Toward a Science of Consciousness VI
maps members’ views on consciousness and psychedelics

THE PROBLEM OF CONSCIOUSNESS
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Different people mean different things when they talk about consciousness. This is the first thing to realize if you’re going to have a minimally fruitful discussion about the topic. Those friendly, spiritually-oriented folks from the “psychedelic community” probably have something different in mind when they talk about expanding consciousness than philosophers or scientists talking about the C-word. In fact, the former are using the word in a loose sense, probably referring to the mind as a whole, including one’s sensory experiences, emotional feelings, thoughts, beliefs, and so on. Philosophers make finer distinctions. David Chalmers, head of the Center for Consciousness Studies in Tucson and one of the leading figures in the philosophy of mind, distinguishes between a core notion of consciousness, and a cluster of functions (e.g. visual discrimination, memory, learning, speech production, etc.) associated with it. The core notion is consciousness in the sense of qualitative, phenomenal experience: the fact that your conscious experiences feel a certain way, or that it is like something to have them. If you think of the blueness of the sky (so different from the redness of a ripe tomato), or the particular way a certain pain feels (a bee sting—ouch!), you know what I’m talking about. These phenomenal qualities of consciousness have been given the name “qualia.”

Chalmers argues that the core notion of consciousness, qualia, constitute the “hard problem” of consciousness, while the associated functions constitute (relatively) “easy problems.” The associated functions present “easy” problems because they are, in principle, easy to explain. How is information memorized? Or how is it learned? How can it be verbally expressed? We can give entirely satisfying scientific explanations for these functions by specifying causal brain mechanisms that perform the functions. Consider verbal report, for example. You look at a tree and tell me it’s blooming. We can give an account of how light waves travel from the tree to your eyes, stimulate the photoreceptors in your retina, where neural impulses are generated and propagated along the optical nerve to the visual cortex in the back of your brain. There, the visual scene of the tree in front of you is analyzed, and features such as size, shape, and color of the various elements in the scene are extracted. This information is passed on to more frontal parts of the brain where the elements of the scene are identified as particular objects (“that’s a branch,” “those are blossoms”). This information, in turn, will be passed on to the speech production center in your left brain hemisphere, where it is transformed into motor commands that appropriately stimulate the muscles in your voice box, making you utter the words, “This tree is blooming.” Of course, the full story would include many more details, but we have no doubts that these could be supplied, once enough research has been performed.

All of this can be explained purely in terms of physics, neurobiology, and information-processing. Nowhere in this account is there a need to refer to qualia, to the phenomenal quality of the visual scene you experience. And that’s the hard problem of consciousness: to explain why and how phenomenal consciousness enters the picture. Why are qualia associated with the various information-processing functions of the brain? How are they generated in the brain? It seems kind of surprising and strangely unnecessary that, over and above the causal flow of information in the brain, there is also an associated experience, a way that having the information feels.

In recent years, neuroscientists have started taking the qualia issue seriously—or at least addressing it. The larger enterprise of that segment of neuroscience oriented towards consciousness has become the search for the neural correlates of consciousness (the so-called NCCs). These are the neural processes or states that underlie conscious, phenomenal states, which occur whenever we have a certain kind of phenomenal experience. Hunting NCCs is an important and respectable goal, and will tell us a lot about the way the brain works and what states might possibly generate qualia. But will it bring us closer to the solution of the hard problem of finding out how brain processes relate to or generate qualia? I can’t see how it would. No matter how much we know about which brain
processes underlie qualia, it will still seem arbitrary that these processes are associated with any qualia at all, or with exactly these and not those qualia. (For example, why is a given brain state associated with the experience of redness and not blueness?)

**MAKING THE PROBLEM DISAPPEAR**

Some speakers at the Tucson conference seemed to be untroubled by worries about the hard problem, and their presentations dealt with scientific details of neural or mental processes that are related to conscious experience, without entering into discussions of the hard problem. Others, however, offered their takes on the hard problem. Susan Blackmore, a lecturer, writer and colorful figure in the field (literally, look at the first picture on http://jamaica.u.arizona.edu/~chalmers/pics/tucson6.html) emphatically argued that we are mistaken in our everyday beliefs about consciousness. She says that consciousness understood as a “continuous stream of rich and detailed experiences, happening one after the other to a conscious person” is an illusion. She does not deny that there is some sort of consciousness, she only claims that it is not the way it seems to us. However, I’ve never heard her say just what she thinks consciousness really is like—i.e., what’s behind the illusion. She was quite clear on one thing, however: she answered the question whether there are qualia with a blunt “no.”

A similar stance is taken by the influential American philosopher Daniel Dennett. He flatly denies the existence of qualia and thinks we all need some kind of psychotherapy to exorcize the intuitions behind them. His usual strategy, which he also applied to the audience in Tucson, is to devise thought experiments to “pump” our intuitions away from qualia. Dennett states that the belief in qualia is the one persistent, but misguided, background assumption that has made the problem of consciousness seem intractable for centuries. If we can finally be cured of our belief, the problem will simply disappear.

Now if qualia are taken to be the phenomenal, qualitative aspects of consciousness, I don’t really know how to make sense of such pronouncements. Phenomenal consciousness is neither a belief, intuition, nor an assumption, it is simply an empirical fact of nature. All of us, at every moment of our waking lives, can confirm to ourselves that we are conscious, that it is something for us to have sensory experiences, feelings, pains, and thoughts. So do Blackmore and Dennett deny that they have phenomenal experiences? I can’t really believe that’s what they want to say (after all, they’re human beings and I strongly suspect that they are indeed conscious).

Blackmore urges that if we patiently practice to look harder into ourselves—using meditation as one technique to do so—we become less and less sure about what’s in our consciousness at any given moment, until we finally realize that there are neither contents nor a stream of consciousness. There are at least two problems with this argument. First, it is certainly true that we can thin out the steady buzz of thoughts and sensations in our minds by practicing meditation, and that we might become unsure about aspects of the nature and timing of our conscious states. But this is a far cry from showing that whatever mental activity remains does not have any phenomenal, qualitative character. Do monks who have practiced meditation for decades cease to have some kind of phenomenal experience? If not, then there are still qualia. Second, even if meditation eventually leads to a loss of qualia, it remains the case that at least I—as I am here now, not yet driven to unconsciousness by years of meditation—clearly have qualia.

**NEXT EXIT: DUALISM**

Qualia won’t go away easily, it seems, and so we’re still faced with the hard problem. Chalmers’ own solution, though not presented explicitly in this conference, was a ghostly background presence in every corner of the conference locale. Chalmers argues that materialism/physicalism about consciousness (the view that phenomenal consciousness is a physical phenomenon, and that facts about phenomenal consciousness are entailed by physical facts) is false, and we need to expand the very basis of physics by adding consciousness as a new fundamental property to the universe, alongside known physical properties such as mass, charge and space-time. In this new scheme of things, we will have two primary kinds of stuff: physical stuff and phenomenal stuff. This is a form of dualism, which is despised by most scientists, but which I assume not few of the readers of this article will find appealing. One implication of this view is that phenomenal properties are everywhere, not only in living beings with sophisticated nervous systems, but also in rocks, trees, and even atoms. These things don’t necessarily have full-blown consciousness as we experience it, but maybe some more basic,
primitive, undifferentiated form of phenomenal experience. This idea is not new, by the way. Under the name of “panpsychism” or “pan-experientialism” it has been floating around in philosophy throughout the ages. Dualism in this sense would solve the hard problem because it makes it unnecessary to explain how we can get from purely physical neural processes in the brain to phenomenal consciousness. Instead we put phenomenal consciousness into the picture from the very start, accepting it as a fundamental and irreducible part of reality. Of course, we still need an account of how these basic phenomenal properties get structured and organized into full-blown phenomenal experience, but there is little doubt that the story can be told, just as in the physical case, where we can tell a similar story. For example, the high-level biological structure or functions of the brain are built from interacting neurons, these in turn are built from proteins coded for by strands of DNA, these in turn are built from interacting bio-molecules, which in turn are built from interacting atoms, and so on. It’s an extremely complicated story, but we know that it can be told in principle.

**BLISSFUL IGNORANCE**

Stephen Pinker, a Harvard psychologist and popular science writer, was invited to Tucson for a keynote address. Looking at consciousness from an evolutionary perspective, he made a distinction, very much in agreement with Chalmers’, between the causally describable functions associated with consciousness and its phenomenal core. He argued that all those functions of consciousness, for which we can in principle specify underlying causal brain mechanisms, might well be evolutionary adaptations, but its phenomenal core—the qualia—cannot be because it has no causal effect. Only what is causally effective can be selected for by evolution, but qualia are not. So Pinker regards consciousness as an epiphenomenon without causal influence on the physical world. This view might seem to put him into immediate trouble, since it makes it look impossible that we could ever know about and report on our conscious experience, if consciousness cannot affect the physical brain processes underlying knowledge formation and verbal report. However, Pinker thinks that our abilities to know and report our conscious experience are not based on causality, but on some other relation, which might be unique to consciousness.

Interestingly, the distinction between phenomenal consciousness and its associated causally describable functions does not lead Pinker to embrace dualism. Instead, he follows along the lines of the philosopher Colin McGinn who believes that consciousness is a perfectly normal physical phenomenon, but that we humans do not have the cognitive capacities to understand how it relates to the rest of the world. This thesis is known under the name of “cognitive closure.” It is based on the observation that all other animals have cognitive limitations that preclude them from ever understanding certain concepts. Your dog, for example, will never understand the principles of thermodynamics. So why should we humans be the only creatures without cognitive limitations? Like for other animals, there must exist concepts that are beyond our grasp, and McGinn argues that consciousness is one of these concepts. Some philosophers consider this stance defeatist and overly pessimistic, others have called it “mysterianism.” It seems like premature surrender. Indeed, there is a certain danger in extrapolating from a present failure to understand consciousness to an in-principle inability to do so. Dennett, for example, argued that the unique human ability to use language to entertain and evaluate a potentially infinite number of thoughts is the decisive difference that might untie us from the cognitive limitations other animals have. Still, given that so little progress has been made on the hard problem, I consider the cognitive closure hypothesis at least a respectable philosophical position.

**RECOMMENDED READING**


