heard voices, summoned up visions, and lacked the sense of metaphor and individual identity that characterizes a more advanced mind. He said that some of these ancestral synaptic leftovers are buried deep in the modern brain, which would explain many of our present-day sensations of God or spirituality. So, God could be defining as a stage of archaic and mythical consciousness or just as the human consciousness.

¹ Jaynes, *op. cit.*, p. 186.

² Lennox BR, Bert S, Park G, Jones PB, Morris PG. 1999. *Spatial and temporal mapping of neural activity associated with auditory hallucinations. Lancet*; **353**: 644.

³ Jaynes, *op. cit.*, p. 202.

⁴ Smith, Daniel. 2007. *Muses, Madmen, and Prophets: Rethinking the History, Science, and Meaning of Auditory Hallucination*. New York: Penguin. See too: "Janssen's A Virtual Hallucination: MINDSTORM". 1 December 2007. 24 August 2007. http://www.janssen.com/janssen/news_mindstorm.html.

⁵ See Smith, Daniel. 2007. "Can You Live with the Voices in Your Head?," in *The New York Times*. 25 March 2007. <http://www.nytimes.com/2007/03/25/magazine/25voices.t.html>.

1.3. A number of thinkers have attempted to define the next step in the evolution of human consciousness: Sri Aurobindo (the emergence of *superconsciousness*), Jean Gebser (the coming of *four-dimensional integral consciousness*), rising from the prior. Richard Bucke portrayed cosmic consciousness as the next evolutionary stage of human consciousness, following the simple consciousness of animals and the self-consciousness of contemporary humans. Ken Wilber's six-level evolutionary process leads from physical consciousness pertaining to nonliving matter through biological consciousness assort and with animals and mental consciousness characteristic of humans to subtle consciousness, which is archetypal, transindividual, and intuitive. It leads in turn to causal consciousness and, in the final step, to the ultimate consciousness called *Consciousness as Such*. Chris Cowan and Don Beck's colorful theory of spiral dynamics sees contemporary consciousness evolving from the strategic *orange* stage, which is materialistic, consumerist, and success-, image-, status-, and growth-oriented; to the consensual *green* stage of egalitarianism and orientation toward feelings, authenticity, sharing, caring, and community; heading toward the ecological *yellow* stage focused on natural systems, self-organization, multiple realities, and knowledge; and culminating in the holistic *turquoise* stage of collective individualism, cosmic spirituality, and Earth changes.

2. The study of consciousness as an object of scientific study is connected to the cognitive neurosciences, new methods of cerebral mapping (*imagerie*), for studying the living brain directly in humans and to have access to the neuronal correlates. There are essentially three methods.

The newest is *Magnetic Resonance Imaging* (MRI), and in particular functional MRI, which allows to measure the changes in haemodynamic alimentation of the different parts of the brain which become activated when a task is performed. In this way the images that the public has already been able to see are obtained: a brain with little patches of color.

The second method, *Positron Emission Tomography* (PET) resembles a scanner, such as those used for clinical analysis, producing slightly heavier images than in MRI.

The study of the brain's surface activity uses apparatuses for performing magneto-encephalograms, which makes it possible to measure the minute magnetic fields found on the surface of the head. These extremely precise magnetic fields, by means of mathematical elaboration of the data, supply a dynamic image of cerebral processes which can thus be observed from a new angle. The combination of these three systems--magneto-encephalography, PET (Positron Emission Tomography) and MRI (Magnetic Resonance Imaging) constitute the techniques which make the new cerebral mapping (*imagerie*) possible.

2.1. Francis Crick, a Nobel prize winner who together with Watson discovered the structure of DNA, has dedicated his life to the study of the brain, and is convinced of having identified the circuits responsible for the phenomena of consciousness. In his book, *Astonishing Hypothesis: The Scientific Search for the Soul*, Crick concludes that the human being with his joys and sorrows, his memories and ambitions, his sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules.¹ As Lewis Carroll's Alice might have phrased it: "you're nothing but a pack of neurons". Answering the question *Why Neuroscience May Be Able to Explain Consciousness* Crick and Koch affirmed: "We believe that at the moment the best approach to the problem of explaining consciousness is to concentrate on finding what is known as the neural correlates of consciousness the processes in the brain that are most directly responsible for consciousness. By locating the neurons in the cerebral cortex that correlate best with consciousness, and figuring out how they link to neurons elsewhere in the brain, we may come across key insights into what David J. Chalmers calls the hard problem: a full accounting of the manner in which subjective experience arises from these cerebral processes."²

2.2. Consequently to the progress made by Neurosciences in the study of consciousness, a Copernican movement arose to solve the problem of how neural matter translates into a psychic experience (Edelman, 1992³; Edelman & Tononi, 2000⁴; Damasio, 1994⁵; Solms & Turnbull, 2002⁶; Richerson & Boyd, 2005⁷; Siegel, 1999⁸; Ridley, 2003⁹).

2.3. In order to explain the brain's craftsmanship in composing the notion of God¹⁰, it is useful to rely on the brain's recognized potential to unconsciously

¹ Crick FC. 1994. *The Astonishing hypothesis*. New York: Scribners.

² Chalmers, David J. "The Puzzle of Conscious Experience" in *Scientific American*, December 1995, pp. 62-68.

³ Edelman G. Bright. 1992. *Air, Brilliant Fire: On the Matter of the Mind*. New York, Basic Books.

⁴ Edelman G, Tononi. 2000. *A Universe of Consciousness: How Matter Becomes Imagination*. New York, Basic Books.

⁵ Damasio A. 1994. *Descartes' Error: Emotion, Reason and the Human Brain*. London, Putnam' Sons, Penguin Books.

⁶ Solms M, Turnbull O. 2002. *The Brain and the Inner World. An Introduction to the Neuroscience of Subjective Experience*. New York, Other Press.

⁷ Richerson P, Boyd R. 2005. *Not by Genes Alone. How Culture Transformed Human Evolution*. New York, Other Press.

⁸ Siegel D. 1999. *The Developing Mind*. New York, Guilford Press.

⁹ Ridley M. 2003. *The agile gene. How nature turns on nurture*. New York, Harper Perennial.

¹⁰ Bartocci G. 2000. "The Cultural Construction of the Western Conception of the Realm of the Sacred: Co-existence, Clash and Interbreeding of Magic and Sacred Thinking in Fifth and Sixth Century". *Umbria. Anthropology and Medicine*, 7: 373-388; Bartocci G, Dein S. 2005. "Detachment: Gateway to the World of Spirituality". *Transcultural Psychiatry*, 42: 545-569.

recompose perceptions, stimuli, symbols and intuitions, converting them into images through a process connecting proto-images and protomeanings named by Crick and Koch *filling-in*¹. The filling-in process explains how experiential units of consciousness construct a complex “cultural” sensation. So, when there is an insufficient amount of visual information, the cortical networks *fill-in* the incomplete interpretation from the external environment, in order to provide significant correlations in their inputs: “In other words, the brain is very good at detecting apparent causation”. Crick and Koch to conclude: “Such filling-in is likely to happen in many places in the brain” until it is led to “jumping to conclusions”².

3. The split between mind and body or brain and consciousness or brain and God is equivalent to the split between religion and science.

3.1. According Francisco Varela, the problem of the *neuronal correlate of consciousness* is badly presented because consciousness is not in the head.³ Basically, consciousness is an emergence which requires the existence of these three phenomena or cycles: with the body, with the world and with others. So, the global consciousness is an effect of the global brain, the quasi-neural energy – and information – processing network created by six and a half billion humans on the planet, interacting in many ways, private as well as public, and on many levels, local as well as global. A quantum shift in the global brain is a fundamental transformation in the relations of a significant segment of the six and a half billion humans.

3.2. Advanced physical models are based on higher mathematics. For example, Andrei Linde at Stanford calls the cosmological model of a multiverse the «self-reproducing inflationary universe.» Based on advanced principles of quantum physics and on Alan Guth's inflation model, Linde's model includes multiple universes woven together in some kind of spacetime foam. Each universe exists in a closed volume of space and time. The quantum fluctuations in the universe's inflationary expansion period have a wavelike character that can create disruptions in scalar fields. The multiverse is like a growing fractal. Actually, his theory is based on two ancient religious and philosophical ideas about the universe: (1) it had a definite beginning, and (2) it had existed forever. Presently, on the other hand, it is not known whether quarks and leptons are elementary or

¹ Crick F, Koch C. 2003. “A Framework for Consciousness”. *Nature Neuroscience*, 6: 119-126.

² Crick F, Koch C. *op.cit.*

³ Van den Heuvel, M.P. et al. 2009. “Efficiency of functional brain networks and intellectual performance”. *The Journal of Neuroscience*, 29 (23), 7619-7624; Robinson, R. 2009. “Exploring the ‘global workspace’ of consciousness”. *PloS Biology*, 7 (3), 0415.

compound particles. Scientist are asking: Are quarks and leptons fundamental, or are they made up of even more fundamental particles? Poets or philosophers could answer: *Yes. There are even more fundamental particles: the Godons, from God.*

3.3. LeDoux proceeds to discuss affective phenomena: “Emotional feelings result when we become consciously aware that an emotion system of the brain is active. Any organism that has consciousness also has feelings. However, feelings will be different in a brain that can classify the world linguistically and categorize experiences in words than in a brain that cannot. The difference between fear, anxiety, terror, apprehension, and the like would not be possible without language. At the same time, none of these words would have any point if it were not for the existence of an underlying emotion system that generates the brain states and bodily expressions to which these words apply. Emotions evolved not as conscious feelings, linguistically differentiated or otherwise, but as brain states and bodily responses. The brain states and bodily responses are the fundamental facts of an emotion, and the conscious feelings are the frills that have added icing to the emotional cake.”¹

4. The scientists have not found yet the answer to the question: where is God living? In heavens? In tempels? In the hearts of believers? In laboratories? Could the Divinity be a magnetic field of 40 Hz^2 or 10^{30} Hz , the highest frequency of gamma rays that have been detected? Between the Big Emptiness, across and beyond the boundaries of the universe, in temporal lobes, God(s) is /are continuing his /their contradicted and eternally-ephemeral existence. As Muhyiddin Ibn 'Arabi says in *The Wisdom of the Prophets (Fusus al-Hikam)*: “Since the ephemeral being manifests the 'form' of the eternal, it is by the contemplation of the ephemeral that God communicates to us the knowledge of Himself: ‘He says to us (in the *Koran*) that He shows us His 'signs' in the ephemeral: 'We will show them Our signs to the horizons and in themselves...' (XLI, 53).”³ The Eternal is ephemeral and vice versa: “Adam is, then, at the same time, God and creature. And thou hast understood that which is his (cosmic) rank that is to say the synthesis (of all the cosmic qualities), synthesis by virtue of which he is the Representative of God. Adam is the 'unique Spirit' (*an-nafs al-wâhidah*) from which was created the human species according to the Divine

¹ LeDoux, Joseph. 1996. *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*, New York. Simon & Schuster. 302; Changeux, Jean-Pierre. 2004. *The Physiology of Truth: Neuroscience and Human Knowledge* [trans. M.B. DeBevoise], Cambridge. Harvard University Press. 81-82.

² Llin s, R. and Ribary, U. 1993. “Coherent 40-Hz oscillation characterizes dream state in humans”. *Proc. Natl. Acad. Sci. USA*, 90. 2078-2081.

³ Muhyiddin Ibn 'Arabi, *The Wisdom of the Prophets, Fusus al-Hikam*, translated from Arabic to French by Titus Burkhardt and from French to English by Angela Culme-Seymour.

Word.”¹ For the *Ecclesiastes*, God “...has put eternity into the hearts of men, yet so that no man can find out what God has done from the beginning to the end.” (3:11). In the Kabbala, particularly in the *Zohar*, the two symbolical hands of God (eternity and ephemerality) are compared to the Heaven and the Earth in so far as the active and passive principles of the manifestation.

4.1. Quantum investigators have offered up proof which maintains that in the quantum realm space between two particles is inconsequential. Einstein postulated that “hidden variables” could account for nonlocal interaction. Despite the apparent impossibility of nonlocality, Alain Aspect and John Clauser proved that nonlocality must actually exist in the real world.² This meant that in order to have reality, it must be interconnected throughout, “If you want to believe in a real world out there, you cannot do without nonlocality; if you want to believe that no form of communication can take place faster than the speed of light, you cannot have a real world, independent of the observer.”³ Essentially, the universe is interconnected, for that which comprises all physical matter is subject to quantum nonlocality. This affirmation is similar to the teachings of many religions and the words of the mystic.

4.2. According to Roger Penrose, emergent theories, such as Hameroffs, maintain consciousness appears only in brains, due to the brain's subtle and complex organization- this, he says, “is not a sufficient explanation.”⁴ In *Quantum Coherence of Microtubules*, Hameroff takes the position that consciousness emerges at a *critical* amount of nonlocal quantum processing relating to neural structure; and contends that the microtubules are the most likely place for this to occur. So, *nonlocality* opens a new perspective in to study the God’s consciousness and the consciousness of God, maybe a new dimension of the next neuro-theology.

¹ *Idem, ibidem.*

² Herbert, N. 1993. *Elemental Mind: Human Consciousness and the New Physics*. New York. Penguin.

³ Gribben, J. 1995. *Schrodinger's Kittens and the Search for Reality*. New York. Little, Brown, and Co. 159.

⁴ Scott, A. 1996. *Stairway to the Mind: The Controversial New Science of Consciousness*. New York. Copernicus. 127.