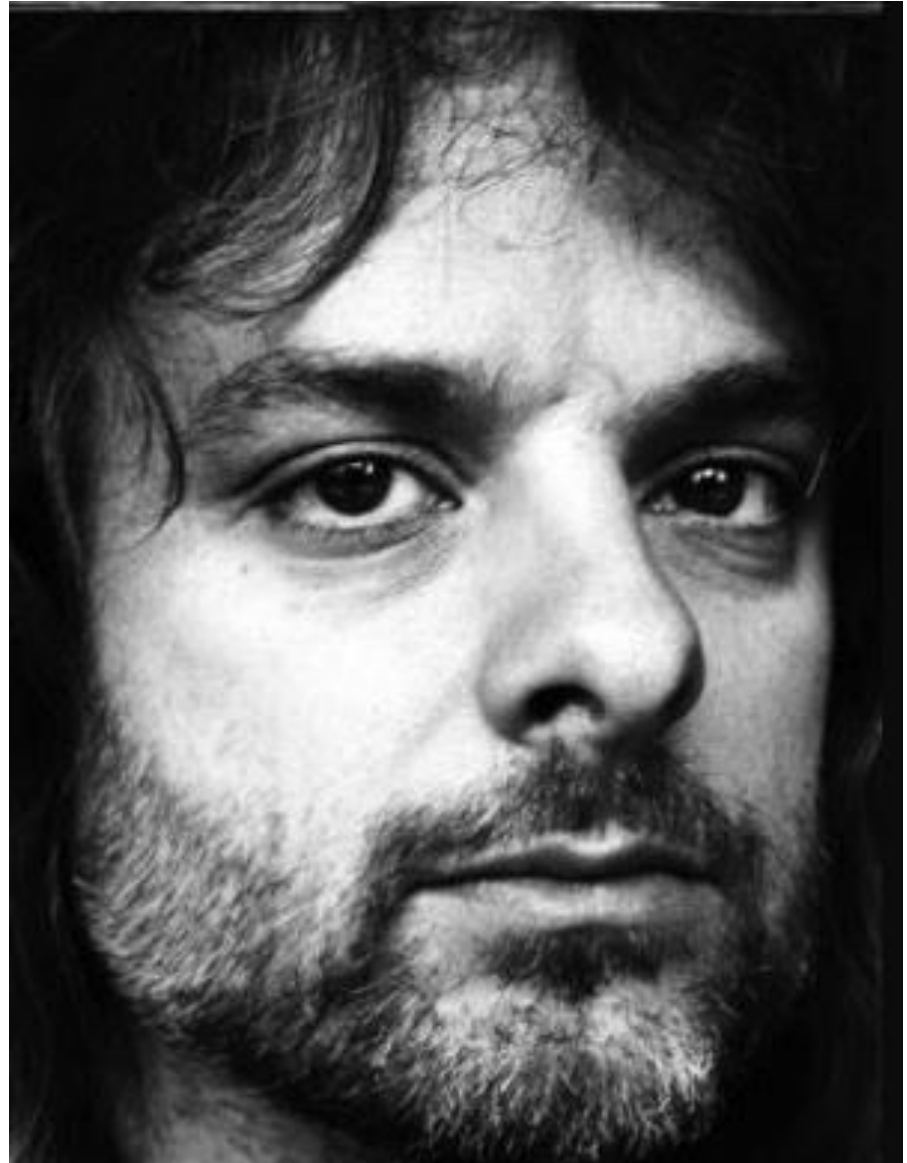


# Chalmers against physicalism

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Consciousness is  
more than structure  
and function



# He's a “convert” to non-materialism

“Temperamentally, I am strongly inclined toward materialist reductive explanation, and I have no strong spiritual or religious inclinations. For a number of years I hoped for a materialist theory; when I gave up on this hope, it was quite reluctantly.

It eventually seemed plain to me that these conclusions were simply forced on anyone who wants to take consciousness seriously. **Materialism is a beautiful and compelling view of the world, but to account for consciousness we have to go beyond the resources that it provides.”**

# Can we *explain* consciousness?

- In Chapter 3 of *The Conscious Mind*, Chalmers is arguing that we cannot *explain* consciousness in terms of physics.
- Recall: Explaining something is more than just saying what caused it.
  - You need also to logically *infer* the effect from the cause.
- This is why a physical explanation is impossible, says Chalmers. Such an inference is impossible, because the conclusion just doesn't follow.  
(Levine's 'explanatory gap')

# Explanation requires *inference*

“reductive explanation of a phenomenon in terms of the physical requires an *a priori* implication from the physical facts to the relevant high-level facts ...

If such a connection does not hold, then we will always be able to raise the further question of why the physical processes give rise to consciousness.

We have seen that in almost all domains, the right sort of connection holds, making reductive explanation possible; but it does not seem to hold for conscious experience.”

- (p. 19)

# Logical Supervenience

- In other words, Chalmers says that mental states are not *logically* (a priori) supervenient on the physical facts.
- Laplace's demon could *not* know what it feels like to be you, just by making logical deductions from a complete physical description of your brain.

# Logical consequence

- Chalmers understands logical consequence as:
- B follows from A      $=_{df}$      B is true in every possible world where A is true.  
     $(A \Rightarrow B)$
- So, to *disprove* a claim of logical consequence, you have to find a possible world where A is true and B is false.

# Bring in the zombies



(Not this kind.)



Chalmers



Chalmers' (phenomenal)  
zombie twin

(You can't tell 'em apart)



# The zombie twin

- “This creature is **molecule for molecule identical to me**, and identical in all the low-level properties postulated by a completed physics, **but he lacks conscious experience entirely.**”
- (The twin is also *functionally identical* to Chalmers, so he produces the same behaviour under the same circumstances.)
- But, “... none of this functioning will be accompanied by any real conscious experience. There will be no phenomenal feel. There is nothing it is like to be a zombie.”

# Proving non-consequence

- What's the point of this nonsense?
- The idea is that, according to Chalmers, his zombie twin is at least *logically possible*, and so it shows that there are no logical consequences of the form:

Physical state P  $\Rightarrow$  Mental state M

- The zombie twin has P, but not M, and so is a counter-example to such entailments.

# Circular argument?

- Of course it's not easy to *show* that such phenomenal zombies are logically (conceptually) possible.
- And that being so, it's perhaps somewhat circular to argue that  $A \Rightarrow B$  is false because it's possible to have A without B.
- The rock-bottom intuition here (I think) is that we cannot imagine any inference from physical (or functional) facts to phenomenal facts.

# Arguments about conceivability

- Functionally-equivalent but physically different systems (e.g. the Blockhead) are conceivable, and they might not be conscious.
- “sometimes it is objected that we cannot really imagine in detail the many billions of neurons in the human brain”.
  - “Those implementational details simply lie at the wrong level to be conceptually relevant to consciousness.”

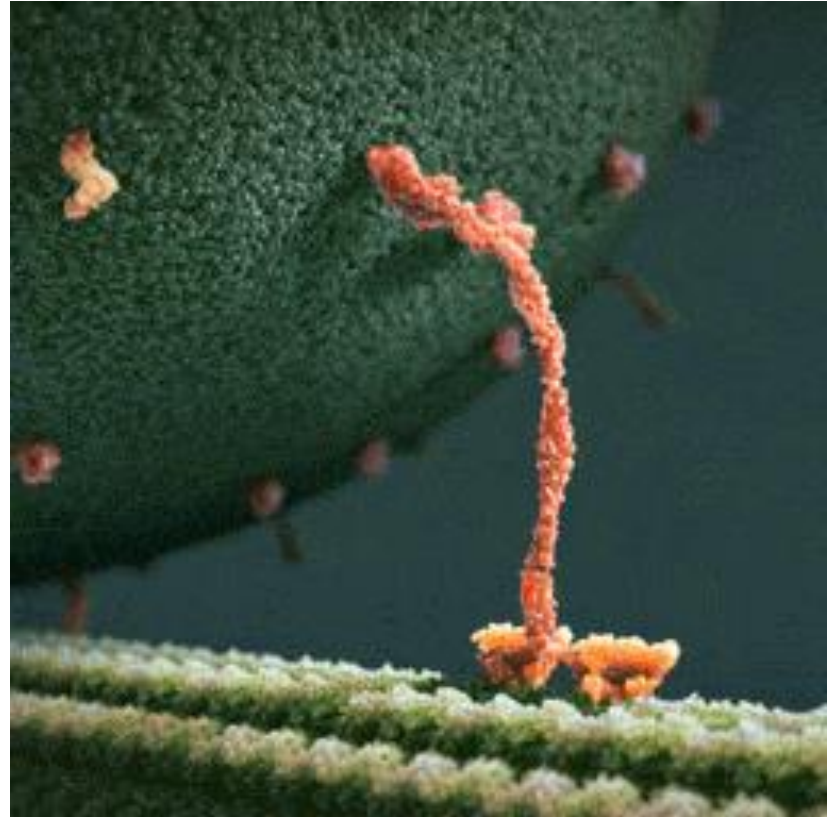
# Epistemic Asymmetry

- There is a huge *difference*, Chalmers says, between consciousness and every other property in the natural world.

“From all the low-level facts about physical configurations and causation, we can in principle derive all sorts of high-level facts about macroscopic systems, their organization, and the causation among them. One could determine all the facts about biological function, and about human behavior and the brain mechanisms by which it is caused. But nothing in this vast causal story would lead one who had not experienced it directly to believe that there should be any consciousness.” (p. 10)

# E.g. motor proteins

Even though motor proteins are amazing, impressive, and even surprising, *there's no explanatory gap.*



- We can see, *in general terms*, how physical molecules can do this *sort* of thing.
  - And the same is true for all biological functions, outside the mind.

## Argument 5: From the Absence of Analysis

“If proponents of reductive explanation are to have any hope of defeating the arguments above, **they will have to give us some idea of how the existence of consciousness might be entailed by physical facts.** While it is not fair to expect all the details, one at least needs an account of how such an entailment might possibly go.

But any attempt to demonstrate such an entailment is doomed to failure. For consciousness to be entailed by a set of physical facts, **one would need some kind of analysis of the notion of consciousness**—the kind of analysis whose satisfaction physical facts could imply—and there is no such analysis to be had.”

# Argument from semantic indeterminacy

- According to a functional or physical analysis of consciousness, there will be no clear point at which an organism will have *enough* functional complexity to “count” as conscious.
- Yet, intuitively, reality is not indeterminate in this way.
- “These are not matters for stipulation. Either there is something that it is like to be a mouse or there is not, and it is not up to us to define the mouse’s experiences into or out of existence.”



# “Structure and dynamics”

- Chalmers doesn't give a definition of “physical” in this book, and actually says (like Montero) that it doesn't require a *precise* definition.
- However, he does have a fairly clear idea in mind. He says that a *physical* theory:
  - “consists in a description of the **structure and dynamics** of fields, waves, particles, and the like.” (p. 21)

**“But from structure and dynamics, we can only get more structure and dynamics.** This allows the possibility of satisfying explanations of all sorts of high-level structural and functional properties, but conscious experience will remain untouched. No set of facts about physical structure and dynamics can add up to a fact about phenomenology.”

# “Structure and function”

“Physical explanation is well suited to the explanation of structure and of function. Structural properties and functional properties can be straightforwardly entailed by a low-level physical story, and so are clearly apt for reductive explanation.

And almost all the highlevel phenomena that we need to explain ultimately come down to structure or function: think of the explanation of waterfalls, planets, digestion, reproduction, language.

But the explanation of consciousness is not just a matter of explaining structure and function.”

# New Physics?

“Some have suggested that the nonlocality of quantum mechanics, as suggested by recent experiments bearing on the Einstein-Podolsky-Rosen paradox and Bell’s theorem, might be the key to a theory of consciousness.

**But even if physics is nonlocal, it is hard to see how this should help in the explanation of consciousness.** Even given a nonlocal physical process, it remains logically possible that the process could take place in the absence of consciousness. The explanatory gap is as wide as ever.”

# Evolutionary Explanation

- No physicalist mechanism for evolution, such as the mutation-selection mechanism, can explain consciousness.

**“The process of natural selection cannot distinguish between me and my zombie twin.** Evolution selects properties according to their functional role, and my zombie twin performs all the functions that I perform just as well as I do; in particular he leaves around just as many copies of his genes. It follows that evolution alone cannot explain why conscious creatures rather than zombies evolved.”