Consciousness: Modeling the Mystery

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Introduction

Confusions about consciousness are numerous and range from disputes about how to define it[1] to the type of questions that seem to be irresolvable (the 'hard' problem of consciousness). The elusiveness of consciousness, once the reason for science to turn away from the subject, nowadays has become an intellectual challenge that motivates multidisciplinary research, including empirical research. Indeed, consciousness has become the central problem in philosophy of mind, and receives ever-increasing attention from the neuro- and cognitive sciences.

The study or science of consciousness[2] is a field in which views diverge. The resulting theories testify to the extent to which the phenomenon is complex and multifaceted. There is probably no branch of philosophy that is richer with conflicting views than the philosophy of mind, and especially in the area of consciousness. A layman may wonder as to why authors invest so much energy to convincingly show that consciousness exists (e.g. Searle, 1997), while at the same time equal effort is invested to doubt its existence (e.g. Dennett, 1991), make it supervenient, epiphenomenal, or to eliminate it altogether (e.g. Rorty, 1979; Churchland, 1989).

There is one thing, however, about which authors agree, namely that there is no single definition of consciousness, whilst disagreeing as to what it is not.[3] There also seems to be agreement about consciousness as the essential dimension of the mental, but disagreements emerge as to its nature and function. Some warn that it is unjustified to talk about the term in the singular because we actually deal with a number of its different forms (Block, 1995). They provide scientific evidence for the existence of "microconsciousnesses" (Zeki, 2003). One or many, the problem of *accessibility* of inner conscious states stubbornly remains as one of the fundamental issues that persists as a sort of paradox: why is that the conscious states which we experience as the most intimate part of our 'self' (itches, tickles, pains, perceptions, feelings, and thoughts), and to which an exclusive status of *privacy* is granted, turn out to be theoretically elusive and secreted?

The dubious situation that all the researchers meet is that something as close and directly experienced as conscious processes appears to be difficult, if not impossible, to represent and explain. In spite of the advancement of modern

1
The very object of explanation remains undefined, and the question arises as to *what* is that that has to be explained.

2
See, for instance, Velmans (1996).

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While, for instance, Searle (1994) warns that consciousness should not be confused with awareness and knowledge, many take them as synonimous.

science, and especially huge progress in neuroscience and brain research, as well as cognitive and computer science, consciousness still resists all efforts to make it explainable.[4] This gave birth to the frequent syntagm "mystery of the mind" (i.e. Penfield, 1975; Searle, 1997, McGinn, 1999). "Consciousness has been seen as both a mystery and a source of mystery" – so states the opening sentence of Gerald Edelman and Giulio Tononi's book (2000). Even David Chalmers' seminal work (1996) cannot escape the cliché and states at the very outset: "Consciousness is the biggest mystery" (vi), and also: "Conscious experience is at once the most familiar thing in the world and the most mysterious" (3). Colin McGinn confirms the general feeling that we are still very far from deciphering the riddle, saying that " (…) consciousness is indeed a deep mystery, a phenomenon of nature on which we have virtually no theoretical grip. The reason for this mystery, I maintain, is that our intelligence is wrongly designed for understanding consciousness. Some aspects of nature are suited to our mode of intelligence, and science is the result; but others are not of the right form for our intelligence to get its teeth into, and then mystery is the result." (1999: xi) Still, not everyone share McGinn's pessimistic view that we will never be in a position to fully understand the nature of consciousness; philosophers of the other camp believe that it is just a matter of time when the amount and complexity of knowledge of our neural system will be sufficient to provide us with the full and final insight into what currently seems unconceivable.

What is so mysterious about that which seems to constitute us in an authentic way and be an essential part of our 'self'? First of all, mysterious is the fact *that* something physical can produce the psychical, and particularly *how* and *why* it does so. We still do not know how the matter makes mental states possible, how neural dynamics give rise to subjective feels or, simply, how the brain causes consciousness. Or, as McGinn puts it in the form of a rhetoric question: "How can technicolor phenomenology arise from the sloggy gray matter of brains?" (1989: 349) The question remains unanswered by both sciences dealing with neurobiological basis of life and with information processing, because the methods that proved successful in the long history of scientific advance fail to do justice to the richness of conscious ("technicolor") experience. Thus what works for water (scientific represented by the chemical formula of H_2O) and lightening (described in terms of electric discharge) does not work for conscious states. That is why *reductive models* are convincing to an ever fewer number of philosophers. However, the *irreducibility* of consciousness makes the room for the "hard" problem of consciousness (Chalmers, 1995) that is formulated in such a way to account for the status of *experience* and the nature of *subjectivity*, which turns out to be one of the central questions of the theory of consciousness.

Subjectivity, that irreducible basis of conscious life, is the most important feature of consciousness; other characteristic traits are *unity* (also called the 'binding problem': all the different elements within the conscious field are experienced in a holistic mode), *intentionality* (though not all conscious states are intentional, most of them are directed towards objects and events in the world), *transparency* (our experience enables us to have direct contact with the world, though we are not conscious of it[5]), *privileged access* (subjectivity is always individually experienced, and there is no external access to its privacy), *perspectivity* (our 'internal' world can be approached from either the introspective or self-reflexive 'first-person' perspective or from a scientific 'third-person' perspective), *familiarity* (a capacity of the conscious 'self' to

assemble and retain past experiences, and make them function as a categorical organ of re-cognition), etc.

Since many aspects of consciousness cannot be tested in an experimental manner, philosophers have devised theoretical means and a manifold of thought-experiments to cope with the intriguing subject-matter. For instance, they invite us to imagine a creature – a *zombie* – morphologically and structurally just like us, but without the psychic 'inner world', that is, devoid of consciousness. For those who deny consciousness (and amongst them we can count all anti-mentalists), we are in fact all zombies. If such an unconscious zombie is logically possible, then it follows that consciousness is not an immediate product of functional organization or behavior, or simply that material basis is not enough for it to emerge. This poses a serious threat to physicalism.

In another though-experiment, but with similar intention, Frank Jackson (1982) requires from us to imagine the situation in which Mary, who was an expert in colors, but herself never experienced anything like that because she was imprisoned in a black and white room, suddenly gets exposed to the chromatic world as we know it. The relevant philosophical question that the "knowledge argument" raises is the following: Did Mary, upon encountering the colored world for the first time, experience anything new (not a new or another *fact*, but something *qualitatively* different)? The consequence of the 'yes' answer is that knowledge of physical facts (which, in this case, Mary has of colors) cannot account for the experiential know-how that proves to be irreducible. Analogous to the zombie story, the ultimate conclusion is that physicalism fails as a theory of consciousness (Crane, 2001). Both thought-experiments fuel the *explanatory gap argument* according to which consciousness remains out the reach of physicalist explanation.

What zombie does not know, and Mary gets to learn, and all of us naturally experience, is the "what it is like to be" (Nagel, 1988) in a certain conscious state or "how it feels" to be in it. Such an irreplaceable, qualitative state may be the blueness of the sea, the sound of glasses that clink, the specific taste of red wine, the feeling of anger. In order to contrast it to measurable 'quantum', the word 'quale' (pl. qualia) has been coined to account for the specific subjective feel that is individually colored in a way that is not accessible to the external views of other persons. However, this does not mean that our own experiences are transparent to us in a direct and completely unmediated fashion. True, the conscious mission is not as impossible as in the case of a bat (Velmans, 1994), yet it is by no means easily accessible, accountable or reportable.

Based on the dual nature of consciousness (the qualitatively subjective and the empirically quantifiable), two opposed strategies have been developed: *phenomenological* – to account for phenomena as they *appear* in consciousness, and *cognitivist* – to provide a scientific insight into the neurobiological basis of cognition or computational models of the mental seen as information processing. Yet attempts to bridge the two seemingly disparate domains make themselves pronounced (a significant input in that direction provided Hubert Dreyfus, and in his own way Francisco Varela, and in the more recent times Shaun Gallagher, Evan Thompson, Dan Zahavi, etc.).

4
In spite of Dennett's ambitiouly named book (1991).

5
See, for instance, Metzinger (1995; Introduction).

Old questions mostly remain unanswered and new ones emerge and make the riddle more difficult to unfold: At what point in our phylogeny do we become conscious? Can we attribute consciousness to animals other than humans? Can we put the contents of consciousness into words? How can we improve our introspective awareness or self-consciousness? Is subjectivity merely a byproduct of sensory information reaching the brain? Is pain information in the brain or bodily feeling? What are the possibilities of monitoring own internal processes when science, thus far, has not been able to identify in our central neural system anything like a 'seat of consciousness'? Does self-consciousness rely on the conceptual or is the nature of the process basically non-conceptual? How can we explain consciousness in light of the fact that most of our mental activity is unconscious? Can matter other than the biological (i.e. silicon) ever have experiences so that 'intelligent machines' can become conscious? In what sense are we also machine-like or zombie-like? Is determinism the reason why we fear materialist interpretations? How should the new science of consciousness look like? What sort of knowledge, after all, is needed to decipher the mystery of consciousness?

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This collection of essays is meant to provide samples from different areas of the field, and therewith give readers a flavor of the kinds of interests and questions that are characteristic of it, as well as a sense of the diversity within the thematic spectrum of the consciousness debate. It thus does not favor any option, but deliberately leaves the scope open to multiple strategies. On the one side a perspective is created that affirms the corporeal dimension of consciousness as rooted in the natural history (*Maxine Sheets-Johnstone*); on the other side, there is an attempt to explore the "hard problem" in autonomous robots, whose capacity to cognize and develop conscious awareness is discussed (*Bruce MacLennan*), or to test Zombies in order to show that the phenomenal is not reducible to the ontology of physics (*Sabine Windmann*), or to explore possibilities of machine consciousness (*Igor Aleksander*). Authors in this volume examine the modes of co-evolution of matter and consciousness (*Max Velmans*), challenge a dualistic view of sensory consciousness (*William S. Robinson*), seek modes of neuroscientific representation of experience (*Julian Kiverstein*), and question how justified it is to position consciousness on top of the "natural hierarchy" associated with 'higher' cognitive mechanisms (*Hans Werner Ingensiep*), and whether self-determination and freedom are compatible (*Michael Pauen*). A subtle problem of self-monitoring of conscious states is addressed (*Uriah Kriegel*), as is also the possibility of integrating phenomenology of consciousness and a cognitive neuroscience of consciousness (*Eduard Marbach*). The view is presented that subjective perspective cannot be extrapolated from the shared experience of the world, which is also the basis for scientific descriptions (*Matthew Ratcliffe*). The currently widespread notion that the subjectivist (first-person) and scientific (third-person) perspectives are not only seen as contrasting but also as exclusive, is questioned as problematic (*Zdravko Radman*).

References

Block, Ned (1995) "On a Confusion about a Function of Consciousness", *The Behavioral and Brain Sciences*, 18/2.

Chalmers, David J. (1995) "Facing up the Problem of Consciousness", *Journal of Consciousness Studies*, 2/3.

Chalmers, David J. (1996) *Consciousness Explained*, Oxford: Oxford University Press.

Churchland, Paul (1989) *A Neurocomputational Perspective*, Cambridge: MIT Press.

Crane, Tim (2001) *Elements of Mind: An Introduction to the Philosophy of Mind*, Oxford: Oxford University Press.

Dennett, Daniel (1991) *Consciousness Explained*, Boston: Little Brown & Co.

Edelman, Gerald M. and Giulio Tononi (2000) *A Universe of Consciousness*, New York: Basic Books.

Jackson, Frank (1982) "Epiphenomenal Qualia", *Philosophical Quarterly*, 32.

McGinn, Colin (1989) "Can We Solve the Mind-Body Problem?", *Mind*, XCVIII: 891.

McGinn, Colin (1999) *The Mysterious Flame: Conscious Minds in a Material World*, New York: Basic Books.

Metzinger, Thomas (1991) *Bewusstsein: Beiträge aus der Gegenwartsphilsophie*, Padeborn: Mentis.

Nagel, Thomas (1988) "What is it like to be a bat?", *Mortal Questions*, Cambridge: Cambridge University Press.

Penfield, W. (1975) *The Mystery of the Mind: A Critical Study of Consciousness and the Human Mind*, Princeton: Princeton University Press.

Rorty, Richard (1979) *Philosophy and the Mirror of Nature*, Princeton: Princeton University Press.

Searle, John (1994) *The Rediscovery of the Mind*, Cambridge: The MIT Press.

Searle, John (1997) *The Mystery of Consciousness*, New York: The New York Review Book.

Velmans, Max (1994) "A Thoroughly Empirical First-Person Approach to Consciousness: Commentary on Baars on Contrastive Analysis", *Psyche*, 1(12) (August).

Velmans, Max (1996) (ed.) *The Science of Consciousness*, London: Routledge.

Zeki, Semir (2003) "The Disunity of Consciousness", *Trends in Cognitive Sciences*, Vol. 7, No. 5 (May).

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