Philosophy 355: Contemporary Philosophy
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Tuesdays and Thursdays, 9am - 10:15am

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# Class 10 - The Hard Problem of Consciousness

## I. The easy problem and the hard problem

The functionalist theory of the mind was susceptible to objections about inverted and absent qualia.
When we looked at consciousness directly, with Nagel and Jackson, it looked like no physicalist theory could accommodate qualia.
The Churchland/Dennett response to the problems of qualia involved denying that there are any.
If we deny that qualia exist, or even just that they are relevant to the construction of the proper theory of the mind, then the functionalist theory seems viable, again.
But, the qualia freak argues, the eliminativist about the phenomenal character of experience denies what must be taken as a brute fact about the world; see Nagel, p 437; or Descartes, in response to Mersenne.
The qualia freaks and the qualia deniers agree, though, that there is no purely physical reduction of consciousness to physical states.

Really, we have two viable theories of the mind, in the absence of smooth reductions between folk psychology (and its language of our mental states) and neuroscience.
One theory, Block's Functionalism, prefers folk psychology.
But, the functionalist seems to have to deny the reality of qualia, which are central to our folk-psychological vocabulary.
This would be a hard pill for the functionalist to swallow.
The second, rooted in Block's Psychofunctionalism, abandons folk psychology, and prefers neuroscience.
The last thirty years has seen an explosion of interest in neuroscience among philosophers, and cognitive scientists.
The eliminativists had made a prediction, about how our theories about the mind would change with advances in neuroscience.
This is an empirical claim, at least in part.
Since all other positions seem problematic, it is at least justifiable, if not prudent, to see what neuroscience could say about consciousness.

Chalmers enters the debate at a time when many neuroscientists and cognitive scientists are claiming to have solved the problem of consciousness.
He discusses two of these so-called solutions in a bit of detail, and refers to others.
Crick and Koch, in their neurobiological theory, argue that consciousness is explained by the binding of information which occurs with the synchronized oscillations of neuronal groups in the cerebral cortex.
Baar argues that consciousness is explained by the functioning of a central processor which mediates among unconscious processes.
(Chalmers also mentions Jackendoff's Intermediate-Level theory of consciousness.
On October 8, Pete Mandik will present "A Simple Argument for the Intermediate-Level Theory of Consciousness", and we'll see if he avoids the problems.)
The hope of such theories is either that we will discover ground for smooth neurological reductions of conscious states, or that we will find compelling information about the brain which will revolutionize our theories about the mind.
Smooth reductions could support the functionalist, since folk psychological concepts would be vindicated.

Compelling revolutionary discoveries in the brain could support the eliminativist's re-thinking of our language of mental states.

In order to evaluate these new theories of consciousness, Chalmers distinguishes the easy problems of consciousness from the hard problem.
The easy problems involve mapping the brain, and determining all of its functions.
The hard problem is to explain the root of our phenomenal experience.

The easy problems are easy because they involve explanations of the performance of functions.
Among the easy problems are explaining attention, memory, access to our states, and control of behavior.
We explain any kind of function, whether mental or not, by specifying a mechanism which performs that function, p 4.
If we want to explain how the engine of a car works, we take it apart and display all the mechanisms.
If we want to explain how trees photosynthesize, we trace the process, including how the chlorophylls of the thylakoid absorb and trap the light energy.
In all cases of explaining functions, we provide reductive explanations, which are useful widely, and "available on the cheap" (12).

But there is a gap between the explanations of functions related to consciousness and the explanations of conscious experience itself, p 6.
We can see the gap clearly by using Chalmers' question test:

> Why would binding create experience (p 7)?
> Why would global accessibility give rise to conscious experience (p 8)?

The mechanisms stay on one side of the explanatory gap.
Experience is on the other side.
So, we need a bridge between them.

(You might compare Chalmers' test with Moore's open question test.
Moore says that any reductive definition of the good to some natural property fails the open question test.
Consider, for example, the theory that says that the good is to be identified with happiness.
Moore says that we can always ask whether happiness is good.
That is, since it is an open question whether happiness is good, goodness can not be identical with happiness.)

Once he distinguishes the easy problem from the hard problem, Chalmers notes that most theories of consciousness that might be taken as attempts to solve the hard problem, are really just attempts at the easy problem.
Chalmers notes that most of the scientific work which attempts to explain consciousness is unambitious, at worst, but liable to misinterpretation, p 9.
Crick and Koch, and Baar, just present explanations of the neural correlates, or the functional correlates, of consciousness, and not experience itself, p 7.

It looks like the hard problem might really be intractable.
Experience arises from the physical, but it is not entailed by the physical, p 12.
(Kripke says something very much like this in response to the identity theorist.
We saw a relevant quote from Kripke in the Rorty article, and we will return to it in a few weeks.)
Any physical explanation of mechanisms will fail Chalmers' test.
Any reductive explanation will, in principle, not suffice.

II. Chalmers' non-reductive explanation

Given the failure of reductive explanations, Chalmers attempts to bridge the phenomenal and the physical.
That is, if you can't beat 'em (defeating the dualist by reducing experience to physical mechanisms) then join 'em (by admitting some sort of dualism).
Chalmers defends what he calls naturalistic dualism, which is a kind of property dualism.
The bridge principles he presents, or psychophysical principles, are committed to a connection between experience, taken as fundamental, and physical properties, also taken as fundamental.

So Chalmers urges an ontological expansion from strict physicalism.
That is, there are more properties than physics says that there are.
Chalmers defends this ontological expansion by appealing to historical precedent.
When physicists, like Maxwell, used electromagnetic charge to explain physical phenomena, they were adding new properties to the ontology of physics, pp 13-14.
Analogously, Chalmers wants to add mental properties, qualia, to our theories.
Then, we can look for some underlying, unifying principles among qualia and physical properties.

Chalmers presents three principles:

1. Structural Coherence: The structure of consciousness is isomorphic to the structure of awareness, taken as a functional concept.
2. Organizational Invariance: Two systems with the same fine-grained functional organization will have qualitatively identical experiences.
3. The Double Aspect Theory of Information

The double aspect theory is the most basic principle.
It says that all information has both a phenomenal aspect and a physical aspect.
(Chalmers notes that his notion of information relies on the work of Shannon.
Here is the original Shannon article, which is long, and technical.)

The double-aspect theory is controversial.
According to this theory, even thermostats have some kind of lower-level consciousness, since they process information, p 24.
Of course, they would have the most rudimentary kind of consciousness.
Lower animals would have some, too, and higher animals would have more.
The double aspect theory is supported by some of our intuitions about the qualia of animals.
But, it is not supported by most of our intuitions about Block's examples, including the homunculi-headed robot.
That is, Chalmers is accepting that the Chinese nation, say, actually has qualia.

One advantage of the double-aspect theory is that it goes some ways to explaining the higher-level principles we would need for a complete theory of consciousness.
That is, for each of the easy problems, we are going to need bridges to the hard problems.
If we display a mechanism that explains the function of awareness, but omits the experience of which such a mechanism is a neural correlate, then a full theory of consciousness will need some explanation of the correspondence between our feeling of awareness and that mechanism.
The same kind of bridge, or correspondence, principles will be required for all the mechanisms and

functions that underlie what Chalmers calls the easy problems.
These correspondence principles will likely need some sort of unifying explanation.
The unifying explanation is the double-aspect theory.

Chalmers is, in many ways, a functionalist.
We can see the functionalism in the higher-level principle of organizational invariance.
Consider a system, like yourself, which is aware, say, or recalling something from memory.
We can construct a physical explanation of the mechanisms involved.
These physical explanations will refer to some physical system, and present some sort of functional arrangement of physical objects: the neurons which are firing, their relations in the brain, the relations to physical inputs, etc.
We can, with the functionalist, abstract from the physical base of these explanations and look at the program, the organization.
According to the double-aspect theory, any such organization, physically instantiated, will have some sort, the same sort, of phenomenal aspect.
So, we now have an explanation not only of the physical mechanism, but also of our experience of that mechanism.

Note how the dancing qualia argument is supposed to support the functional underpinnings of organizational invariance.
[More needs to be said, here, about dancing qualia and about structural coherence, but I don't have time, now.]