

Introduction to Philosophy

Philosophy 110W
Fall 2014
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Class #21
From Behaviorism to Materialism

Business

- Work on mind continues through next Tuesday.
 - ▶ Travis today on materialism
 - ▶ Emily Thursday on functionalism
 - ▶ Me next Tuesday on Consciousness
- We start ethics next Thursday, just before break.
 - ▶ Ginger on Plato
- All rewrites are due Thursday, November 20.
- Argumentative Essay #2 is due on December 11.
- Final exam: Monday, December 15, 7-10pm
 - ▶ Reading guides
 - ▶ Short list will be on line

Behaviorism and Redundant Explanation

Appeals to mental states are otiose

- “The complicated statements that would describe the movements of the hands of a watch in relation to one another, and relatively to the stars, are ordinarily summed up in an assertion of the following form: “This watch runs well (runs badly, etc.)” The term “runs” is introduced here as an auxiliary defined expression which makes it possible to formulate briefly a relatively complicated system of statements. It would thus be absurd to say, for example, that the movement of the hands is only a “physical symptom” which reveals the presence of a running which is intrinsically incapable of being grasped by physical means, or to ask, if the watch should stop, what has become of the running of the watch” (Hempel 169a-b).
- When we use psychological terms, we use them as shorthand for complicated statements about people’s behavior.
- Mental states are just their physical manifestations.

Troubles for Behaviorism

1. Mental states with no attendant observable behavior.
 - ▶ I can be in pain but not scream or wince (Putnam's case)
 - ▶ Long causal chains of thoughts (the chess player)
2. The inverted spectrum
 - ▶ We might have the same behaviors regarding those colors.
 - ▶ Still, there seems to be a difference between our mental states.

Dispositions

- In order to account for mental states which do not correlate with actual verifiable behavior, later behaviorists like Gilbert Ryle supplemented the original behaviorist account by identifying mental states with dispositions to behave.
- Pain, for the later behaviorist, is not an introspective state but the disposition to scream, cry, wince, etc.
- If I have a disposition to scream and wince, then the behaviorist can ascribe to me the pain, even when I manifest no attached behavior.
- The dispositional theory maintains Skinner's denigration of causal explanations which refer to internal states.
 - ▶ I don't cry because I am sad; my sadness is my disposition to cry.
 - ▶ I don't say that the apple looks red because I see red; my seeing red just is my statement, and other related behaviors.
- So even the later dispositional behaviorist is liable to objections from those who believe in mental causes.
 - ▶ If somebody speaks or acts in certain ways, it is natural to speak of this speech and action as the *expression* of his thought.
 - ▶ Even for the dispositional behaviorist, the question of why I scream when I am in pain remains without an internal account.
 - ▶ Furthermore, problems of inverted spectra cannot be solved by appeals to dispositions.

Scientific Theories of Mind

- Skinner argues for behaviorism because observable behavior is available for scientific analysis.
- If internal states were available for scientific analysis, then we might develop a scientific theory of introspective states.
 1. We could examine brains and their states.
 - Skinner says that such information is useless.
 - But TMS!
 2. We could try to look at mental states directly.
 - It is not clear that this suggestion is even remotely plausible.
 - When we look at brains, we see neural firings, not pains or beliefs.
 - The hard problem of consciousness rears its head.

Libet and Behaviorism

- While advances in neuroscience have contributed to the implausibility of Skinner's denigration of brain states, some recent studies may be interpreted as supporting roughly-Skinnerian principles.
- Benjamin Libet has shown that our deliberations about some actions actual succeed (temporally) the physiological inception of those acts.
- Our thoughts about whether to do P or Q come after our bodies have already begun to do one or the other.
- Our internal decision procedures may be better viewed, at least in some cases, as rationalizations of actions we are already committing rather than decisions to act.

Materialism

Travis

Token Physicalism and Type Physicalism

- Token physicalism
 - Every instance, or token, of a mental state is identical with a token of a physical state.
 - denial of dualism
 - There are no mental states that can not be explained by physical facts.
- Type physicalism
 - Every type of mental state is identical with a type of physical state.
 - We will be able to find specific physical states that correspond to any mental state, like pain, or the sensation of seeing red, or the belief that aliens live on Mars.
- Which is a stronger claim?

Identity Theory

the mind is the brain

- Paradigmatic theoretical identifications
 - Lightning is electrical discharge.
 - Water is H₂O.
 - Mental states are brain states.
- People were once ignorant of the nature of lightning and water.
 - Now we know.
- People currently do not know that their pains are really stimulations of C-fibers in their brains.
- We can use the old terms (lightning, water, pain) as shorthand (for electrical discharge, H₂O, and C-fiber stimulation).

Identity Theory as Type Physicalism

- Consider a list of descriptions of brain states, S_n .
 - which neurons are firing
 - which have recently fired
 - which inputs are lit up
- The identity theory is a series of clauses correlating mental states with brain states.
 - x has a toothache iff x is in brain state S_{412}
 - x is seeing blue iff x is in brain state S_{7583}
 - x believes that snow is white iff x is in brain state S_{9238}
 - etc.
- We should be able to find the specific brain states that correspond to all mental states.
 - Qualitative states: toothaches and earaches and perceptions of colors and odors
 - Intentional states: beliefs and desires

Three Problems of Multiple Realizability



Chauvinism



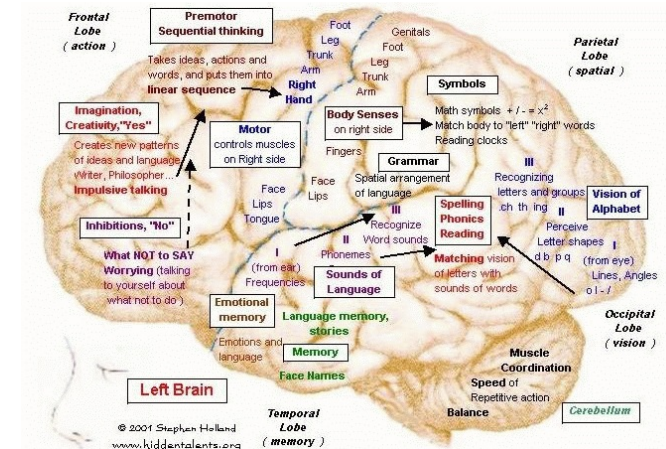
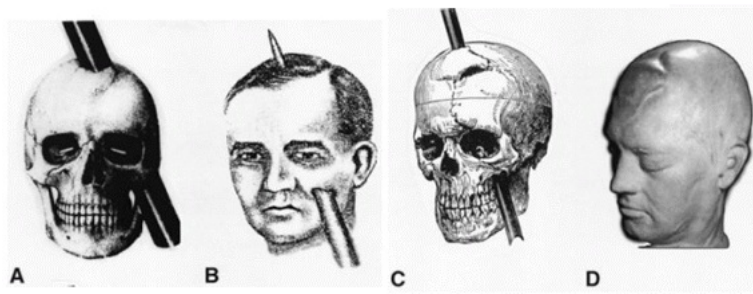
- We might want to attribute sensations like ours to aliens or machines or animals who do not share our brain structures.
- If mental states are realizable in different kinds of brain states, the identity theory is chauvinistic.
- A chauvinistic theory is too narrow.
- Identity theory attributes mental states only to creatures with human brains.
- Some psychological states, like fear, seem shared by animals.
- Aliens made of silicon, instead of carbon, could have pains, color sensations, and beliefs and desires.
- If pain is a specific state of a brain, as the identity theorist claims, the aliens can't have pain.
- Are mental states realizable in multiple kinds of material?

Neuroplasticity

- Even human brains do not all work the same way.
 - Occurrent sensations
 - Belief states
- My brain state, when I see blue, may be different from your brain state, when you see blue.
 - Diverse experience and development
- The brain is not completely plastic, but parts can be repurposed.
- There may be no single S_n to correspond to the same belief in different people, in the way that heat always corresponds to kinetic energy.

Neurological Equipotentiality

- Human brains realize their states in different ways.
 - Karl Lashley
- Language is normally processed in the left hemisphere for righties.
- People with damage in the left hemisphere may process language in their right hemisphere.



Disjunctive Theories

- Given equipotentiality, identity theory will have the following sorts of clauses:
 - ▶ x_1 has a toothache iff x_1 is in brain state S_{412}
 - ▶ x_2 has a toothache iff x_2 is in brain state S_{6224}
 - ▶ x_3 has a toothache iff x_3 is in brain state S_{91}
 - ▶ ...
 - ▶ So, x has a toothache iff $x=x_1$ and is in S_{412} or $x=x_2$ and is in S_{6224} or $x=x_3$ and is in S_{91} or ...
- Similar long clauses will hold for all mental states.
- Such a theory is disjunctive.
 - ▶ One mental state is identified with any of a variety of physical states.

The Relational Construal of Mental States

- A relational construal sorts mental states according to the relations among stimuli and responses.
- The identity theorist sorts mental states according to their physical properties.
- Consider the discovery that two disparate mental states, a leg cramp and the belief that chocolate pudding is tasty, have the same physical instantiations.
 - x has a leg cramp iff x is in brain state S_{3313}
 - x believes that chocolate pudding is tasty iff x is in brain state S_{3313}
- The pudding belief and the cramp sensation are instantiated by the same brain state.
- But they are different mental states.
- The identity theorist must say that they are the same state.
 - Mental states are just brain states.
 - x has a leg cramp iff x believes that chocolate pudding is tasty.
- By typing mental states according to their physical realizations, rather than by their first-person content, we leave open the possibility of making some wacky, unacceptable identifications.



Token Physicalism and Multiple Realizability

- Token physicalism can survive problems of multiple realizability.
- Even if we all have different brain states corresponding to relevantly similar mental states, they are all still physical states.
- Token physicalism says that disjunctive theories are perfectly acceptable.
- But, multiple realizability is a problem for type physicalism.

Behaviorism and Disjunctive Theories

- The behaviorist, like the type physicalist, appears committed to a disjunctive theory.
- There are no unique behaviors that correspond to particular mental states.
- Some people react to a painful stimulus by screaming, others by wincing, others by stomping about.
 - a thing is in pain iff it exhibits behaviors B_1 , or B_2 , or B_3 , or...

Are Disjunctive Theories Acceptable?

- If multiple realizability was not a problem for the behaviorist, maybe the identity theorist can also try a disjunctive theory, and hold on to token physicalism.
- The identity theorist would then correlate pain with any of a variety of brain states
 - ▶ pain-in-a-robot
 - ▶ pain-in-a-Martian
 - ▶ pain-in-a-chimp
 - ▶ pain-in-a-sea slug

More Disjunction

- A given behavioral state or brain state may realize different psychological properties at different times.
 - Squinting might be evidence of pain, or concentration, or blurry vision, or...
- Due to the non-relational construal of mental states, the same brain state may be correlated with different mental states.
- Thus, on either disjunctive approach (the behaviorist's or the identity theorist's), we have lots of disjuncts on both sides of the equations.
- We do not seem to be getting anywhere.
- We want to know what relates all these different states, what makes us call them all pain, or seeing-blue, or believing that snow is white.

A Modal Objection

Contingent Identity

- The identity theorist may claim that theoretical identities are contingent.
- Contingency is a modal property.
 - any characteristic that an object could have (possible properties) or must have (necessary properties).
- An actual property of an object is contingent if it is possible for the object not to have that property.
 - I am contingently the height I am.
 - It seems to be necessary that I have my parents.
- Is it possible for pain not to be a burst of neural activity?
 - If so, the identification seems contingent.

Kripke: All Identities are Necessary

- Let 'A' name a particular brain state, and let 'B' name the corresponding brain state, or the brain state some identity theorist wishes to identify with A. *Prima facie*, it would seem that it is at least logically possible that B should have existed (Jones's brain could have been in exactly that state at the time in question) without Jones feeling any pain at all, and thus without the presence of A... If A and B were identical, the identity would have to be necessary (Kripke, *Naming and Necessity*, p 146).
- Mental states and brain states have different possible properties.

Rigid Designators

name the same object in all possible worlds

- The number of planets is greater than seven.
 - true, but might be false
- Nine is greater than seven.
 - necessarily true
- ‘the number of planets’ designates a different number in different possible worlds.
- Some terms are rigid designators.
 - nine
 - Queen Elizabeth II
 - Ben Franklin
- Some terms are non-rigid
 - The number of planets
 - The inventor of bifocals

Identity and Rigid Designation

- Identity statements between rigid designators must be necessary.
- Let's say that a is identical with b.
 - 'Russell' is identical with 'Professor Marcus'
- In any possible world, 'a' refers to a, and 'b' refers to b.
- So, there are no possible worlds in which a is not identical to b, nor where 'a = b' is false.
- There are possible worlds in which 'Ben Franklin is the inventor of bifocals' is false because 'the inventor of bifocals' refers, in any possible world, to the actual inventor of bifocals.
- 'Russell = Professor Marcus' is true in all possible worlds, even though there are some possible worlds in which I did not become a college professor, because we use 'Professor Marcus' in this world to refer to me, in all possible worlds.

Theoretical Terms

- Kripke claims that theoretical terms are rigid designators.
 - 'heat'
 - 'molecular motion'
- In counterfactual situations in which people or Martians did not feel warmth when putting their hands near fires, we would not say that they did not feel heat.
- We would say that they get a different sensation from heat than the one that we get.
- Even if there are no people to feel it, fire heats up the air around it.
- Heat thus rigidly designates molecular motion.
- 'Molecular motion' refers to the motion of molecules in all possible worlds.
- Thus, the identification of heat with molecular motion is necessary.

Identity Theory and Contingent Identity

- Since theoretical identity statements are necessary, the identification of pain states with brain states must also be necessary.
- 'Pain' is a rigid designator.
 - Nothing could be a pain if it did not hurt in the way that pains do.
- If 's' designates a brain state, it does so rigidly.
- The identity of any two rigid designators must be necessary, since neither term could refer to anything other than its referent.

Kripke's Argument

1. The identification of mental states and brain states must be either contingent or necessary.
2. Since mental states and brain states refer rigidly, the identification can not be contingent.
3. Since it is possible that mental states are not states of the brain, the identification can not be necessary.

Thus, mental states and brain states must not be identical.

Identity Theory and Mental States

- We divided mental states into two kinds: occurrent states (sensations) and intentional states.
- The identity of mental states with brain states is more plausible for occurrent mental states, for sensations, than it is for beliefs, or other representational states.
 - What state of the brain could count as representing my belief that tigers are dangerous animals?
- Behaviorism seems more plausible for intentional states.
 - Beliefs and desires are at least identified by their correlative behaviors, often.
 - Still, behaviorism omits the causal connections among beliefs and desires.

Summary

- We have looked at three characterizations of the mind:
 1. Dualism: the mind is an immaterial substance.
 2. Behaviorism: the mind is behavior.
 3. Identity theory: the mind is the brain.
- Identity theory has parsimony on its side, against dualism, and it is an empirical, scientific theory.
- There are good reasons to prefer science to metaphysical speculation, where possible.
- But the problems with identity theory, including its anemic analysis of consciousness and the modal and multiple realizability objections, will lead us to one last theory of the mind: functionalism.