

## 10. MATERIALIST OPTIONS

Materialists differ in which physical states they think mental states are. Materialist positions being considered today: Behaviorism, Identity Theory, Functionalism, Eliminativism.

### 1. BEHAVIORISM

Take a disposition like solubility. There is nothing suggestive of solubility in a sugar cube's surface appearance. Could it be that solubility is not a state of the sugar cube we see, but of some hidden inner component: its sugary soul? No! Solubility doesn't attach to a special inner part of it, rather it's a special type of state, the state of being such that if it were put in water, then it would dissolve.

There is nothing suggestive of wanting coffee in my appearance. Because the wanting is a state of some hidden inner component: my mind? No! It's just that (1) asked what I wanted, I'd say 'Coffee', (2) offered coffee, I would drink it, (3) etc. The desire is invisible not because it's inner, but because it's hypothetical: it has to do with what I would do in circumstances that may not in fact obtain.

Behaviorism: There is nothing more to a mental state but the disposition to behave in certain ways.

*Advantages (over Dualism):*

Materialistic. Evolution. Knowledge of other minds. Mind-body interaction.

*Problems*

Consciousness: The behaviorist has to "feign intentional anesthesia."

Access: "You're fine, how am I?"

Insufficiency: I supposedly want coffee if (1) (2) (3). But maybe I am pretending to want coffee!

Circularity: If you asked and I heard you, I'd say 'Coffee'; if you offered some and I *trusted* you, I'd drink it, etc. But trusting is itself a mental state.

Causation: I reach for coffee because I want it, not the other way around. Compare measles and spots.

### 2. IDENTITY THEORY

Heat is a different concept from high mean molecular kinetic energy. But the states are identical.

Argument for this: heat is "by definition" what causes a certain sensation; that sensation is caused by high mean molecular energy; so heat = high mean molecular energy.

Coffee-desire causes coffee-pursuit-behavior. Coffee-pursuit-behavior is fully accounted for by physical states of our brains. So coffee-desire is a physical state of the brain. (To postulate mental properties in addition would be to multiply causes beyond what's needed to explain the phenomena.)

*Problems*

Standard materialistic problems: Privacy, Subjectivity, Knowability. Put these aside for now.

Chauvinism: C-fiber firing can occur only in brains like ours, but animals and aliens can feel pain.

This is called "multiple realization"; it leads to:

### 3. FUNCTIONALISM

Identifies mental states not with physical states of the brain but something higher and more abstract, something that could be duplicated in all kinds of physical structure.

What makes something a bottle opener? That it's a piece of steel of such and such a composition, such and such a shape, such and such a size, and so on? No; you could have a bottle opener different in all these respects. What makes something a bottle opener is how it functions. A bottle opener is what a bottle opener does. (Within reason: Chairs? Pieces of paper? Eye sockets?) Perhaps we should conceive mental states too in terms of their function.

Imagine a soda machine that charges a dime for each Coke. The machine has two states, S<sub>1</sub> and S<sub>2</sub>, both of defined in terms of what they take as inputs and what they give as outputs. This information is represented in an input/output table as follows.

Input	State 1 (S <sub>1</sub> )	State 2 (S <sub>2</sub> )
Nickel	No output, go to S <sub>2</sub>	Emit Coke, go to S <sub>1</sub>
Dime	Emit Coke, stay in S <sub>1</sub>	Emit Coke & nickel, go to S <sub>1</sub>

Question: what are states 1 and 2? Tempting to say S<sub>1</sub> is the desire for a dime, and S<sub>2</sub> is the desire for a nickel. When you are told enough about how a state functions, that is, what outputs it gives on the basis of which inputs, it can come naturally to describe that state in mentalistic terms.

The functionalist claims that each mental state is defined by the function it performs, that is, by the causal relations it bears to (1) environmental inputs, (2) other mental states, and (3) behavioral inputs.

Of course, the input/output table appropriate to human psychology would be a lot bigger than the one given, but the principle would be the same. Mental states are not (as on the identity theory) the physical states that play these functional roles, they are the functional roles themselves.

#### *Advantages*

Anti-chauvinism. No reason why an alien or computer couldn't feel pain.

Autonomy. I am not my body but something higher, standing to my body in roughly the way a program stands to the computer that's running it. Even if the physical world had been very different, I could still have been here with the same thoughts and feelings I have now.

#### *Problems*

Causation. Can a functional role cause anything? Yet don't we want our beliefs and desires to cause our actions? Perhaps the belief is the state that realizes the functional role. Does this bring chauvinism back?

Over-Flexibility. A functional duplicate made of paper clips and toilet rolls, or water running through pipes, or the population of China, will still be a mind.

Qualia worries. Inverted qualia. Are they really possible? Are they in principle verifiable?

Zombies.

## 4 ELIMINATIVISM

When a theory is shown to be wrong, there are two things that can happen. Either its replacement is sufficiently similar that the terms of the original theory can be continued over more-or-less the same meaning. This happened with the move from Newtonian physics to relativistic physics. Although the notion of mass changed (so that it was now a function of velocity, not an absolute) it was sufficiently similar for people to think that it was the same thing that was being talked about, even though people thought different things were true of it. A more radical example comes with our use of the term 'atom'. Contemporary physics thinks of atoms in very different ways to how they were thought of by the ancient Greeks. But there is, arguably, sufficient similarity for us to use the same word, and to think that the same thing is being spoken of.

Alternatively, a theory can be so radically different that there is no possibility of keeping the terms unchanged. Thus the phlogiston theory held that combustion is the release of a substance called 'phlogiston'. The calorific theory held that heat was a fluid, calorific, that was held within a body, and that could flow from one body to another. Both theories are completely wrong: so wrong that there is nothing that corresponds to these terms in the theories that replaced them. They have not simply been revised, but eliminated. Other examples: witches; the starry sphere above; vital spirit.

Eliminative materialism holds that the same is true of folk psychology ('FP'). It claims that FP is a theory, there is nothing corresponding to the terms 'belief' and 'desire', so, ultimately, they will be eliminated, and replaced with the terms of a better theory: neuroscience.

## Arguments for eliminative materialism

- (i) Explanatory adequacy. Can FP explain mental illness? Sleep? Learning? Intelligence? Memory?
- (ii) Induction from other theories. FP has remained constant since ancient times. All of the other theories that we held in ancient times have turned out to be false. So FP is probably false too. Moreover, it doesn't mesh with contemporary science at all well. It cannot be arithmetized.
- (iii) Evidence from neuroscience?

Note: the distinction between the terms that should be revised, and those that should be eliminated, may be a vague one.

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