Consciousness and the Unashamed Rationalist

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About a week ago I published a piece in the online magazine Aeon, and the intensity of the reaction took me by surprise though it probably shouldn't have. I had summarized a new theory about how the brain produces consciousness. Given the strong opinions on all sides, I thought I would clarify my positions -- by which I suppose I mean, dig the hole as deep as possible for myself.

Theories of consciousness are always a difficult sell because the topic is fraught with religious and spiritual issues. Almost all people who think about the question, whether they approach it from a religious perspective or consider themselves to be scientists and atheists, start from a profoundly anti-rationalist assumption of magic. In that assumption we have a non-physical internal experience, qualia, magic, awareness, sentience, whatever you call it. We have subjective feeling. How does it get there? Does the brain produce it? If so, how can a physical brain produce a non-physical feeling?

My approach is that if we are going to study the thing scientifically so as to make any progress, then let's use some scientific rationalism. How, and for what adaptive advantage, do brains attribute the property of awareness to themselves? I have been involved in neuroscience for twenty-five years, studying how sensory information is processed and movement is controlled. Brains are information processing devices. When an information processing device introspects, that is to say, sorts and assesses internal data, and on that basis arrives at the conclusion that it has a magical, non-physically-explainable property, the most straightforward scientific question is not: "How did it produce magic?" but instead: "How, and for what use, does it construct that description of itself?" I believe that question is not so difficult to answer. The outlines of an explanation may already be present. I've written about the "attention schema" theory in other places, including in my new book Consciousness and the Social Brain which lays out the case and describes the connections between the theory and other relevant theories and evidence.

Brains construct descriptions of things. Whether it's sensory information about the outside world or information about the movement of one's own limbs, brains construct fast, cartoonish descriptions of things external and internal. Those descriptions are never fully accurate. They often contain physical impossibilities.

In the attention schema theory, awareness is a description, one might say a model or a simulation, constructed by specialized systems in the brain. It is a cartoonish, somewhat inaccurate model of something real. The real item is attention. Attention is a data-handling trick. Incoming signals compete, some signals win the competition, and as a result the processing power of the brain is focused on those select, winning signals. Attention is a way of focusing the computing resources. Awareness, in the theory, is the brain's own fuzzy description of attention. A brain attends to thing X; the brain constructs the description, "I am aware of thing X." By having some rough knowledge about its own attention, the brain can predict and partially control its own functioning. One of the key lines of evidence is that awareness and attention are closely related and yet are not the same thing. They can be separated. Like all models constructed by the brain, this one can slip and become inaccurate in certain threshold circumstances. Awareness is not attention; it is the brain's schematic and somewhat error-prone model of attention.

My main purpose here, however, is not to detail the particular theory, which as I said has been described elsewhere. My main purpose is to give a pitch for rationalism. My previous article received comments pro and con, but the con comments were almost uniformly a pushback against rationalism. The topic of consciousness seems to be one of the last domains where science is not easily let in. Even the scientists who study it begin with an assumption of magic, usually by some other name, and then throw up their hands about what has been euphemistically called "the hard problem." It is as though researchers of consciousness delight in having an unsolvable problem, perhaps because it makes them feel in some way apart from the physical world, or perhaps because they've built careers out of peddling the mystery.

Science and rationalism and reductionism can't answer every question or explain every phenomenon. But they often get pretty far if one gives them a chance. To approach consciousness scientifically, perhaps someday to help people with brain disorders, perhaps even to construct artificial intelligence that is humanlike, we can't start with the assumption of magic. Science can't make headway unless observations are stripped of their magical interpretations. Objectively, human brains attribute the property of awareness to themselves. From that beginning one can ask scientific questions: what systems in the brain are responsible for this type of attribution? What happens when a stroke or other brain disease damages those systems? Do those systems confer a specific advantage? The answers are likely to violate
common intuitions. Even the line of questioning appears to violate most people's intuitions about mind and consciousness. But when it comes to understanding the functioning of the brain, intuition and introspection do no good at all. The brain's knowledge of itself is too sketchy, partial, and distorted. For my part, I will continue with the rationalist approach.
That is to say, rationalists asserted that certain rational principles exist in logic, mathematics, ethics, and metaphysics that are so fundamentally true that denying them causes one to fall into contradiction. In politics, rationalism, since the Enlightenment, historically emphasized a "politics of reason" centered upon rational choice, utilitarianism, secularism, and irreligion the latter aspect's antithesis later softened by political adoption of pluralistic rationalist methods practicable regardless of religious or irreligious ideology. The rationalists had such a high confidence in reason that empirical proof and physical evidence were regarded as unnecessary to ascertain certain truths in other words, "there are significant ways in which our concepts and knowledge are gained independently of sense experience". Different degrees of emphasis on this method or theory lead to a range of rationalist standpoints, from the moderate position "that reason has precedence over other ways of acquiring knowledge" to the more extreme position that reason is "the unique path to knowledge." Given a pr