

Consciousness Is Nothing But a Word

H E N R Y D . S C H L I N G E R

IN 1991, DANIEL DENNETT PUBLISHED HIS tome, *Consciousness Explained*.¹ Yet, ten years later he penned an article titled “Are We Explaining Consciousness Yet?”² If he had to ask the question, the answer seems obvious. English-speaking philosophers and psychologists have been trying to understand consciousness at least since John Locke introduced the word into the English language in the 17th century. But despite the best efforts of those who’ve thrown their hats into the ring, we haven’t made much progress. Obviously, a different approach is needed.

Why We Aren’t Explaining Consciousness Yet

In my view, we aren’t explaining consciousness for at least two reasons. First, we are trying to reduce the problem to brain processes. For the past decade or so, many have argued that the brain gives rise to consciousness. Some have set their sights on finding its so-called neural correlates, trying to explain consciousness, as the late Francis Crick described it, in terms of the “interactions of nerve cells...and the molecules associated with them.” Referring to consciousness as “the major unsolved problem in biology,” Crick famously observed: “You, your joys and your sorrows, your memories and your ambitions, your 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.”³

“No more than”? Your joys, sorrows, memories, ambitions and sense of personal identity and free will *are* more than the behavior of your nerve cells, just as a Seurat painting is more than the thousands of points of paint on the canvas. They are also your behavior and the activity of your peripheral nervous system all in a rich and

fluid context with a long and immensely complex personal history. Crick is obviously not alone in believing that reductionism will solve the problem of consciousness. Philosopher David Chalmers wrote, “The search for neural correlates of consciousness (NCCs) is arguably the cornerstone in the recent resurgence of the science of consciousness.”⁴ And sophisticated technologies seem to offer hope for such beliefs.

I, for one, am skeptical. Here’s why.

Before we search for the neural correlates of consciousness we need to know what consciousness is, including how and why we become conscious. Even then consciousness won’t be found in the brain—no behavior will be. We need to be cautious about searching for the location of behavioral traits in the brain, what psychologist William Uttal has called “the new phrenology.”⁵ In the quest to understand consciousness, the work of neuroscientists will be important, but it will be only a piece of the larger scientific puzzle. Neuroreductionism alone is not the answer to the problem of consciousness, or any behavioral phenomenon.

To put it bluntly, we can understand consciousness at its most important level—that of behavior—without any knowledge of neural correlates. That’s not to say that such knowledge won’t clarify the brain’s role in mediating the behaviors. But the ultimate explanations are to be found in the evolutionary and individual learning histories that shaped the behaviors—not in the brain.

The Consciousness Muddle

A second reason we have not yet explained consciousness is that we continue to reify it and operate in the absence of any scientific definition. Consider the following summary of a recent book on consciousness:

Through this analysis, the first and most obvious observation is that consciousness appears as a volumetric spatial void, containing colored objects and surfaces. This reveals that the representation in the brain takes the form of an explicit volumetric spatial model of external reality. Therefore, the world we see around us is not the real world itself, but merely a miniature virtual-reality replica of that world in an internal representation.⁶

No wonder Daniel Dennett said, “With consciousness ... we are still in a terrible muddle.”⁷

As the title of my article suggests, consciousness is not a thing, a place, or a cognitive process (whatever that is); it's only a word that we use in a variety of ways. For example, we can say that an organism is "conscious" if it is awake and/or alert (versus asleep or in a coma). We can then study the behaviors associated with wakefulness and the underlying neural structures that mediate them. Or, like Francis Crick and Christoph Koch, we can use "consciousness" to refer to visual perception,⁸ which is acceptable as long as it points to actual behaviors involved in perceiving and their ultimate evolutionary and learned causes. But wakefulness and visual perception are not what most scholars are referring to with the word "consciousness."

What most consciousness scholars are concerned with is subjective experience or so-called *qualia*, such as "the redness of red."⁹ But what does "the redness of red" mean? Newborns come equipped with specialized receptors that respond to the wavelength of light corresponding to red, but they don't yet respond differently to red than to other colors and, thus, don't experience the redness of red. Humans alone learn the concept of red because we alone learn one response to all things that reflect that particular wavelength even if they differ in all other respects (e.g., size, shape, texture, etc.). That one response is the word "red." As children we're taught to say "red" by parents who reinforce that response only in the presence of red things. Physicists can explain the nature of the wavelengths corresponding to red and neurophysiologists can explain the biochemical changes that occur when those wavelengths strike photoreceptors and are transmitted along visual pathways in the brain. But we need behavior analysts to tell us *how* someone learns to respond to and, thus, be conscious of redness.

Discussions of qualia are muddled because the definition is vague and subjective. "Qualia," like "consciousness," is just a word. As psychologist Noel Smith has noted, the concept of consciousness is a construct: "an invention, an abstraction, a contrivance." But it's an unsatisfactory construct in that it has no specifiable referents. There are no real events that comprise it and, thus, no agreement about what it is and how it operates. According to Smith, it's only a tangle of words because it consists of no more than words.¹⁰ Thus, those searching for consciousness (or qualia) may as

well be hunting for Lewis Carroll's Snark.

Will we ever be able to solve what David Chalmers says is "the largest outstanding obstacle in our quest for a scientific understanding of the universe"? Chalmers believes that even though we do not have "many detailed theories of cognition," the ultimate solution will nevertheless come from the science of the mind, or cognitive neuroscience.¹¹ However, there can be no science of the mind because science deals with real events and the mind is not a real event.¹² That is why there are no "detailed theories of cognition."

To solve the two problems I've just outlined—the disproportionate emphasis on neuroreductionism and our non-scientific descriptions of consciousness—a fresh approach is required. The solution calls for an account that draws upon the natural sciences of evolutionary biology, behavioral psychology, and neuroscience—in that order. Since "consciousness" is "the name of a nonentity," as William James put it,¹³ and "has no location except an imaginary one," according to Julian Jaynes,¹⁴ we need to take a different tack. We need to cease the endless speculation about vague, unobserved mental constructs and stop looking for the Snark we call "consciousness" in the recesses of a nonexistent mind or in the neural architecture of the brain. We need to take a more parsimonious approach, which is to identify the *behaviors* that occur when we use the word "consciousness" so we can get on with the business of explaining those behaviors.

Understanding What We Mean by the Word "Consciousness"

When you drive to work or school and arrive not being able to remember anything that happened along the way, then according to the present account, you weren't conscious of the drive (though you were almost certainly conscious of other things). If you weren't conscious of the drive, then what exactly were you doing? There is a simple answer: you were talking (and maybe imagining) to yourself about something other than the stimuli related to driving the car—perhaps what you did the night before or a conversation you had with a friend. Being conscious of the drive would be evidenced by your ability to talk about it both during and after. This is what I think most of us mean by being conscious, or, as Chalmers

describes it, the “conscious inner life.”¹⁵

When we say that we’re conscious, then, we’re *doing* something: we’re talking (or signing or writing) and/or imagining to ourselves about both our external and internal environments, and our own public and private behavior. Daniel Dennett recently came around more fully to this position when he wrote that “acquiring a human language (an oral or sign language) is a *necessary precondition* for consciousness.”¹⁶ To paraphrase Descartes, “I talk (to myself) therefore I know that I exist.” Helen Keller knew the importance of learning to describe oneself when she wrote: “Before my teacher came to me, I did not know that I am. I lived in a world that was no world. I cannot hope to describe adequately that unconscious, yet conscious time of nothingness.... Since I had no power of thought, I did not compare one mental state with another.”¹⁷ Keller seems to have understood implicitly what behavioral psychologist B. F. Skinner stated explicitly: Being conscious is reacting to one’s own behavior verbally, and is, thus, ironically a social product taught to us by others.¹⁸

So, to philosopher Thomas Nagel’s famous question about qualia—“What is it like to be a bat?”¹⁹—I answer: nothing. There is no conscious experience; there are no qualia. For the bat there will never be any qualia because there is no language to describe experience. For obvious reasons there are also no qualia for the human newborn, although as I describe later, after exposure to an environment in which the child learns to describe her outer and inner worlds (i.e., report objective and subjective experience), we say that she is conscious.

To understand how others teach us to report our experience, we need to look to the learning history that establishes that repertoire, in particular, the past or present consequences of the verbal behaviors. This strategy can provide an ultimate explanation of how and why we become conscious, it can supply neuroscientists with the roadmap they need to search for the neural correlates and, thus, can demonstrate how, as Chalmers puts it, an understanding of consciousness “fits...easily into the natural order.”²⁰

Learning To Be Consciousness of the Environment

Becoming conscious begins simply enough with being taught how to label objects. Language-learning children are taught to label everything

through modeling and discrimination learning. The parent points to a dog and asks, “What’s that?” Before the child knows the answer, the parent models it by saying, “That’s a doggie. Can you say ‘doggie?’” If the child can imitate, she says “doggie.” Of course, she doesn’t yet know it’s a dog; she’s simply imitating. But after several trials, especially interspersed with trials regarding other objects, such as books, cups and balls, the child can quickly say “doggie” when the parent points to the dog and poses the question. Later, simply the sight of a dog is sufficient to get the child to say “doggie.” In teaching this, the attentive parent reinforces the child’s correct response by repeating, “Yes, that’s a doggie.”

This is how the child comes to *know* or *be conscious* of her environment in the sense that she can talk about it. Progressing from simple names to saying more about things increases the child’s consciousness of her environment. For example, being able to say only “doggie” reflects little consciousness compared with being able to say “It is a small, brown Dachshund with a long tail and a loud bark.” But single labels are acquired first, and contrary to claims that parents don’t teach their children language, there is considerable scientific evidence that this linguistic competence is indeed learned from parents and others comprising the child’s verbal community.²¹

Parents can very successfully teach children to describe and, hence, be conscious of the external environment because they can check the answers for accuracy. If the parent asks what color a red object is and the child says “blue,” the parent can see that the answer is wrong and correct it. Thus, the reliability of teaching consciousness of the external environment is exceptionally high.

Learning to Be Self-Conscious: Overt Behavior

Parents also begin asking their children other questions, such as “What are you doing?” In the beginning, before the child knows the answer, the parent must provide it just as the parent did when teaching about the environment. And because the parent can see what the child is doing, the answer is always correct. So, when a child is banging a cup on the table and the parent asks “What are you doing? Are you banging the cup?” and the child imitatively answers, “banging cup,” the parent reinforces the response by saying, “Right, you’re banging the cup.” Clearly we would not yet say that the child is conscious

that she is banging a cup, but she's on her way.

After considerable experience with the parents discriminating different actions by the child and teaching the child to describe them, we can now say that the child has at least the beginnings of self-consciousness in the sense that she can talk about or describe what she's doing. The more words she can use to describe her actions, the greater we say her consciousness of herself is.

When we say that someone is totally unconscious of her actions what we usually mean is that she cannot describe (either to herself or to others) what she does. Sometimes we go to therapists who can help us become conscious of our own actions. A therapist does this, like the parent of the language-learning child, by observing our behavior and teaching us to make the same observations as well as how to talk more accurately about them. Once we can do that and say the same things to ourselves, we are said to have "become more self-conscious" of our actions.

Learning to Be Self-Conscious: Private Events

Parents don't stop with teaching children to describe their publicly observable behavior; they try to teach children to describe their private world. They use the same methods, but without the same level of success.

Consider how a parent might teach a child to say that a cut on his leg "hurts." The pain is a stimulus generated by the cut. But unlike the child banging a cup, the parent doesn't have access to the child's pain. So how does the parent teach the child to say "It hurts"? The parent must rely on other sources of information. There are at least two ways parents can teach children to label or describe a private stimulus.²²

First, the parents can look for some public event that reliably accompanies the private one. In this example, the sight of the cut is the publicly accompanying event. A second way parents can teach children about their private events is to look for overt responses that correspond to the private stimulus. With the cut, the child may hold his leg or rub it, or may moan or cry. Based on these corresponding responses generated by the same painful stimulus, the parent teaches the child to report "It hurts." Usually, both public events and corresponding responses accompany private events, thus, helping the parent teach the description of the private event.

The same process occurs when we're taught

to describe our overt and covert behavior and private stimuli with such expressions as "I'm depressed," "I'm scared," "I'm anxious," or "I'm sad." Even then, others need more information to teach a reasonably correct description. For example, simply observing a child crying gives us little to go on to accurately teach him how he's feeling. Is he sad, hurt, or extremely happy? In such cases we need to observe the precipitating environmental conditions or context (e.g., breaking a toy, banging his knee, etc.). Nevertheless, all we can rely on to teach self-consciousness is observable behavior, publicly accompanying events, corresponding responses, and the stimulating environment. There is no direct access to someone else's private world. It's no wonder, then, that when asked how we feel, we often don't know or can't put it into words.

Private Self-Talk

In addition to learning to respond verbally to private stimuli, something else happens that complicates the problem in manifold ways: Our overt, public verbal descriptions recede to a covert or private level that only we can observe. How does this happen?

No one really knows, but it's a good guess that, once again, parents are largely responsible. As parents can attest, once language-learning children learn a lot of names they go around labeling everything out loud. "Look Daddy, car, doggie, man, ball..." Convinced that we've done our job of teaching the correct names of things, we urge our children to "Say it to yourself quietly," reinforcing quieter and quieter talking while ignoring or mildly discouraging louder outbursts.

What happens next is that the child's verbal behavior continues, but at a level unobserved by others. The child still says "car, doggie, man, ball..." but to herself. Call it *thinking* or *cognitive* if you want, but except for its observability, the behavior is the same. And neurological evidence shows that the same areas of the brain that are active while speaking out loud are also active while speaking to one's self although at a lesser magnitude,^{23, 24, 25} thus, preserving the continuity of behavior and obviating the need to invent cognitive ghosts.

Consciousness and Brain Damage

If by "consciousness" we mean talking, either overtly or covertly, about the environment, our

own overt and covert behavior, and the stimuli that cause it, then we already know a lot about the brain's role in accomplishing it. As psychologists Neil Carlson and William Buskist note, the physiological basis of consciousness "is the activity of language mechanisms in the brain."²⁶ Although the actual verbal descriptions are acquired according to fairly well understood principles of learning, that learning changes the brain, which then mediates between the stimulating environment and the verbal behavior of the conscious person. Evidence of consciousness as a verbal description of the environment in general and of our own behavior in particular, comes from numerous examples of brain damage.

One example is anterograde amnesia. Patients with this disorder, which usually involves damage to the hippocampus, can learn new behaviors but cannot talk about what they've learned. In the parlance of memory researchers, we can say that the damage has disrupted their explicit remembering or verbal descriptions while leaving their implicit remembering, or nonverbal skills, intact. They can also remember (that is, talk about) things they learned before the brain damage but cannot remember things that have just happened. Following from the present thesis that consciousness is tantamount to talking (usually covertly) about the environment and our own behavior and private events, people with anterograde amnesia can only talk about and are, thus, only conscious of what they knew before the brain damage and, of course, of immediate events in their lives.

In another disorder resulting from brain damage, called visual agnosia, individuals cannot recognize objects by sight. By "recognize," we mean the patient cannot say the name, and, thus, is not conscious of the object when seeing it. In a more specific form, called prosopagnosia, or face blindness, a person cannot recognize certain faces by sight. Again, by "recognize," we mean the individual cannot say the person's name when seeing her face; in other words, the individual is not conscious of who the person is. Interestingly, the individual can say the person's name when hearing her voice and is then conscious of her. This most likely happens because as children we often learn to recognize (i.e., name) objects when seeing and hearing them, and less often by feeling and smelling them. Each of these discriminations establishes separate neural pathways in the brain,

so that if, for example, the visual pathway is damaged, the others remain intact. Because patients with visual agnosia are not blind, have no difficulty navigating visually through their environment, and can actually mime the behaviors related to objects shown to them, their disorder can be described as a "disconnection between perception and awareness."²⁷

The Conscious Inner Life

So what is the so-called conscious inner life we find so mysterious and elusive? It's a good bet that the only things inside us are anatomical and physiological structures—the central and peripheral nervous systems—the latter of which includes sensory receptors for pain, temperature, pressure, and proprioception. The primary difference between these interoceptive receptors and the exteroceptive ones in the eyes and ears and on the surface of the skin is their location. Since scientists have already discovered many of the ways that public stimuli influence behavior, then because private stimuli differ only in their location (not in their type) we can parsimoniously assume they have the same functions. If, for example, we learn to describe painful stimulation on the surface of the skin, then we can probably describe painful stimulation inside the body. But without having learned to report on those events, there is no consciousness in the present sense of the word. This is indeed an inner life, but not the one that so mystifies and intrigues many.

In addition, behaviors may recede to a covert, or private, level. For example, the pianist may covertly practice finger placements, the golfer covert golf swings or hand placements on the club, the fluent ASL user covert signing, and, of course, hearing individuals constantly talk to themselves covertly. Behavior, as caused proximately by the firing of neurons in the motor areas of the cortex, exists on a continuum of intensity. If I start screaming, I can gradually reduce the intensity of my vocal output to normal talking, then whispering, and then covert talking until I'm the only one who can "hear" me. At that point I'm behaving privately, covertly, but behaving nonetheless. However, the behavior is not taking place in my mind or in my consciousness because there are no such places. Is this the "conscious inner life" that interests consciousness scholars?

Just as evolutionary biologists assume continuity of species, behavioral scientists assume a continuity of behavior and the physical events that cause it. The good news is that such an account is parsimonious and can suggest an elegant solution to the problem of the nature and origin of consciousness and other so-called cognitive processes. The bad news is that many people won't find the analysis as sexy or mysterious as speculating about consciousness neurons or qualia.

One reason is simply that they are not familiar with the science behind the theory. It is a complicated and still-growing experimental natural science. A more important reason, however, is that we've all been reared in a culture where ordinary, commonsense terms have been used to describe and explain human behavior for millennia. We simply cannot imagine that we don't have minds or free will, or that our inner life is nothing more than private stimuli and learned or unlearned covert behavior.

What Is Consciousness Then?

"Consciousness" is only a word we use to refer to sometimes quite different behavioral phenom-

ena. In this article I have suggested that most of the time what people mean by the word is our ongoing, though mostly covert, self-talk about our own public and private stimulation and behaviors. This account may or may not be correct, but it is parsimonious because it makes very few assumptions and appeals to observable or potentially observable relationships that are consistent with experimentally established scientific principles.

We skeptics find it all too easy to fault obvious pseudosciences, but when it comes to our own messy, unscientific thinking about ourselves, we're a lot less critical. Thus, it will probably take a lot longer to realize that the conscious inner life that so fascinates us may be nothing more than a learned repertoire of verbal (and/or imaginal) behavior than it did to realize that the earth is not flat, that it is not the center of the universe, and that life on earth was not designed by a Creator. ▼

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