

What is Consciousness?

Part I: The Hard Problem

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I Conscious experience

Conscious experience is **qualitative**...

- Experience presents **qualities**: sounds, colours, shapes, textures, smells, light and dark, pains and pleasures, comforts and discomforts.
- The qualities are **structured**: this noise is over here, this colour is over there, etc.

Conscious experience is **subjective**...

- Conscious experiences are had by **subjects** (e.g. me, you).
- They give a subject a **point of view** on the world and on its own body.
- This point of view **cannot be fully understood or known 'from the outside'**—only 'from the inside'.

The subjective, qualitative character of conscious experience is summed up (but not defined) in the phrase '**what it's like**'.

2 The easy problems and the hard problem

Q: Why does brain activity give rise to conscious experience?

Chalmers (1995): We should break this question down into the 'easy' problems of consciousness and the 'hard' problem.

Chalmers's 'easy' problems:

- 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 behaviour;
- the [functional] difference between **wakefulness and sleep**.

2 The easy problems and the hard problem

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- The ‘easy’ problems are those of explaining the **abilities and functions of the brain** associated with conscious experience.
- They are ‘easy’ only in the sense that, because they are questions about abilities and functions, we can see how they might be approached using the **standard methods of neuroscience and cognitive science**.
- The hard problem is the problem of explaining why any of these brain functions give rise to **subjective, qualitative experience**.

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Chalmers’s ‘**hard**’ problem:

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.

Chalmers 1995, p. 201

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Chalmers’s ‘hard’ problem:

What makes the hard problem hard and almost unique is that it goes *beyond* problems about the performance of functions. To see this, note that even when we have explained the performance of all the cognitive and behavioural functions in the vicinity of experience — perceptual discrimination, categorization, internal access, verbal report — there may still remain a further unanswered question: *Why is the performance of these functions accompanied by experience?* A simple explanation of the functions leaves this question open.

Chalmers 1995, p. 203

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Chalmers’s ‘**hard**’ problem:

Why doesn’t all this information-processing go on ‘in the dark’, free of any inner feel? Why is it that when electromagnetic waveforms impinge on a retina and are discriminated and categorized by a visual system, this discrimination and categorization is experienced as a sensation of vivid red? We know that conscious experience *does* arise when these functions are performed, but the very fact that it arises is the central mystery. There is an *explanatory gap* (a term due to Levine 1983) between the functions and experience, and we need an explanatory bridge to cross it. A mere account of the functions stays on one side of the gap, so the materials for the bridge must be found elsewhere.

Chalmers 1995, p. 203

3 Avoiding the hard problem

Experience **depends on the cerebral cortex** and involves the coordinated activity of different cortical areas.

Francis Crick, Christof Koch (1990): Conscious experience is associated with 35-75Hz 'gamma oscillations' (brainwaves) in the cortex.

Yeah but... why do 35-75Hz gamma oscillations in the cortex give rise to **conscious experience**?

Bernard Baars (1988), Stanislas Dehaene (2013): Conscious experience consists of a 'global workspace'.

Yeah but... why is information in the 'global workspace' (but not information in local workspaces) consciously experienced?

3 Avoiding the hard problem

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Francis Crick, Christof Koch (1990): Conscious experience is associated with 25-75Hz 'gamma oscillations' (binding) in the cortex.

Well, let's first forget about the really difficult aspects, like subjective feelings, for they may not have a scientific solution. The subjective state of play, of pain, of pleasure, of seeing blue, of smelling a rose — there seems to be a huge jump between the materialistic level, of explaining molecules and neurons, and the subjective level. Let's focus on things that are easier to study — like visual awareness. You're

consists of a 'global workspace'.

Christof Koch, quoted in Chalmers 1995, p. 205.

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3 Avoiding the hard problem

Another important theme is that conscious experience consists of a **special kind of internal ‘image’, ‘map’, ‘model’ or ‘representation’**.

Prinz (2012): Conscious experience consists of ‘attended intermediate representations’ (‘AIRs’).

Yeah but... why are these special representations **consciously experienced?**

Feinberg and Mallatt (2016): Conscious experience consists of internal ‘maps’ of body and world (which are present in even very simple animals such as lampreys).

Yeah but... why are these internal maps **consciously experienced?**

4 Denying the hard problem

The analogy with life:

The easy problems of life include those of explaining the following phenomena: reproduction, development, growth, metabolism, self-repair, immunological self-defence . . . These are not all *that* easy, of course, and it may take another century or so to work out the fine points, but they are easy compared to the really hard problem: life itself. We can imagine something that was capable of reproduction, development, growth, metabolism, self-repair and immunological self-defence, but that wasn't, you know, *alive*. The residual mystery of life would be untouched by solutions to all the easy problems. In fact, when I read your accounts of life, I am left feeling like the victim of a bait-and-switch.

Dennett 1996, p. 4

4 Denying the hard problem

Dennett's argument in short:

- The appearance of a 'hard problem' of life dissolved as the biological sciences progressed.
- Analogously, we should expect the appearance of a 'hard problem' of consciousness to dissolve as the science of consciousness progresses.

But...

- In the case of life, we began with a list of functions that needed explaining, characterized in the third-person.
- There was never any reason to doubt these functions could in principle be investigated using ordinary scientific methods.
- In the case of conscious experience, we start with something immediate, subjective and qualitative, characterized in the first-person.

5 Summary

- Conscious experience is **subjective** and **qualitative**. Its subjective, qualitative character is summed up in the phrase '**what it's like**'. If you're conscious, there is something it's like to be you.
- This leads to the question: why does brain activity give rise to conscious experience?
- Chalmers (1995) distinguishes the '**easy**' problems of consciousness from the '**hard problem**'.
- The '**easy** problems' concern the neural mechanisms underlying abilities and functions associated with conscious experience.
- The **hard problem** is that of explaining why brain activity gives rise to subjective, qualitative experience at all.
- The neuroscience of consciousness has tended to avoid the hard problem and focus on the 'easy' problems.
- Some philosophers, such as Dennett, deny there really is a hard problem.

Next time: Should a theory of conscious experience be **materialist** or **dualist**?