

Substance dualism and causal interaction

This handout follows the handout on ‘Substance dualism’. You should read that handout first.

Substance dualism is most often rejected because it cannot give an adequate account of the causal role of the mind. In particular, it can’t explain the causation of physical events by mental events. It can’t explain how walking, talking and other bodily movements are caused by thoughts, decisions and feelings. There are a variety of positions dualism can take on the causal role of the mind. We will look at two. The first, interactionist dualism, claims that mental events can cause physical events. The second, epiphenomenalist dualism, claims that the mind has no causal powers at all.

INTERACTIONIST DUALISM

Conceptual issues

Nothing seems more obvious than that the mind and the body interact with each other, e.g. I decide to phone a friend and move my body to do so. But how is it that a mental substance, which is not in space and has no physical force, can affect a physical substance, which is in space and moved by physical forces?

Princess Elisabeth of Bohemia posed this question to Descartes in terms of pushing and movement.

1. Physical things only move if they are pushed.
2. Only something that is extended and can touch the thing that is moved can exert such a force.
3. But the mind has no extension, so it can’t touch the body.
4. Therefore, the mind cannot move the body.

In fact, as Descartes points out in his reply (letter of 21 May 1643), this isn’t an accurate understanding of how things are moved. For example, we might explain why something falls in terms of its weight. But weight doesn’t ‘push’ the object whose weight it is! Weight is the result of the force of gravity on the mass of an object, and gravity is a force of attraction that operates without needing contact between the two physical objects.

But this is all a matter of details. We can generalize from the force of pushing to force more generally. If the mind is just thought, it has no physical force of any kind. In that case, how could it possibly affect the body? (The mind is not very insubstantial matter; we can understand how something very refined, like a gas, can have causal effects.) And the mind is *not in space* at all. If causation is thought to involve any kind of spatial relationship between cause and effect, the problem

is particularly pressing. Clearly nothing can come into a spatial relationship with a mind which occupies no space.

1. The movement of a physical object is only initiated by some physical force, exerted at some point in space.
2. If dualism is true, then the mind is not in space and cannot exert any physical force.
3. Therefore, either dualism is false or the mind cannot cause (any part of) the body to move.

In a later letter (1 July 1643), Elisabeth says that she accepts, from her own experience, that the mind *does* cause the body to move. The problem is that experience gives us no indication of *how* this happens. She continues, 'This leads me to think that the soul has properties that we don't know—which might overturn your doctrine ... that the soul is not extended Although extension is not necessary to thought, it isn't inconsistent with it either'. So, we can continue the argument:

4. The mind can cause the body to move.
5. Therefore, dualism is false.

In his replies to Elisabeth, Descartes indicates two possible lines of response. The first appeals to the third 'basic notion' of the union between mind and body. We can only make sense of mental causation in terms of this notion of union. However, this 'basic notion' is not itself entirely clear, so neither is any solution to Elisabeth's objection regarding mental causation.

The second is that it is a mistake to try to understand the mind's power to act on physical objects in terms of how physical objects act on each other. This is an important point. We have a tendency to conceive of *all* causation in terms of the causation of physical events by other physical events. But perhaps this is mistaken. Then how *should* we think about mental causation? Certainly, we can reflect the fact that we can move our bodies at will. But as Elisabeth points out, the question remains *how*, according to dualism, this is possible.

The challenge is just as daunting when thinking about how physical objects could cause changes in the mind. How can something which is *not* thought or consciousness bring about changes in a substance that is entirely thought and consciousness? Physical causation operates, as we said, through the exertion of forces at particular points in space. But it seems impossible to exert a physical force on a mental substance which has no spatial location.

Empirical issues

Interactionist dualism also faces some empirical challenges. The first is very general. The law of the conservation of energy states that in any closed system, the total amount of energy in that system remains unchanged. The energy can only change forms, e.g. movement can produce heat. A 'closed system' is simply one that doesn't interact with anything outside itself. The universe is usually understood as a closed system. So the total amount of energy in the universe can't change. If something in the universe, such as your body, moved without that energy coming from some other physical source, the law of the conservation of energy would not be true of the universe. So:

1. If the mind, as a non-physical substance, could move the body, the total

- amount of energy in the universe would increase.
2. Therefore, if the mind could move the body, the law of the conservation of energy would not apply to the universe, and the universe is not a closed system.
 3. Therefore, because what is changing the physical energy in the universe is not itself physical, physics cannot give us the complete, correct account of physical energy in the universe.

While we may want to say that physics doesn't tell us everything about what exists, interactionist dualism entails that physics isn't even the correct account of what exists *physically*. We can make this more specific to link it to the conceptual issues above: physics is wrong to think that physical movement can only be caused by a physical force.

The second empirical challenge is much more specific. If the mind can move the body, how does it do so? Current science indicates that movements of the body are caused by physical events in the brain. So, if the mind moves the body, it does so by changing what happens in the brain. We may object that we have no evidence of the mind changing what happens in the brain.

That is true, but we have no evidence that the claim is false either. This is because, while neuroscience is making good progress, we still have no clear account of the very complicated causation involved in something like making a choice. But we may think that neuroscience could discover the complete story in time. If interactionist dualism is true, then it seems that what it must discover is that some events in the brain *have no physical cause*, because they are caused by the mind.

It is common, but perhaps a mistake, to think that there is empirical *evidence* against substance dualism. The issues are so complex - how does the brain work? Is the universe a closed system? - that we don't yet have definitive evidence one way or another. So both the objections presented focus instead on the incompatibility between interactionist dualism and empirical science.

EPIPHENOMENALIST DUALISM

We could accept that the objections above show that mental causation is impossible. But this doesn't undermine substance dualism if we accept epiphenomenalism, the view that the mind has no causal powers. (An 'epiphenomenon' is a by-product, something that is an effect of some process, but with no causal influence.) On this view, the mind does not cause any physical events.

Epiphenomenalism also holds that the mind causes no *mental* events either - mental events are all caused by physical events, e.g. in the brain. For this reason, it is very unusual for substance dualists to be epiphenomenalists. Substance

dualists generally maintain that mental events cause other mental events since the mind is ontologically independent of the body. It is more common for property dualists to accept epiphenomenalism. But it is worth briefly considering the objections that can be raised against epiphenomenalism.

The causal redundancy of the mental

The most influential objection to epiphenomenalism is that it is obviously false. It is obvious that, e.g. whether I feel pain makes a difference both to what I think (e.g. that I'm in pain) and to what I do (e.g. jump around shouting). To say that the mind is 'causally redundant', i.e. does not work as a cause, is highly counter-intuitive.

The argument from introspection

Suppose I am in pain. How do I know that I am in pain? The obvious answer is that my belief that I am in pain is caused by my pain itself. I can tell that I am in pain just from introspection. But epiphenomenalism must deny this, because, as a mental state, *pain doesn't cause anything*. Likewise, it seems that when I say what I think, what I say is caused by what I think. But epiphenomenalism must deny this. Both my belief that I feel pain and saying what I think are caused by physical processes and *not* pain or thought themselves.

This is bad enough, but it has a more serious implication. It threatens our knowledge of our mental states. If my thoughts and feelings don't cause my beliefs about my mind, then I would have those same beliefs about my mind even if I didn't think or feel as I do! According to epiphenomenalism, it is physical processes that cause my beliefs about my mind. So as long as the same physical processes occur in my brain, my beliefs about my own mind will be the same *whatever* mental states I have. My beliefs about my mind, therefore, are unjustified and unreliable. So I can't know my own mind.

Free will and responsibility

A third objection is that we need mental causation in order to be free and take responsibility for our actions. In order to be free and responsible for what you do, you need to be able to choose what to do, and to do it because you choose to do it. Therefore, we might say, your choice needs to cause what you do. If what you do is not caused by your choice, but by something physical over which you have no influence, then you are not free in what you do, any more than you are free in what you do when you are blown over by a strong wind. Choices are mental events. Epiphenomenalist dualism must therefore say that your choices have no causal powers and do not cause what you do. Instead, your choice is simply an effect of some process in the brain, as is your action. It is hard to see how 'you' have chosen what to do.