Zombies and microtubules

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Conversations on Consciousness
by Susan Blackmore
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One remarkable aspect of the consciousness research field is the lack of agreement on what the key subject matter should be. What is the phenomenon for which we need an explanation?

Susan Blackmore begins with these questions in *Conversations on Consciousness*, a collection of interviews with 21 prominent scientists and philosophers. Their answers introduce the reader to some of the concepts and puzzles at the centre of this field.

For some researchers, the most baffling phenomenon is that of *qualia*—the subjective qualities that accompany mental states such as perception. Although a laboratory instrument might perform as well as a human in identifying coffee, the instrument cannot ‘taste’ it. Only conscious beings have that sort of sensation or feeling. Could the things that look red to you look green to someone else? If so, the difference would not be in the physical objects, it would be in the perceptual experiences—the way things looked for the perceivers. Their *qualia* would differ. It is controversial whether this ‘inverted *qualia*’ is possible, and some thinkers, such as Daniel Dennett, do not believe that *qualia* exist. But most of Blackmore’s interviewees take the existence of *qualia* as fact; the challenge is to fit them into a scientific view of the universe.

An objective, third-person account of the world—the aim of science—also seems

hard to reconcile with a more general, less controversial phenomenon. Unlike atoms, rocks, and toasters, humans have a point of view, a first-person perspective. But what is it to have a perspective, and how could billions of atoms add up to something that has one? Apart from this conceptual quandary, there is the methodological question of how private, first-person phenomena can be rigorously studied.

Conversations on Consciousness will be disappointing if you are hoping for a clear explanation of possible solutions. But, the book provides interesting outlines of approaches to these problems, from the view of David Chalmers, who thinks that consciousness must be accepted as a fundamental element of the universe, such as mass or charge, to that of Roger Penrose and Stuart Hameroff, who believe that consciousness is a quantum phenomenon involving microtubules in neurons.

In summarizing their views and research, these thinkers introduce us to other important topics in the field. One is the phenomenon of ‘blindsight’, a condition in which a brain-damaged patient becomes ‘blind’ in one region of the visual field. Although lacking conscious visual perception of stimuli presented in the blind area, blindsight patients can accurately perform various tasks that show that they do visually acquire information about the stimuli. Change-blindness studies, which suggest that we are conscious of much less of our environment than we think, and split-brain studies, which are sometimes used to demonstrate the possibility of several consciousnesses in a single person, are also discussed.

Less concrete subjects include the infamous philosopher’s ‘zombie’, an imaginary creature behaviourally identical to a human, but lacking any conscious mental states. Blackmore asks each interviewee whether he or she believes that zombies are logically possible. Their responses reveal interesting differences in opinion about the value of thought experiments. Some think that recognizing the logical possibility of zombies helps us to gauge the size of the conceptual gap that a theory of consciousness must bridge. No matter what physical processes

are claimed to explain consciousness, it seems possible that those processes could exist without consciousness. Does this show that the phenomena of consciousness cannot be identical to any brain processes? Some scientists deny that zombies are logically possible or think, similar to Francis Crick and Petra Stoerig, that any discussion of the zombie thought experiment is completely useless. Paul Churchland offers the following: “Here’s a parallel: someone could say, ‘Look, light can’t be identical with electromagnetic waves because I can imagine a universe in which electromagnetic waves are bouncing about all over the place, but it’s pitch black from one end to the other.’”

Another analogy, used repeatedly to deflate the mystery of consciousness, compares it to vitalism, the old doctrine that no biological state or process can make something alive—without a ‘vital spirit’, it is merely dead matter. The more optimistic contributors to Blackmore’s book believe that consciousness will one day be viewed as we now view life, and not as something separate to physical phenomena.

Neither side in these debates provides a compelling case, and little clarity about consciousness is achieved in *Conversations on Consciousness*. One indicator of researchers’ confusion (though not Blackmore’s) is the frequent inconsistency in the terminology used to describe the relation between consciousness and the brain. Does a brain process cause or generate consciousness? Is it identical to consciousness, or is there merely a correlation between the physical data and the conscious mental states? Nevertheless, *Conversations on Consciousness* provides a casual and accessible introduction to the topic. Few topics are specifically detailed, but the empirical and philosophical work summarized in the book is fascinating and easy to read.

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