Review of: "On the Hard Problem: Revisited, Re-Evaluated, Recast"

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Review of “On the Hard Problem: Revisited, Re-Evaluated, and Recast” by David Josef Herzog and Nitsa Herzog. (Overall rating: 3.5-4.0)

Reviewer: Paul F. Cunningham

In this paper, the authors provide an overview of the many different positions and approaches to what has been called the Hard Problem of consciousness—explaining how conscious experience arises from insentient brain matter. The authors “revisit” the confusing array of candidate solutions that often seem conflicting and contradictory to reveal that no one completely satisfying “explanation” for why awareness accompanies experience appears on the horizon. As the authors point out in the abstract of a prior paper titled, “What Is it Like to be an AI Bat?”, the particular answer given to the so-called Hard Problem depends on the type of consciousness model adopted. In both papers, the authors call for an “instrumental” and “utilitarian” approach to the mind-matter question that looks to the neurological correlates of consciousness (or awareness) as the best avenue to advance understanding in a piecemeal fashion that will resolve the issue sometime in the future. It is a promissory note that has been advanced by others who also see the empirical method of physical and natural science and new noninvasive imaging technologies as providing the most promising way forward toward a solution to the Hard Problem at the present time.

The authors’ effort to systematize the confusing array of “solutions” to the Hard Problem in the form of Table 1 (“Hard Problem and Explanatory Gap”), Table 2 (“There is no Hard Problem”), and Table 3 (“Summary of Authors’ position on the ground of middle Problem”) is a welcomed addition to the literature. Their “revisiting” and “re-evaluating” of the various proposed solutions—past and present—illustrates the profound complexity of the problem and the present chaotic state of affairs concerning this topic. By the end of the article, however, the problem they “recast” is still very much like the old one. The “instrumental” and “utilitarian” approach they propose to solve the problem seems hardly new and goes little beyond the conventional neurophysiological, experimental, quantitative framework that has also been proposed by others. The direction in which a scientifically satisfying account of consciousness can be realized is clear, according to the authors, and is found in the endeavor “not only to build a comprehensive system of functional neural correlative basis but also to connect every phenomenal state with descriptive states of the correlates and their ensembles” (p. 17).

Such an endeavor no doubt will keep many research scientists busy for decades (as it already has), continue grant funding to universities (especially those with animal research labs that excel in the parametric tinkering of neurological

and behavioral correlates of conscious animals), and keep alive the idea that psychological processes such as consciousness and awareness can be defined and isolated in a way that permits them to be associated with particular brain regions. Others may argue, on the other hand, that the excitement accompanying the new noninvasive imaging technologies as research tools might well lead to a “neuroreductionist wild goose chase,” causing some scholars to fall victim to what cognitive neuroscientist William Uttal (2001) called a “neo-phrenological” fad that overlooks the limits of localizing cognitive processes, such as consciousness or awareness, in the brain. I know that identifying correlates is not the same as attributing causation to those correlates, although that inference is usually implicitly hidden behind the research and discussions of research results, especially those theories of consciousness translated into architectural models that draw their inspiration from mechanistic computer simulations and colored brain imaging scans.

One of the models of consciousness that the authors call to be re-evaluated is dual ontology. In their view, “dual ontology prevents the possibility of a clear scientific approach to the consciousness problem and has to be re-evaluated” (p. 4). Re-evaluated, yes, but not necessarily thrown out or discarded as a plausible interpretative scheme in favor of a presumption that a search for the neurophysiological basis for consciousness is the best approach forward simply on the grounds that neurophysiology affords “the ability for experimental assessment and quantitative evaluation” (p. 17). The way forward may instead entail learning to look at the physical matter of the brain in a new way and acknowledging that we are more than we know in physical terms and that there is always more going on with matter than ordinary sense data show.

The expectation that an explanation for consciousness is to be found in its effects (i.e., its neurophysiological, behavioral, and phenomenological correlates) may be putting things backwards. This is an understandable tendency in our times for those scholars who have sought to find in neurophysiology all the answers to the “mind” part of the mind/body problem and are captivated by new noninvasive imaging technologies that allow us to observe the brain while it is actively engaged in mental activities. The further question arises: “Is consciousness really caused by the physical matter localized within the brain?” I have discussed elsewhere some of the conceptual and methodological promises, challenges, and prospects of locating and attributing psychological experiences, including of one’s own awareness and self-awareness, to particular brain regions (i.e., religious experience; Cunningham, 2011).

There is always the danger in such discussions that so-called “causes” and “effects” (e.g., neurological, behavioral, phenomenological) which are studied separately will appear to be separate in essence, when what is being discussed in all these topics is the self-reflexive nature of a consciousness that makes itself the object of its own study. If we isolate such aspects of the Hard Problem for the sake of discussion (e.g., phenomenology, perception, neurophysiology, consciousness), then it is easy to forget that such isolation is artificial and in no way affects the nature of the reality of consciousness itself. Any perceptual and conceptual distinctions are artificial, for all these realities merge one into the other, and an action in one affects the others, as psychosomatic medicine and psycho-neuro-immunological and neurofeedback research clearly document. The evidence of a solution must come through the correct channels, and it would be a creative error to use the neurophysiological or behavioral correlates to “represent,” “substitute,” or “stand in for” the data of consciousness.

To make a finer point, it is true that physical brain matter makes consciousness effective in the physical world and is the

medium by which consciousness expresses itself in the work-a-day world of everyday life. Matter is, in some ways, the basis of the physical universe itself, and yet matter is merely *energy* changed into aspects with certain properties that can, under certain conditions, be perceived by the external senses and physically manipulated (Bunge, 2000). Modern quantum physical theory tells us that solid objects are not solid, which implies that the brain that our eyes see as solid is not solid at the elementary level of its physics. The “stuff” or matter (e.g., atomic and subatomic particles) that composes consciousness’s apparent neurophysiological basis is forever appearing and disappearing in what physicists call the “quantum vacuum” at intervals too brief to be effectively measured by scientific instruments. The brain’s form and function (e.g., its neurophysiology), nevertheless, remain intact throughout this continuous turnover of the matter that composes it, unperceived by the physical senses. If the brain’s form and function are not characteristic features of the matter that composes it because it does not last long enough to serve as either, then what is the source of those neurophysiological correlates’ form and function, if it is not the physical matter that composes it? Where else could consciousness come from, if not the matter of the brain (Cunningham, 2024)? Now *that's* a hard problem.

The authors recognize, and correctly so, that explicating each of the approaches and views mentioned in the paper would make for a book (or book chapter) rather than an article. Their disinclination for “disentangling the Gordian knot of hard problems or cutting through it in the Alexandrian way” (p. 17) thus leaves a lot of background knowledge to be presumed on the part of the reader. View after view is presented in almost a telegraphic or coded manner. Those more familiar with the ins and outs of all the theories and models may be able to sort out the deeper meanings of the various synopses. Otherwise, the reader must fill in the “explanatory gap” among the various theories, which lack semantic bridges connecting them, except for the conceptual bridges provided by the three Tables. Presenting telescoped verbal summaries of each theory does little to advance what I think the authors are aiming at or trying to accomplish in this article. “Less is more” in such cases. Some sort of integration or synthesis would have been nice (absent the step-by-step review of theories) that advanced discussion of the Hard Problem in a new, creative, and substantive way—perhaps recasting the Hard Problem in a more solvable form—beyond the methodological recommendation that the model of science afforded by the natural and physical sciences be the final arbiter of what counts as evidence for a solution to this “problem” of consciousness.

In terms of clarity of presentation, the authors might consider an opportunity to re-visit, re-evaluate, and re-cast the article's textual sentence structure and vocabulary. Multiple ideas are nested one within another in a single sentence, and the overuse of specialized terminology (i.e., jargon) that is unfamiliar to the average reader hinders comprehension. Just three of many examples: “Presenting ‘hard problem’ as Aristotelian superlunary physics, devoid of tractability by its claimed ontology in the world, is not the strategy for better understanding” (p. 9) or “As the argument goes, people with qualia, caused by phenomena but which are consciousness epiphenomena by their nature, cannot physically be explained as conscious creatures. If qualia are not epiphenomena, they are physical by nature and have to be accessible as such” (p. 7) or “The first-person experience of consciousness cannot be the proper monistic basis without discarding the objective part of our existence” (p. 5). The meaning of these sentences (and many others) needs to be either unpacked, the sentence revised, or dropped altogether because they do not further the general reader’s comprehension of the theory/model or the authors’ goals and objectives for writing the paper.

In summary, this reviewer found the three Tables useful in organizing and relating the plethora of theories and models of consciousness applied as solutions (or non-solutions) to what is popularly called the Hard Problem in consciousness studies. The authors' abbreviated explanations/summaries/synopses of the theories and models themselves were not so helpful and often presupposed more knowledge on the reader's part than can be expected. Perhaps others more expert in the matter may find the surface structure of the sentences less opaque and confusing. The article would make a far more original contribution to the literature, in my opinion, if it would instead build upon, expand, and extend the implications of the information conveyed in the three Tables--minus the capsuled summaries of individual theories and models in which an appropriate reference or two might suffice to direct the reader to the best primary source--in a manner that truly recast the Hard Problem into a more solvable form beyond a methodological recommendation for the continued use of conventional "utilitarian-instrumental" approaches that have, up to this time, proved relatively helpless in resolving the problem.

Organizing the theories and models of consciousness into categories in terms of where they stand vis-à-vis the mind-matter question is a good start. The clarion call for science to be the final arbiter of the reality of consciousness may not, however, be enough. By the end of the article, I was still left with the same understanding that I had before I began reading the article: (a) The problem of consciousness as it is formulated is a difficult puzzle to solve; (b) There are lots of assumptions hidden behind the research and the proposed models of consciousness that need to be made explicit; (c) Despite the substantial scientific investigations and philosophical analyses of the neurophysiological, behavioral, and phenomenological correlates of consciousness, no solid empirical finding or philosophical theory, proven without doubt and accepted without reservation, appears to be in sight; and (d) Promissory notes that the scientific method with its metrics will prove to save the day remain in force.

Why has the hard problem been so difficult to solve? It would have been nice if the authors could offer a reasonable answer to this further question and then propose a way forward based on this "recast" understanding. Searching for something never before found, such as finding a satisfactory solution to the "hard" problem of consciousness, may require perceiving the reality of mind and body in a completely new way. Giving birth to the new and untried often means going beyond previous learning and accomplishment and requires looking outside established frameworks. If every discovery has to be tied to already-existing knowledge, then how is anything really new ever to be discovered? Striving to recast the Hard Problem into a more solvable form, the article ultimately promises more than it can deliver.

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