PHYSICS 419 - Spring 2021

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1 Consciousness: The Hard Problem

There seem to be only two possible ways to think about what consciousness is, but neither

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seems as if it could be right. Either mental states are physical states or they are quite dis-

tinct from the physical. This problem is fundamentally different from the stomach-digestion

problem or the engine-combustion problem in which no phenomenal states need to be in-

troduced to understand either of these problems. The key lies in the fact that claims of

consciousness arise from a particular perspective or point of view. It seems implausible

that a perfectly physical account can solve the perspective or equivalently the point-of-view

problem. In this lecture, I will discuss some of the problems with functionalism and more

generally physicalism.

2 Dualism

Conscious states are not physical states. The mind is different in kind from the body. The

two types of dualism, substance and property dualism, differentiate on the nature of the

dichotomy between the mind and the body. Property dualism is easier to argue for in that

it simply purports that there are properties of organisms that are non-physical, for example

awareness. Descartes argued for substance dualism. This is the Ghost in the Machine, mind

in the pineal gland.

Problem: If conscious states are not physical events, how do they cause physical events,

and how do physical events cause them?

3 Physicalism

Conscious states are physical states. Physicalism is not the incontrovertible statement that the world is largely physical. It is the claim that it is entirely physical simpliciter.

Functionalism

To lay plain what the functionalists have in mind, consider two simple statements about pain which most will agree are true: 1) pains are unpleasant sensations. That is, they are unpleasant, inner qualitative subjective, that is, first-person experiences. 2) They are caused by specific neurobiological processes in the brain and the rest of the nervous system. These statements seem quite simple and quite incontrovertible. But if you are a functionalist, you have to deny both of them. You assert instead that 1) Pains are physical states that are parts of patterns of functional organization in brains or anything else. In human beings the functional organization is this: certain input stimuli, such as injuries, cause physical states of the nervous system and these in turn cause certain sorts of physical output behaviour. 2) In humans as in any other system, these functionally organized physical states do not cause pains, they themselves are pain. The latter is the killer. On the functionalist account, mental states (if they can be called this) are equivalent to program states of the brain or central nervous system. The problem with functionalism is obvious. If program states are pain, then our experience of pain is illusory. That is, one could hook your brain up to a robot made out of tin and given the same sensory input, one would conclude that the robot is in pain. But this is absurd. No amount of physical information about other physical things can logically entail phenomenal experience, that is consciousness. It is commonly agreed that the three main problems with functionalism are as follows: 1) the claim that functional organization is a sufficient condition for consciousness is independent of what the functional organization is. For example, replace your neurons with a set of cleverly manipulated cell phones operated by the populace of China (one person one neuron). Functionalists would have to argue that in such cases, consciousness is also possible, though our intuition tells us otherwise. 2) Since physical facts cannot logically entail phenomenal ones, then there is a distinct possibility that there is a world identical to ours with one thing missing, consciousness. This is known as the absence of qualia problem. Since these two worlds have the same physical facts, their difference is entirely non-physical. Hence, functionalism is wrong. 3) Equating functional states with consciousness runs into problems in many cases, for example Searle's Chinese room. The Chinese room example illustrates that as long as language has both syntax and semantics, a digital computer cannot make any claims of knowledge of Chinese. As mentioned in class by one of your classmates, the Chinese room example is analogous to Google translator. Would anyone claim that someone using Google translator knows the language being translated based on the Google search results? No. Then funcitonalism is false. Claims of knowledge require content. The central processor in the Chinese room knows only syntax. The summary of the Chinese Room argument is as follows: The Chinese room example is an argument that phenomenal conscious states cannot be physical states. (Note, this is not how Searle tries to use the argument.)

- 1.) The manual does not understand Chinese.
- 2.) The operator does not understand Chinese.
- 3.) Hence, no IBM-designed machine can understand Chinese.
- 4.) So a physical system that functions perfectly as if it understands Chinese (hence passing the Turing test) still does not understand Chinese. A non-phenomenal conscious state like understanding a sentence in Chinese is not identical with a physical state and its functional properties. Hence, functionalism must be incomplete. Stated another way, functionalism seems to lack precisely what it set out to prove, namely that phenomenal experience is a physical state.

4 Problems for Physicalism

4.1 Kripke's Modal Argument

- 1.) A is identical to B implies that A is necessarily identical to B. By necessary we mean in all possible worlds in which A and B exist, they are identical. Identity statements imply a necessity if they are true.
- 2.) Let A=mental event and B=brain states. According to physicalism, mental events are identical to brain states.
- 3.) But I can certainly conceive of a world in which mental events exist without brain states (ghosts) or brain states without mental events (zombies).
 - 4.) Hence, there is no necessary relationship between the mental and the physical.
 - 5.) Hence, physicalism is false.

4.2 Nagel's Argument: The What it is like argument

- 1.) What it is like for someone to see red is perspectival. That is, it depends on a point of view, which is not ours.
 - 2.) Physical information can be understood from many points of view.
 - 3.) Hence, 'what it is like' is not physical.

4.3 Frank Jackson's Mary: The Knowledge Argument

Consider F. Jackson's example of Fred who has better color vision than anyone. Place in front of Fred a bunch of ripe tomatoes and he sorts them into two groups. You then blindfold Fred and reshuffle the tomatoes and Fred sorts the tomatoes exactly in the same way. You finally ask Fred what is he doing. He says the tomatoes are two different colors, let's

say R1 and R2. He says it is quite wrong to think of tomatoes as having one color, red. He further explains that R1 and R2 have two different wavelengths which he can discern. Hence, to him, R1 and R2 are as different to us as are yellow and gray. In practical terms, we are R1 and R2 color blind. What kind of experience does Fred have when he sees R1 and R2? We do lots of experiments on Fred and find that Fred's cones and lenses respond differently to light than ours and this causes certain brain states which we do not have. We assemble all the facts of Fred's neurobiology down to the last detail. So we know all the facts about why Fred sees R1 and R2 and we do not. None of this tells us, however, what it is like to experience R1 and R2. On the physicalist account, we know everything that is necessary to experience R1 and R2; that is we know all the physical facts. We do not see R1 and R2. Hence, physicalism is false. This is a version of Jackson's knowledge argument. Now suppose Fred dies and commits his body to science. Fred's eyes and brain are then transplanted into someone who was R1 and R2 colorblind. The patient awakes and in amazement claims to now know what it is like to see R1 and R2. But on what is this claim of knowledge based. It is entirely experiential. The physical facts are still the same. There are no new physical facts after the operation. Hence, physicalism leaves something out.

Case 2: Mary is trapped in a black and white room. She is omniscient when it comes to science, however. That is, she knows every scientific fact about biochemistry, neurobiology, her brain states if she were to see colors, etc. Further, she knows about the causal and relational functional facts consequent on all of this. If physicalism is true, she knows all there is to know. To argue otherwise, would be to invoke that there is more to knowledge than physical facts. So what happens when Mary sees color for the first time. Does she simply say, 'ah red, ho-hum'. Intuition tells us that she does not. She learns what it is to see red. She learns what other people have in mind when they converse about red. She now has memories of red things. One might argue that all of this might just be new physical

facts. But this is not quite right. Mary can now ask phenomenlogical questions, why does red look that way? Mary acquires knowledge of the form "what it is like" with regard to red, to quote Nagel.

4.4 M. Nida-Rumelin: Phenomenal beliefs

Marianna (see M. Nida-Rumelin) is also locked in a room and acquires knowledge about the world through a black and white television. Like Mary she is also omniscient about physical facts of the world. Now let's add color to her environment but only to artifical objects. Now let's show Marianna five colors: yellow, blue, red, green, and purple. We do not tell her what the colors are. We now ask her to tell us which slide best corresponds to the color normalsighted people see when they look at the sky. Marianna picks the red slide. She knows that normal-sighted people see a blue sky. In fact this is a firm belief. She would state in fact that the sky is not red. So why does she pick red. She has no phenomenal knowledge of blue. She does not belong to the language community of normal-sighted people. Once she is shown a blue sky, she now acquires a phenomenal belief that the sky is blue (phenomenally not non-phenomenally) to normal-sighted people. This is a new belief. Phenomenal beliefs can be either true or false. But the existence of a phenomenal belief does not, on its own right, constitute new factual knowledge of the world, some would argue. This is knowledge how not knowledge what. That is, Marianna's relationship to blueness changed, not the color of the sky. So are there any facts that are new about the world when Marianna is released. That is, is knowing that the sky is blue non-phenomenally really a fact of the world or just an abstract contentless utterance? I think so. This is certainly not the way we use language. Asserting that the sky is blue non-phenomenally is equivalent to saying that unicorns have horns. We have no epistemic access to unicorns. Hence, non-phenomenalogical statements about blue skies are as meaningful as are statements about unicorns. Namely, there is no content to such a statement. Once Marianna gains epistemic access to colors phenomenologically, she can eliminate 'hitherto' open possibilities.

4.5 Abstraction

For physicalists what are numbers and thoughts of Marxism. They certainly do not seem like physical things. Physicalists have no answer to this.

4.6 Neo-Cartesian Argument

- 1.) Many conscious states are phenomenal. There is something that it is like, a way that it feels, to be in these states. There is something it is like to taste chocolate, to see a sunset the color of blood, to feel the pain of an injection in the sole of the foot. Moreover, the "what it is like" is essential to these states. Subtract the way the chocolate tastes, and you are simply not tasting chocolate any more.
- 2.) Phenomenal consciousness is perspectival; that is, phenomenal consciousness is being experienced from a particular point of view. I can do everything a bat does but I still will now know what it is like to be a bat from a bat's perspective. So the question arises, how does a physical description capture point of view. To know what tasting chocolate is like, one must have eaten it, or at least be able to take the perspective of one who has. To understand what it is like to be a bat, you have to be able to sense distance with sonar. Any extrapolation from our perspective will lead to an incomplete understanding of batitude, the essenence of batness.
- 3.) Physical states are not perspectival. To know that chocolate is made out of x, y and z, or that someone's brain is in state Q because she just at chocolate, does not require any particular perspective. This is the objective content to the experience. So from whence does the perspective arise if mental states are physical states.

4.) Many conscious states are not physical states. (But this is just Dualism, isn't it? And Dualism still has problems of its own.) There is a sense in which phenomenological facts about an experience are perfectly objective. For example, I can describe what Joe Dimaggio felt when Marilyn Monroe divorced him. However, this objective ascription of experience is still subjective because it is made possible by the fact that I can (try to) put myself in Joe Dimaggio's shoes. This is impossible for a Martian. The more different one is from the experiencer, the less successful one is in such ascriptions. This is the key to the consciousness problem. To quote Nagel, "if the facts of experience...are accessible only from one point of view, then it is a mystery how the true character of experiences could be revealed in the physical operation of that organism." Question: Is the perspective problem simply a problem of different programming and hence just different physical stuff????

As we have seen, the central problem with consciousness is that we have all sorts of conscious experiences without knowing anything at all about hard wiring in the brain or whatever biochemistry is involved. Hence, we know that knowing about the hard wiring is not a necessary condition for consciousness. Nonetheless, the question of sufficiency arises: is knowing about the hard wiring sufficient to generate conscious states? This is the question the physicalist poses. If one reflects on one's conscious experiences, one would be hard pressed to think that the answer to this question is yes. No experience any of us has ever had would lead us to believe that awareness of brain states is sufficient to generate consciousness. That is, if we equate consciousness with brain states, then why is it that we still learn something from a particular experience that we did not know from just a complete knowledge of the brain states involved. Physicalists have no reasonable answer to this question. Hence, at present there is no account of physicalism that seems to work. Notice the structure of the argument we have presented here: 1) we have conscious experiences without knowing about wiring, 2) hence knowing about the wiring is not a necessary condition to have conscious

experiences, 3) but are they sufficient to generate conscious states, 4) there is no real way of knowing since none of us has had a conscious experience in this fashion, 5) intuition tells us that this is not the case. We will use the same form of argument when we try to understand the physical origin of the arrow of time. Perhaps consciousness is an emergent property—that is, it is a property that arises from higher level organization of an organism but no hint of it can be found in the lower-level organization. There are many emergent properties in nature: the hardness of an object (the atoms themselves are not hard), band structure in metals, electron spin, etc. are just a few.