

Both Dualist and Physicalist agrees that conscious experience have physical causes

PH1102E/GEK1067

Week 8

Consciousness and the mind-body problem

I. Background on the mind-body problem

The “mind-body problem” is the challenge of figuring out **how the mental parts of the universe relate to the physical parts of it.** The mental parts include conscious minds and experiences, as well as beliefs, desires, and other psychological states. The physical parts include everything that falls within the province of physics, chemistry, and allied sciences---matter, energy, particles, fields, forces, etc. Last time, I drew a distinction between cognitive and conscious aspects of the mental. When it comes to the mind-body problem, it is the conscious side of things that is most relevant. So, today, when I use the word “mental,” I’ll be using it in the sense related to consciousness. For us, the mind-body problem is really the consciousness-body problem.

Debate over the relationship between mind and body---between the mental and the physical---revolves around two very general questions:

Question 1: Are physical phenomena just a special kind of mental phenomena?

Question 2: Are mental phenomena just a special kind of physical phenomena?

Since these are Yes/No questions, there are just four ways of answering the two of them together: you can answer “Yes” to both, “No” to both, “Yes” to the first and “No” to the second, or “No” to the first and “Yes” to the second. Each of these possible combinations of answers (Yes-Yes, No-No, Yes-No, No-Yes) corresponds to a main theory about how mind and body relate to one another. The people who answer Yes-Yes are called *neutral monists*. (There aren’t many neutral monists; neutral monism is a somewhat mysterious theory, if you think about it.) Those who answer No-No are called *dualists*. Those who say Yes-No are *idealists*. Finally, those who say No-Yes are *physicalists*. Here’s a chart to help you keep track of all this:

	Are physical phenomena just a special kind of mental phenomena?	Are mental phenomena just a special kind of physical phenomena?
Neutral Monism:	Yes	Yes
Idealism:	Yes	No
Physicalism:	No	Yes
Dualism:	No	No

These days, only two of these theories are taken seriously by a significant number of people: physicalism and dualism. (I’m not saying that this is how it should be, just that this is the way it is. Two hundred years ago, idealism was quite popular.)

Physicalism says that everything is physical, including minds and their conscious experiences. According to physicalism, when you are in pain, your pain is nothing more and nothing less than a purely physical state or process -- a chemical reaction taking place in your brain, or something like that. And the same goes for all of your other conscious feelings, sensations, experiences, and mental states. They are one and all physical entities of some sort.

Dualism denies this. According to dualists, a pain is not a purely physical thing, any more than a rock is a purely mental thing. In general, according to dualists, mind and body are just separate categories: neither is a species or subset of the other.

It is important to see where dualists and physicalists disagree, and where they agree. They agree that conscious experiences have physical causes. That is not something that either side disputes. You put something into your mouth, chemical reactions take place in your taste buds, electrical impulses travel up the nerves in your tongue into your brain, and some chemical reaction takes place in your brain. As far as this goes, dualists and physicalists are in perfect agreement with one another.

What they disagree about is the next step. To be exact, they disagree over whether there is a next step. The physicalists say that the chemical reaction that takes place in your brain just is a flavor sensation -- a sour sensation, if what you put into your mouth was a wedge of lemon. But the dualists deny that the chemical reaction is a flavor sensation. They say that the flavor sensation is some non-physical event that the chemical reaction causes. So whereas the physicalist has this picture:

lemon wedge **-causes→** reaction in taste buds **-causes→** brain event = flavor sensation

the dualist has this picture:

lemon wedge **-causes→** reaction in taste buds **-causes→** brain event **-causes→** non-physical flavor sensation

So the physicalist and the dualist agree that conscious experiences have physical causes. Their disagreement concerns the *intrinsic nature* of conscious experiences: physicalists say that experiences have a purely physical nature, being nothing more than chemical reactions taking place in our brains, or something like that, while dualists say that there is more to having conscious experiences than having a brain in which certain chemical reactions are taking place.

To put it another way: according to a physicalist, if you list all of the physical characteristics of a conscious being---of me, say---you thereby list all of my characteristics. There is nothing about me that isn't accounted for on your list. But according to a dualist, your list does not include all of my features: it omits my conscious feelings, sensations, etc. These must be recorded on a separate list of my *non-physical* features.

II. The knowledge argument against physicalism

One of the most influential arguments against physicalism is the so-called knowledge argument. The earliest version of the argument is due to C.D. Broad. In *The Mind and Its Place in Nature* (published in 1925), Broad considers the example of an Archangel who has complete, detailed knowledge of the physical world (the position and momentum of every particle of matter, the fields and forces that permeate space, etc., etc). Broad thinks that despite know all the physical facts about the universe, there are still things that the Archangel might not know. For example, if the Archangel has never smelled ammonia, it will not know what ammonia smells like -- this, despite the fact that the Archangel knows exactly what physical effects ammonia molecules have on nasal membranes, and exactly how this nasal stimulation brings about various physical events in the smeller's central nervous system. From this, Broad concludes that the fact that ammonia smells the way it does to us is a fact over and above the physical facts about the world.

In the 1970's, Thomas Nagel ran essentially the same argument, by reference to a scientist who specializes in bats. We have every reason to suppose that bats have conscious experiences. But we also have reason to believe that among their experiences, there are some that are wholly unlike any experience that we have, or can even imagine having. These are the experiences that bats have when they use their power to "echo-locate"---echo-location being, in effect, a sophisticated biological form of sonar.

Nagel asks us to consider what we can hope to learn about bats by studying their physical characteristics. We could actually learn a whole lot about bats by studying them this way. We could learn all about their anatomy, their metabolism, and their genes. We could learn all about the structures of their brains. We could learn all about their behavior---their flight patterns, their eating habits, etc. But none of this, says Nagel, would take us an inch closer to knowing *what it is like to be a bat*. None of our objective investigation would reveal to us, for example, what it is like to have the kinds of experiences that bats have while echo-locating.

This suggests the following argument against physicalism:

Physicalism says that a bat is nothing but the sum total of its physical behavior and characteristics. So, if what physicalism says is true, then there's nothing to know about a bat besides its physical behavior and characteristics. However, someone could know all about a bat's physical behavior and characteristics, and yet not know what it is like to have the kind of experiences that bats have. This means that there is something to know about a bat besides its physical and behavior and characteristics -- something about the nature of the bat's experiences. Therefore a bat must be more than the sum total of its physical behavior and characteristics. But that means that physicalism is false.

This is essentially just Broad's argument, substituting a zoologist specializing in bats for the Archangel, and echo-locational experiences for the experience of smelling ammonia.

Another well-known version of the argument is due to the Australian philosopher Frank Jackson. Jackson's argument goes like this:

Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specialises in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like "red," "blue," and so on. She discovers, for example, just which wave-length combinations from the sky stimulate the retina, and exactly how this produces via the central nervous system the contraction of the vocal chords and expulsion of air from the lungs that results in the uttering of the sentence "The sky is blue"... What will happen when Mary is released from her black and white room or is given a colour television monitor? Will she learn anything or not? It seems just obvious that she will learn something about the world and our visual experience of it. But then it is inescapable that her previous knowledge was incomplete. But she had all the physical information. Ergo there is more to have than that, and Physicalism is false. (from Jackson's article, "Epiphenomenal Qualia")

Jackson's argument (sometimes called "the Mary argument") has the same general structure as the bat argument and the Archangel argument. Boiled down to essentials, all of these arguments go like this:

The "Knowledge Argument" Against Physicalism:

K1. If physicalism is true, then it is impossible to know all the physical facts about a conscious creature without knowing everything about that creature (including everything about the creature's experiences).

K2. But it is possible to know all the physical facts about a conscious creature without knowing everything about that creature (since it is possible to know all the physical facts about the creature without knowing what it is like for the creature to have some of the experiences it has).

K3. Therefore, physicalism is not true. (follows from K1 and K2)

If you think about it, K1 just follows from the definition of physicalism. After all, physicalism just says that everything is physical. But if everything is physical, then everything about a conscious creature is physical. Well, if everything about a conscious creature is physical, then knowing every physical thing about a conscious creature---i.e., knowing all the physical facts about it---means knowing everything about the creature. So if physicalism is true, there's just no way you could know all the physical facts about a bat, or a person with color vision---or *any* conscious creature---without knowing everything about that creature, including everything about his or her (or its) conscious experiences. That is all that K1 is saying.

III. *Objections and replies*

In light of what I've just said, it's obvious that anyone who wants to resist the Knowledge Argument has got to find a problem with K2. This is once again one of those situations in which you have to accept the conclusion (in this case, K3, which says that physicalism isn't true) once you have accepted the premises (in this case, K1 and K2). You can't agree to K1 and K2, but then deny K3.

But why should we want to deny K3 anyway? What's so great about physicalism, that we should be bothered by any argument against it?

The main thing that draws people to physicalism is the simplicity of its world-view. We know a lot about the physical universe---far more than people could have imagined even four hundred years ago (which is the blink of an eye, relative to the whole of human history). We know how to make sense of everything that happens in the physical world in terms of a small number of rules or "laws." We don't know *everything*, but we know a lot, and the more we try, the more we find out. Most important of all, we know how to look for answers to the questions about the physical world that we haven't yet resolved. We have a strategy for discovering things about the physical world, and it's a strategy that works.

It would therefore be immensely convenient if consciousness turned out to be just another physical phenomenon (like brain chemistry). That would put it under the same natural laws that govern the rest of the physical universe. It would make consciousness part of a familiar *system* of phenomena -- the system of physical phenomena. It would give the mind a very clear and well-integrated place in Nature. Of course, this may all be wishful thinking. The point is just that if physicalism is true, it yields a pleasingly cohesive and well-integrated picture of the cosmos. And that is a reason---maybe not a compelling reason, but some kind of reason---to hope that it is true.

Physicalism also has some other points in its favor. For example, it makes it easy to explain the relationship between our experiences and our bodily behavior. A physicalist can say that pain is a physical state of the brain that is caused by damage to your body, and that causes your body to withdraw from the thing doing the damage.

If pain is not a physical state of your brain, however, it is not so easy to explain its relationship to your bodily behavior. Suppose you accidentally touch a very hot surface with your hand. What happens? Well, you touch the surface, you have a burning sensation, and you withdraw your hand from the hot surface. The most natural way to construe the scenario is as follows:

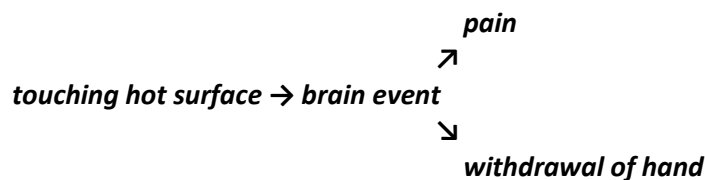
touching hot surface **-causes→** pain **-causes→** withdrawal of hand

Now suppose that, rejecting physicalism, we deny that your pain is a physical event. You have the pain, yes; but the fact that you have it doesn't just boil down to some physical event or process taking place in you. The pain takes place in you as a non-physical event. At least, that's what a dualist says.

The problem with this picture is that, as far as we can tell, the withdrawal of your hand has a perfectly adequate explanation in terms of various physical processes taking place in your body. So, if your pain causes the withdrawal, and your pain is not a physical event, it follows that the withdrawal of your hand has two causes: a physical cause (in the form of some biological processes) and a non-physical one (in the form of your pain).

There's no contradiction here: an event can have two independent causes. But when this happens, it's usually an accident, or a coincidence, like when someone dies of a heart-attack at the very moment a stray bullet enters his brain: both the heart-attack and the bullet cause the person to die; the death has two, independent causes. What makes it implausible to suppose that bodily behavior has both a physical and a non-physical origin is that it is hard to see how this could happen over and over again, in a consistent and well-coordinated way. If your body is governed by two completely distinct force---physical forces originating in your brain, non-physical forces originating in your consciousness---then why is it that these two forces affect your body in a way that yields coordinated movements, rather than chaotic movements, or paralysis?

There is a possible way out of this, for the dualist. He can say that the picture on the preceding page is erroneous. The real situation, he might suggest, is as follows (where the arrows denote causation):



That is: the pain does not cause you to withdraw your hand. Rather, touching the hot surface causes an event to take place in your brain, and this brain-event has two effects: (1) it causes you to have some (non-physical) pain, and, (2) it causes your hand to withdraw from the hot surface. This way, we don't have to posit more than one cause for the hand-withdrawal.

It does seem weird to say that our pains never have any bodily effects---never have any influence on our bodily behavior. But, if you think about it, the only evidence you have that they *do* affect your bodily behavior is that whenever you have a pain, your body reacts in some way. But this does not prove that the pain *causes* the bodily behavior. It merely proves that the pain and the bodily behavior are systematically *correlated*. One possible explanation of this correlation is that pains always cause a corresponding form of bodily behavior (withdrawal from the painful stimulus, or whatever). But another possible explanation of the correlation is that pains always result from brain events that *also* result in a characteristic form of bodily behavior (withdrawal from the painful stimulus, or whatever).

Here's an analogy. Studies show that there is a correlation between smoking and sexual activity among American teenagers: American teenagers who smoke are more likely (on average) to be sexually active than American teenagers who do not smoke. Does it follow that smoking causes sexual activity? Of course not. In this case, it is clear that the best explanation of the observed correlation between smoking and sexual activity is that both behaviors---the smoking, and the sexual activity---have a

common, underlying cause. There's a certain personality trait (a rebellious nature, say) that some American teenagers have, and others don't, and this trait disposes those who have it to smoke, and also to be sexually active. A dualist can argue that the situation with pain and pain-behavior is similar.

That said, there are still plenty of people---you may be one of them---who find physicalism an appealing solution to the mind-body problem. These people need to come up with some objection to the Knowledge Argument, which means, given what I said earlier, coming up with an objection to K2. This was the premise of the argument that said that *it is possible to know all the physical facts about a conscious creature without knowing everything about that conscious creature*. Physicalists have made various attempts to cast doubt on this premise. Today I'll share two of these with you.

The first goes like this:

If a scientist really knew every physical fact about a bat, then he would be able to figure out what it is like to have the kind of experiences that bats have. For example, he would know exactly which parts of a bat's brain are responsible for its echo-locative sense experiences, and exactly how these parts of the brain integrate with other parts of the bat (such as its vocal cords, ears, and wings). Applying this knowledge, the scientist could arrange to have his own body modified so as to enable him to have the same kind of experience that an echo-locating bat has.

Likewise, given that Mary knows all the physical characteristics of people who have ordinary color experience, she is able to find out what it is like to have color experience. Most obviously, she would know, based on her physical information, that if she sticks her finger with a pin and squeezes, she'll see something red. Even if she is somehow prevented from doing this (perhaps she has been coated with Teflon, or maybe her room contains no sharp objects, and everything is encased in Nerf), she might still be able to figure out what it is like to see something red, by combining her extensive knowledge of the human eyes and brain with a certain power of imagination, to give herself a red visual image. Admittedly, this would be quite a feat to pull off, but given how much Mary knows about the physical workings of the human vision system, can we really rule it out as a possibility?

The best way for a dualist to respond to this objection to K2 is to grant that the bat scientist could apply his physical knowledge of bats to give himself batty experience, and to grant also that Mary could, perhaps, apply her physical knowledge of ordinary humans to give herself a red visual image. Thus Mary and the scientist can apply their physical knowledge to find out what it is like to have the relevant sort of experience (batty, or colorful).

But, the dualist will say, that doesn't cast any doubt on K2. What K2 says is that the following statement is false:

"If you know everything about a sentient being's physical nature, then you must know everything about its conscious experiences."

In other words, it is false that if a scientist knows everything about a bat's physical nature, he must thereby know everything about the bat's experience, including what it is like for the bat to have it. It's no argument against this to say that if a scientist knows everything about a bat's physical nature, he can know everything about its conscious experience. The issue here is not one of "can," it is one of "must."

Likewise for Mary. If the physicalist is correct, then Mary shouldn't have to imagine having a red experience in order to know what it is like to see red. She should already know what it is like to see red, just by virtue of knowing everything physical---i.e., according to physicalism, everything---about people who see things in color. The fact (if it is a fact) that she could apply her vast physical knowledge to *find out* what it is like to see in color is beside the point. If physicalism were true, no such application of her physical knowledge should be required. The physical knowledge by itself should already include knowledge of what it is like to see something red (for example).

So that objection is no good. But there's another objection that a physicalist can raise that has a better chance of succeeding.

This objection focuses on what we mean when we talk about "what it is like" to have such-and-such an experience. As Nagel interprets it, the statement that the scientist "doesn't know what it is like" to have bat experience means that there is some fact about bats of which the scientist is ignorant. Not knowing what it is like to have bat experience, according to Nagel, is equivalent to not knowing *that* bats' experiences have certain phenomenal qualities -- qualities that we can label, but not describe in any detail. Likewise, as Jackson interprets it, the statement that Mary "doesn't know what it is like" to see red means that there is some fact about ordinary people that Mary doesn't know. She doesn't know that ordinary people have an experience like *this*...



...when they see a ripe tomato.

As Nagel understands it, the bat scientist doesn't know what it is like to have bat experience because he has never had or imagined bat experience. Similarly, for Jackson, Mary doesn't know what it is like to see red because she has never seen or imagined anything red. In other words, according to these dualist philosophers, not knowing what it is like to have a certain form of experience is a result of never having had or imagined that kind of experience.

But some physicalists think that this is the wrong way to interpret all this talk about "what it is like" to have an experience. They suggest that the sentence,

"The scientist doesn't know what it is like to have bat experience"

is simply synonymous with the sentence,

"The scientist has never had or imagined bat experience."

Likewise, to say:

"Mary doesn't know what it is like to see red."

is just equivalent to saying:

"Mary has never seen or imagined seeing something red."

And, in general, a statement of the form "So-and-so doesn't know what it's like to have such-and-such experience" is synonymous with a corresponding statement of the form, "So-and-so has never had or imagined such-and-such experience."

If this is correct, then it's misleading to say, "The scientist doesn't know what it's like to have bat experience, because he has never had or imagined such experience." It would be more correct to say: "The scientist doesn't know what it's like to have bat experience; in other words, he has never had or imagined such experience." (And similarly for Mary.)

Why should we accept the physicalist's interpretation of "what it is like" talk? Well, I'm not sure that we should, but there are some suggestive points in its favor.

For one, it is hard to see how one could know what it is like to have such-and-such experience without ever having had (or, imagined having) such-and-such experience. (E.g., it's hard to see how you could know what it's like to have bat experience, or colorful experience, without ever having had or imagined such experience.)

For another, it is hard to see how one could have, or imagine having, such-and-such experience without knowing what it is like to have it---at least for as long as you are having or imagining the experience.

If the physicalist is right, and there is no difference between knowing what it's like to have a given form of experience, and having had (or imagined) an experience of that form, how does that cast doubt on K2?

Well, what reason have we been given to accept K2? The idea was that we need to accept K2, since it is possible to know all the physical facts about some creature without knowing what it is like to have that creature's experiences. But if "knowing what it is like to have that creature's experiences" just means "having (or imaging) the kind of experiences which that creature has," then the fact that the scientist doesn't know what it is like to have a bat's experiences doesn't imply that he lacks some information about bats---it doesn't imply that there is anything about bats that the scientist doesn't know. It merely implies that there are certain experiences that the scientist have never had or imagined.

Likewise, if we accept the physicalist's interpretation of "what it is like" talk, Mary's failure to know what it's like to see red is nothing more, and nothing less, than her failure ever to have *seen* anything red (or imagined anything red). So, from the fact that she doesn't know what it's like to see red, it does not follow that there is any information about ordinary people that she lacks. What she lacks is experience, not information.

Physicalism is perfectly consistent with the fact that the scientist has never had bat experience, and perfectly consistent with the fact that Mary has never had color experience. According to a physicalist, the fact that Mary has never had or imagined color experience just comes to the fact that her brain has never been in a certain state (the state that our brains are in when we see or imagine red objects), and similarly for the bat-scientist. So a physicalist can say that the scientist "doesn't know something about the bat" only in the sense that his brain has never been in a certain physical state, and similarly for Mary. So a physicalist can grant that the scientist doesn't know what it's like to have bat experience, while insisting that the scientist does know everything about bats. He knows everything about them; he just hasn't had their kind of experience.

Does the physicalist make a good point here? There certainly seems to be something to it. Yet, at the same time, it's hard to escape the feeling that when Mary has her first red experience, she is enlightened in a way that goes beyond the mere having of the experience. One wants to say that before she had her first color experience, she didn't know whether the experience she would have upon seeing a ripe tomato would be like this:



Or like this:



One wants to say that there were (at least) two possibilities here, and that when Mary finally had her first experience of a ripe tomato, she discovered a certain fact, namely, the fact that it is the first of these two possibilities that is actually true.

There are ways for a physicalist to try to respond to this, but I'll leave that as a matter for further discussion.

M.W.P.