Hard problem of consciousness

The hard problem of consciousness is the problem of explaining how and why we have qualia or phenomenal experiences — how sensations acquire characteristics, such as colors and tastes.\(^1\) David Chalmers,\(^2\) who introduced the term "hard problem" of consciousness, contrasts this with the "easy problems" of explaining the ability to discriminate, integrate information, report mental states, focus attention, etc. Easy problems are easy because all that is required for their solution is to specify a mechanism that can perform the function. That is, their proposed solutions, regardless of how complex or poorly understood they may be, can be entirely consistent with the modern materialistic conception of natural phenomena. Chalmers claims that the problem of experience is distinct from this set, and he argues that the problem of experience will "persist even when the performance of all the relevant functions is explained".\(^3\)

The existence of a "hard problem" is controversial and has been disputed by some philosophers.\(^4\) Providing an answer to this question could lie in understanding the roles that physical processes play in creating consciousness and the extent to which these processes create our subjective qualities of experience.\(^5\)

Several questions about consciousness must be resolved in order to acquire a full understanding of it. These questions include, but are not limited to, whether being conscious could be wholly described in physical terms, such as the aggregation of neural processes in the brain. It follows that if consciousness cannot be explained exclusively by physical events in the brain, it must transcend the capabilities of physical systems and require an explanation of nonphysical means. For philosophers who assert that consciousness is nonphysical in nature, there remains a question about what outside of physical theory is required to explain consciousness.

Formulation of the problem

Chalmers' formulation

In Facing Up to the Problem of Consciousness, Chalmers wrote:

> It is undeniable that some organisms are subjects of experience. But the question of how it is that these systems are subjects of experience is perplexing. Why is it that when our cognitive systems engage in visual and auditory information-processing, we have visual or auditory experience: the quality of deep blue, the sensation of middle C? How can we explain why there is something it is like to entertain a mental image, or to experience an emotion? It is widely agreed that experience arises from a physical basis, but we have no good explanation of why and how it so arises. Why should physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, and yet it does."\(^6\)[7]

Easy problems

Chalmers contrasts the Hard Problem with a number of (relatively) Easy Problems that consciousness presents. (He emphasises that what the easy problems have in common is that they all represent some ability, or the performance of some function or behaviour).

- the ability to discriminate, categorize, and react to environmental stimuli;
- the integration of information by a cognitive system;
- the reportability of mental states;
- the ability of a system to access its own internal states;
- the focus of attention;
- the deliberate control of behavior;
- the difference between wakefulness and sleep.
Other formulations

Various formulations of the "hard problem":

- "How is it that some organisms are subjects of experience?"
- "Why does awareness of sensory information exist at all?"
- "Why do qualia exist?"
- "Why is there a subjective component to experience?"
- "Why aren't we philosophical zombies?"

James Trefil notes that "it is the only major question in the sciences that we don't even know how to ask."

Historical predecessors

The hard problem has scholarly antecedents considerably earlier than Chalmers.

Gottfried Leibniz wrote, as an example also known as Leibniz's gap:

Moreover, it must be confessed that perception and that which depends upon it are inexplicable on mechanical grounds, that is to say, by means of figures and motions. And supposing there were a machine, so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain a perception.\[8]\n
Isaac Newton wrote in a letter to Henry Oldenburg:

to determine by what modes or actions light produceth in our minds the phantasm of colour is not so easie.\[9]\n
T.H. Huxley remarked:

how it is that any thing so remarkable as a state of consciousness comes about as the result of irritating nervous tissue, is just as unaccountable as the appearance of the Djin when Aladdin rubbed his lamp.\[10]\n
Responses

Scientific attempts

There have been scientific attempts to explain subjective aspects of consciousness, which is related to the binding problem in neuroscience. Many eminent theorists, including Francis Crick and Roger Penrose, have worked in this field. Nevertheless, even as sophisticated accounts are given, it is unclear if such theories address the hard problem. Eliminative materialist philosopher Patricia Smith Churchland has famously remarked about Penrose's theories that "Pixie dust in the synapses is about as explanatorily powerful as quantum coherence in the microtubules."

Consciousness is fundamental or elusive

Some philosophers, including David Chalmers and Alfred North Whitehead, argue that conscious experience is a fundamental constituent of the universe, a form of panpsychism sometimes referred to as panexperientialism. Chalmers argues that a ‘rich inner life’ is not logically reducible to the functional properties of physical processes. He states that consciousness must be described using nonphysical means. This description involves a fundamental ingredient capable of clarifying phenomena that have not been explained using physical means. Use of this fundamental property, Chalmers argues, is necessary to explain certain functions of the world, much like other fundamental features, such as mass and time, explain significant principles in nature.

Thomas Nagel has posited that experiences are essentially subjective (accessible only to the individual undergoing them), while physical states are essentially objective (accessible to multiple individuals). So at this stage, we have no
idea what it could even mean to claim that an essentially subjective state just is an essentially non-subjective state. In other words, we have no idea of what reductivism really amounts to.

New mysterianism, such as that of Colin McGinn, proposes that the human mind, in its current form, will not be able to explain consciousness.

**Deflationary accounts**

Some philosophers, such as Daniel Dennett,\(^{[11]}\) oppose the idea that there is a hard problem. These theorists argue that once we really come to understand what consciousness is, we will realize that the hard problem is unreal. For instance, Dennett asserts that the so-called hard problem will be solved in the process of answering the easy ones.\(^{[12]}\) In contrast with Chalmers, he argues that consciousness is not a fundamental feature of the universe and instead will eventually be fully explained by natural phenomena. Instead of involving the nonphysical, he says, consciousness merely plays tricks on people so that it appears nonphysical—in other words, it simply seems like it requires nonphysical features to account for its powers. In this way, Dennett compares consciousness to stage magic and its capability to create extraordinary illusions out of ordinary things.\(^{[13]}\)

To show how people might be commonly fooled into overstating the powers of consciousness, Dennett describes a normal phenomenon called change blindness, a visual process that involves failure to detect scenery changes in a series of alternating images.\(^{[14]}\) He uses this concept to argue that the overestimation of the brain's visual processing implies that the conception of our consciousness is likely not as pervasive as we make it out to be. He claims that this error of making consciousness more mysterious than it is could be a misstep in any developments toward an effective explanatory theory. Critics such as Galen Strawson reply that, in the case of consciousness, even a mistaken experience retains the essential face of experience that needs to be explained, contra Dennett.

To address the question of the hard problem, or how and why physical processes give rise to experience, Dennett states that the phenomenon of having experience is nothing more than the performance of functions or the production of behavior, which can also be referred to as the easy problems of consciousness.\(^{[15]}\) He states that consciousness itself is driven simply by these functions, and to strip them away would wipe out any ability to identify thoughts, feelings, and consciousness altogether. So, unlike Chalmers and other dualists, Dennett says that the easy problems and the hard problem cannot be separated from each other. To him, the hard problem of experience is included among—not separate from—the easy problems, and therefore they can only be explained together as a cohesive unit.\(^{[16]}\)

A notable deflationary account is the Higher-Order Thought theories of consciousness.\(^{[17]}\) Though the most common arguments against deflationary accounts and eliminative materialism is the argument from qualia, and that conscious experiences are irreducible to physical states - or that current popular definitions of "physical" are incomplete - the objection follows that the one and same reality can appear in different ways, and that the numerical difference of these ways is consistent with a unitary mode of existence of the reality. Critics of the deflationary approach object that qualia are a case where a single reality cannot have multiple appearances. As John Searle points out: "where consciousness is concerned, the existence of the appearance is the reality."\(^{[18]}\)

Critics of Dennett’s approach, such as David Chalmers and Thomas Nagel, argue that Dennett's argument misses the point of the inquiry by merely re-defining consciousness as an external property and ignoring the subjective aspect completely. This has led detractors to refer to Dennett's book *Consciousness Explained* as *Consciousness Ignored* or *Consciousness Explained Away.*\(^{[19]}\) Dennett discussed this at the end of his book with a section entitled *Consciousness Explained or Explained Away.*\(^{[20]}\)
Simulation argument

A simulation hypothesis was first published by Hans Moravec and later by philosopher Nick Bostrom. This view considers the experience of individual consciousness -and all experienced qualia in general- as ‘internal objects’ only existing inside a ‘world simulation’ actively created by some of brain information processing functions. Brains themselves being objects existing at the next reality level, i.e. the ‘external’ physical world (see references in the corresponding Wikipedia articles: Simulation hypothesis and Simulated reality).

References

[8] Leibniz, Monadology, 17, quoted by Istvan Aranyosi (http://www.personal.ceu.hu/students/03/istvan_aranyosi/chapterIV.pdf)
[18] Searle, J. The Mystery of Consciousness, p111
[19] , p. 32

Further reading

- The Objective Consciousness Revisited - Understanding the Nature of Consciousness (http://www.cgjungpage.org/index.php?option=com_content&task=view&id=532&Itemid=40) by Robert G. Heyward
- The Hard Problem Is Dead (http://cognitivequestions.org/hardproblem.html) by Teed Rockwell
- You can't argue with a Zombie (http://www.davidchess.com/words/poc/lanier_zombie.html) by Jaron Lanier
External links

- The Hard Problem of Consciousness (http://www.iep.utm.edu/hard-con) entry in the *Internet Encyclopedia of Philosophy*
- *Journal of Consciousness Studies* Symposium on the Hard Problem (http://consc.net/responses.html#jcs)
- Online papers on the hard and easy problem of consciousness (http://consc.net/online/1.2d)
- Online papers on Higher-Order Thought approaches to the hard problem of consciousness (http://consc.net/online/1.4a)
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