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## How Can My Mind Move My Limbs? Mental Causation from Descartes to Contemporary Physicalism\*

Jaegwon Kim

### I

I am thirsty. My thirst causes a desire for a drink of water, and I walk to the kitchen, turn on the tap, and reach for a glass. In this familiar and entirely unremarkable episode we can discern a number of causal transactions involving mental events, including in particular those in which mental events are taken to cause physical events. First, a certain physical condition of my body—a mild dehydration, perhaps—causes me to experience a sensation of thirst, a mental event. This sensation in turn causes another mental event, a desire for a drink of water, which in its turn causes my limbs to move in appropriate ways so that my entire body is transported from its supine position on the living room couch to its present upright position in the kitchen, engaged in motions suited for getting me a drink of water. Motions of material things, including those involving our bodies, are physical phenomena, and we assume that ultimately physics is in charge of explaining them. However, things like sensations of thirst and wanting a drink of water are, *prima facie*, not in the province of the physical sciences; theoretical physics doesn't even have concepts of thirst, sensation, and desire. We group these things under the rubric of the "mental" or "psychological," and think of "higher" special sciences, psychology, cognitive science, and the like, as being responsible for them. That these higher-level events and phenomena enter into causal relations with bodily events, or more broadly, physical events and processes, is something that we accept without hesitation. It is something that no amount of philosophical pressure can force us to give up.

For consider what giving up mental causation involves—that is, what a world without mental causation would be like. We are agents, agents who can deliberate, form intentions and action plans, and act so as to realize what we intend. This means that in performing an action, our decisions and intentions, and our desires and beliefs, cause our limbs to move in such a way that things around us get appropriately altered and rearranged. If our mentality were unable to exert causal influence in the material world, there could be no agency and no agents, and our conception of ourselves as agents would be completely undermined. Next, consider knowledge: perception, through which we

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gain knowledge of the world around us, is a causal process whereby external physical events and objects stimulate our sensory receptors, causing in us appropriate perceptual experiences. Memory, too, is a complex causal process whereby acquired information is physically stored for later retrieval in the form of belief. It is clear that without perception and memory, there could be little, if any, knowledge. The loss of mental causation, therefore, means the loss of the possibility of knowledge for us. Causal determinism threatens our status as agents and epistemological skepticism threatens our status as cognizers. The problem of mental causation poses a deeper challenge: it threatens our status both as agents and as cognizers.

It is not surprising, then, that philosophers take the causal efficacy of the mental to be something that absolutely cannot be negotiated away. Jerry Fodor, a leading philosopher of mind today, makes the point with poignancy:

[I]f it isn't literally true that my wanting is causally responsible for my reaching, and my itching is causally responsible for my scratching, and my believing is causally responsible for my saying ..., if none of that is literally true, then practically everything I believe about anything is false and it's the end of the world.<sup>1</sup>

The fact of mental causation is not in dispute—at least not initially. The philosophical task is to explain *how* it is possible—how the mental, as something *prima facie* distinct from the physical, can cause changes in the physical domain. How can my beliefs and desires cause the neurons to fire? What must be true about beliefs and desires, and about mental events in general, if they are to have powers to alter the motion of material particles? Any acceptable philosophical theory of the relation between minds and bodies, between the psychological and the physical, must give a satisfactory account of how mind can act on matter.

If you are not a philosopher, you may be a bit puzzled about why mental causation should be taken as a “problem,” a “difficulty,” something that requires a solution or explanation. Like most other philosophical problems, mental causation becomes a problem, not when it is taken in isolation but only when it is considered in the context of other beliefs we implicitly or explicitly hold about minds, bodies, and causality. What I want to do in this essay is to explain to you, if I can, why mental causation has posed such grave difficulties for philosophers, from Descartes to today's physicalists. Over three hundred years ago, Descartes, who arguably invented philosophy of mind, was challenged by his contemporaries just on this point—he was asked to show how minds, conceived by Descartes as immaterial substances, could causally influence the motion of inert matter. Some believe that Descartes' inability to meet this challenge was responsible for the demise of the dualism of mental and materi-

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<sup>1</sup>“Making Mind Matter More,” reprinted in *A Theory of Content and Other Essays* (Cambridge: MIT Press, 1990), p. 156.

al substances. I will reconstruct below an argument that will show that mental causation poses an insuperable difficulty for all forms of substantival dualism. I will then leap forward to here and now—to current debates on the mind-body problem, and argue that the dominant form of contemporary physicalism, standardly called nonreductive physicalism, fares no better than Cartesian and other dualisms vis-a-vis the problem of mental causation.

## II

That Descartes' radical dualism of mental and material substances might well be inconsistent with the possibility of causal commerce between them was something that his contemporaries noticed immediately. Princess Elisabeth of Bohemia famously asked Descartes to explain "how man's soul, being only a thinking substance, can determine animal spirits so as to cause voluntary action."<sup>2</sup> According to one commentator, the inability of Cartesian dualism to account for the possibility of mutual causal interaction between immaterial souls and material bodies was not only a major theoretical flaw in Cartesianism but also the actual historical cause of its demise.<sup>3</sup>

But exactly why is the duality of two substances, mental and material, inconsistent with causal transaction between the two? The reason usually offered is that it is difficult to conceive how two substances with such radically diverse natures, one in spacetime with mass and inertia but the other lacking wholly in material properties and not even in physical space, could stand in causal relations to each other. Apparently, various principles about causation, such as that cause and effect must show a certain degree of mutual affinity or "essential likeness," or that there can be no "greater reality" in an effect than there is in its cause, seem to have played a role. Anthony Kenny, for example, writes:

On Descartes' principles it is difficult to see how an unextended thinking substance can cause motion in an extended unthinking substance and how the extended unthinking substance can cause sensations in the unextended thinking substance. The properties of the two kinds of substance seem to place them in such diverse categories that it is impossible for them to interact.<sup>4</sup>

That is pretty much all that Kenny has to say about Descartes' troubles with mind-body causation—and the trouble for us is that, as far as I know, that is

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<sup>2</sup>*The Essential Descartes*, ed. Margaret Wilson (New York: New American Library, 1969), p. 373.

<sup>3</sup>Richard A. Watson, *The Downfall of Cartesianism 1673-1712* (The Hague, Holland: Martinus Nijhoff, 1966).

<sup>4</sup>Anthony Kenny, *Descartes* (New York: Random House, 1968), pp. 222-223.



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pretty much all we get from Descartes' critics and commentators. But as an argument this is at best incomplete and quite unsatisfying. As it stands, it is not much of an argument—it hardly gets started; rather, it only expresses a vague dissatisfaction of the kind that ought to prompt us to look for a real argument. Why is it incoherent to think that there can be causal relations between "diverse substances"? Why is it "difficult to see" things of diverse natures entering into causal relations with one another? It may be difficult to see but why does that mean it isn't, or can't, be real?

It has not been an easy matter to pin down precisely what may be wrong with positing causal relations between substances with diverse natures, and explain in concrete terms what it is about the natures of mental and material substance that make them unfit for mutual causal interaction. And there have been commentators who have defended Descartes against the Kenny-style charge of incoherence. Louis Loeb is an example.<sup>5</sup> Loeb's defense rests on his claim that Descartes was a proto-Humean about causation—namely that, for Descartes, causality amounted to nothing more than brute regularity, or "constant conjunction," and there can be no a priori metaphysical requirement, such as resemblance or mutual affinity, on what events can be causally joined with what other events. Loeb quotes from Descartes:

There is no reason to be surprised that certain motions of the heart should be naturally connected in this way with certain thoughts, which they in no way resemble. The soul's natural capacity for union with a body brings with it the possibility of an association between thoughts and bodily motions or conditions so that when the same conditions recur in the body they impel the soul to the same thought; and conversely when the same thought recurs, it disposes the body to return to the same conditions.<sup>6</sup>

This is not the place to go into the historical/exegetical question whether Descartes was indeed a Humean, before Hume, on causation. The relevant question is whether the constant conjunction view of causation helps save Descartes. I don't think it does. The reason is simple to see, and it is also instructive.<sup>7</sup>

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<sup>5</sup>Louis E. Loeb, *From Descartes to Hume* (Ithaca and London: Cornell University Press, 1981). See pp. 134-149

<sup>6</sup>*Descartes' Philosophical Letters*, trans. and ed. Anthony Kenny (Oxford: Oxford University Press, 1963), p. 210. I am rather dubious as to whether this passage supports Loeb's Humean interpretation of Descartes, for Descartes is using here causal verbs, "impel" and "dispose," to describe the regularities. But Loeb may well be right, and I am not in a position to challenge him on this point.

<sup>7</sup>There is also the substantive question of whether a purely Humean conception of causation can serve as a basis for vindicating mental causation. Arguably, showing mental causation to be possible on such a flimsy notion of causation does not amount to a genuine vindication of mental causation.

Suppose that two persons, Smith and Jones, are “psychophysically synchronized,” as it were, in such a way that each time Smith’s mind wills to raise a hand so does Jones’s, and vice versa, and every time they will to raise a hand, their hands rise. There is, then, a constant conjunction between Smith’s mind willing to raise a hand and Smith’s hand rising, and, similarly, between Jones’s mind willing to raise a hand and Jones’s hand going up. For a Humean, this would license the statement that a given instance of Smith’s willing to raise a hand is a cause of the subsequent rising of his hand, and similarly in the case of Jones. But there is an obvious problem here. For we see that instances of Smith’s mind willing to raise a hand are constantly conjoined not only with the rising of his hand but *also with the rising of Jones’s hand*, and, similarly, instances of Jones’s mind willing to raise a hand are constantly conjoined with the rising of Smith’s hand. So why is it not the case that Smith’s volition causes Jones’s hand to go up, and that Jones’s volition causes Smith’s hand to go up?

It will not do to say in reply that after all Smith wills *his* hand to rise and that’s why his willing causes his hand, not Jones’s hand, to rise. The reason is that this response begs the question at hand. According to the standard interpretation of Descartes, what makes Smith’s hand Smith’s, not Jones’s, that is, what makes Smith’s body the body with which Smith’s mind is “united,” is the fact that there is specially intimate and direct causal commerce between the two. To say that this is *my* body, the body with which my mind is united is to say that it is the only material thing that my mind can *directly* affect—that is, without affecting anything else. Moreover, in order to causally affect something, my mind must first move or otherwise affect this body. This is *my* body, and this is *my* arm, because it is something that I can move without moving any other thing. I can raise *your* arm only by grabbing it with my hand and pulling it up (or by somehow getting you to raise it).<sup>8</sup> The “union” of a mind and a body that Descartes speaks of, therefore, presupposes mental causation. Whether or not this interpretation of Descartes is historically correct, a causal account of this notion seems the most natural option for substance dualists, and I do not know of noncausal alternatives that make equally good sense.<sup>9</sup>

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<sup>8</sup>Does it exclude telekinesis? Probably. But that may well be one reason why there is something a priori strange about telekinesis. If telekinesis is a widely spread everyday phenomenon, that might indeed compromise the notion that each of us has a distinct body.

<sup>9</sup>Loeb might invoke Hume’s other conditions of causation here, in particular the condition that cause and effect be “contiguous” in space, and say that Smith’s willing is contiguous with Smith’s hand rising, but not with Jones’ hand rising. The difficulty with this answer is that, on substance dualism, acts of willing, as events taking place in mental substances, are not in space, and therefore that the spatial contiguity condition makes no sense when applied to cases of mind-body causation.

## III

This difficulty with a Humean interpretation of Descartes points to a more fundamental difficulty in Descartes' interactionist dualism. Let us begin with a simple example of physical causation: two rifles, A and B, are simultaneously fired, and this results in the simultaneous deaths of two persons, Andy and Bob. What makes it the case that the firing of rifle A caused Andy's death and the firing of rifle B caused Bob's death, and not the other way around? What are the principles or criteria that underlie correct and incorrect *pairings* of cause and effect in a situation like this? We can call this "the causal pairing problem," or "the pairing problem" for short.<sup>10</sup>

Two ways for handling this problem immediately come to mind.

(1) [Causal chains] We can trace a continuous causal chain from the firing of rifle A to Andy's death, and another such chain from the firing of B to Bob's death. (Indeed, we can, with a high-speed camera, trace the bullet's path from rifle A to Andy, and similarly for rifle B and Bob.) No such causal paths exist from the firing of A to Bob's death, or from the firing of B to Andy's death.

(2) ["Pairing relations": Spatial considerations] We look for a "pairing relation", R, that holds between A's firing and Andy's death and between B's firing and Bob's death, but not between A's firing and Bob's death or B's firing and Andy's death. In this particular case, when the two rifles were fired, rifle A, not rifle B, was located at a certain distance from Andy and pointed in his direction, and similarly with rifle B and Bob. It is these *spatial relations* (distance, orientation, among others) that help correctly pair causes and effects. Spatial relations seem to yield adequate pairing relations for this case, and perhaps for all cases of physical causation.

The two methods may not be independent of each other, but we will set aside this question for now and move on.

Let us now turn to a situation involving nonphysical Cartesian souls as causal agents. There are, say, two souls, A and B. These souls perform a certain mental action, and a change occurs in a material substance M. We may suppose that mental actions of the kind performed generally cause physical changes of the sort that happened in M, and, moreover, that in the present case it is soul A's action, not soul B's, that caused the change in M. Surely, such a possibility must exist. But ask: What relation can do the job of pairing soul A's

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<sup>10</sup>I first discussed this problem in "Causation, Nomic Subsumption, and the Concept of Event," *Journal of Philosophy* 70 (1973): 217-236. I was prompted to reflect on the issues involved here by John Foster's "Psychophysical Causal Relations," *American Philosophical Quarterly* 5 (1968): 64-70.



action with the change in *M*, a relation that is absent in the case of soul *B*'s action and the change in *M*?

Evidently, no spatial relations can be invoked to answer this question, for souls are not among the inhabitants of the space in which *M* and other material things are located, and are not able to bear spatial relations to material things. Soul *A* cannot be any "nearer" to material object *M*, or more appropriately "oriented" toward it, than soul *B* is—any more than it can be heavier or swifter than soul *B*. So spatial relations must be ruled out. Is there then anything else that can do for souls what space, or a network of spatial relations, does for material things?

The general problem here arises from the following fact about causation. It is possible for there to be two causal agents that have identical intrinsic properties and yet for one of them, but not the other, to be the cause of a given effect. That is, objects or agents with identical intrinsic causal powers may differ in actual exercises of those powers with respect to a given effect. What accounts for this causal difference between agents with an identical set of intrinsic properties, that is, intrinsic causal powers? For physical causation, the answer appears to be that it is their spatial relations to the given effect that grounds, and explains, the difference in their causal status. It is because rifle *A*, but not rifle *B*, bears a certain spatial relationship to the victim that the firing of *A*, but not the firing of *B*, causes the victim's death.

In view of this, we see that there are here two separable problems in the case of Cartesian mental causation, neither of which has an obvious solution. First, we need a coordinate system, a kind of "mental space," in which individual souls can be "located" and thereby individuated, just as the three-dimensional coordinate system for physical space individuates material things in terms of their locations within that system. Second, we need to establish a network of relationships that can hold between the souls in their mental space and the material objects in physical space. What could such a mental space be like? What relations will generate such a space? I don't have a clue. And given that mental space, supposing it can be constructed, is not in any definable relationship to physical space, it is difficult (in fact impossible) to see how objects in one space could be put in relations, in a motivated and nonarbitrary way, to those in the other. I don't think we have any idea where to begin.

It has been widely believed, as we noted, that Cartesian dualism of two substances runs into insuperable difficulties in explaining the possibility of causal relations across the two domains, mental-to-physical and physical-to-mental—especially the former. Actually, it can be shown, although I don't have the time to go into the details, that there is even a deeper difficulty—namely, substantival dualism is unable even to explain how mental-to-mental causation is possible, how two distinct Cartesian souls could be in causal contact with each other. Perhaps Leibniz was wise to renounce all causal relations between individual substances, or monads—although I have no idea as to his actual reasons for this view. A purely Cartesian world, a world that contains nothing but mental substances, seems like a pretty lonely place, inhabited by immaterial souls

each of which is an island unto itself, totally isolated from all of its fellow souls. What our considerations show is that causation requires a spacelike system—a coordinate system that individuates things in that space in terms of their “locations,” not in terms of their intrinsic properties. And it is this requirement that poses the most serious threat to Cartesian interactionist dualism, or any theory that posits immaterial causal agents outside physical space.

#### IV

Let us now turn to contemporary physicalism—in particular, its most influential form, nonreductive physicalism. This position can be characterized in the following set of claims:

- (1) *Physical ontology*: All the entities that exist are bits of matter and their aggregates. The material world is the whole world.
- (2) *Property dualism*: When physical systems reach a certain level of organizational complexity, they exhibit properties that are not physical—at least in that they are not among the properties dealt with in theoretical physics. And these properties are irreducible to physical properties.
- (3) *Supervenience*: Nonphysical properties of objects and systems, including mental properties, supervene on their physical properties in that once the physical properties of an object are fixed, that fixes all of its properties, including its entire mental character. More specifically, whenever a mental property is instantiated, this is due to the instantiation of some physical property that is its supervenience base.

The physicalist character of this position is captured in the first and third theses: there is nothing but material things in this world, and the *physical* character of any thing fixes its *whole* character. To make a perfect replica of me all you need to do is to make a *physical* replica of me, just as to make a perfect replica of an art work, with all its aesthetic qualities, all you need to do is to make a perfect *physical* replica of it. The rest will just follow, or supervene.

On the other hand, the second thesis above, property dualism, represents an important departure from the stronger form of physicalism, reductionist physicalism. It says that a system made up wholly of bits of physical matter can have properties, like consciousness and intentionality, that are not themselves physical, and are not in the domain of phenomena studied by theoretical physics. This position does speak to certain thoughts and desires we harbor about ourselves: although ultimately we are only aggregates of bits of matter, we possess properties and functions, like consciousness, rational thought, and free agency, that are beyond the reach of brute physics. We are physical beings in a physical world, but we also have something special, our mentality, that cannot be reduced to the physical level.

We all have our wishes and desires, but that doesn't mean that they can all be satisfied. And nonreductive physicalism may just be a piece of wishful thinking, something that is very nice to wish for, like having one's cake and eating it too. We shall see.

Mind-body supervenience can usefully be thought of as defining *minimal physicalism*—as the minimal commitment that anyone who calls herself a physicalist should be willing to accept. For present purposes we will not need an elaborate statement of exactly what mind-body supervenience amounts to. It will suffice to understand it as the claim that what happens in our mental life is wholly dependent on, and determined by, what happens with our bodily processes. If you are willing to let our mentality float free from its material moorings, ungrounded in our physical nature, you would hardly qualify as a physicalist, nor should you wish to be called one. Mind-body supervenience represents the minimum commitment for any physicalist.

What is surprising is that this fundamental component of physicalism gives rise to apparently insuperable difficulties when confronted with the task of explaining how the mind could have any sort of causal powers in this world. There are several principles that conspire with mind-body supervenience to make trouble for mental causation. The first of these is the principle of the causal closure of the physical domain. For our purposes we may state it as follows:

*The causal closure of the physical domain.* If a physical event has a cause at  $t$ , then it has a physical cause at  $t$ .

According to this principle, physics is causally *self-sufficient*: there is no need to go outside the physical domain to find a cause, or a causal explanation, of a physical event. Note that physical causal closure is consistent with dualism; it does not say that physical events and entities are all that there are, or that physical causal explanations are all the causal explanations that there are. As far as physical causal closure goes, there may be entities and events outside the physical domain, and causal relations may hold for these nonphysical events.<sup>11</sup> Moreover, physical causal closure in itself need not be thought to exclude nonphysical causes, or causal explanations, of physical events. However, this possibility is ruled out by the exclusion principle:

*Principle of causal exclusion.* If an event,  $e$ , has a sufficient cause,  $c$ , at  $t$ , no event at  $t$  distinct from  $c$  can be a cause of  $e$  (unless this is a genuine case of causal overdetermination).

There is also a companion principle regarding causal explanation, that is, the principle of explanatory exclusion, but we will not need it for our purposes here. However, it will be convenient to have a generalized and somewhat stronger version of the causal exclusion principle.

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<sup>11</sup>Although considerations in the first part of this paper make nonphysical causation a somewhat dubious proposition.

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*Principle of generative exclusion.* If the existence of an event *e*, or an instantiation of a property *P*, is generated by an event *c*—causally or otherwise—then *e*'s occurrence is not generated by any event wholly distinct from *c* (unless this is a genuine case of over-determination).

The second principle broadens causation, or causal determination, to generation/determination simpliciter, whether causal or otherwise. The intuitive idea involved is that a certain event, or property instantiation, owes its existence to a certain other event or state, that the former is generated out of, or derives from, the latter, whether this generative source is temporally antecedent to or contemporaneous with the event generated. And the rationale for the generalized exclusion principle is the thought that a thing has just one unique provenance of its existence, and that it cannot derive its whole existence from each of two independent sources. I have extensively argued elsewhere for the causal/explanatory exclusion principle;<sup>12</sup> I think the fundamental rationale for the broader principle is essentially the same and anyone who finds the former plausible should find the latter equally plausible.

It is quick and easy to see how these exclusion principles generate troubles for mental causation for anyone who accepts mind-body supervenience—that is, for anyone who is a minimal physicalist. I will present the argument in a step-by-step derivation.<sup>13</sup>

1. Suppose mental event *M* causes another mental event *M\**.
2. [By supervenience] *M\** has a physical supervenience base *P\**.
3. We have two purported generative sources for *M\**, its cause *M* and its supervenience base *P\**.
4. [By generative exclusion] *M* and *P\** cannot each be a distinct and independent generative source of *M\**.
5. The only way of reconciling the claims of *M* and *P\** to be a generative source of *M\** is to hold: *M* caused *M\** by causing its supervenience base, *P\**.
6. So *M* causes a physical event *P\**.
7. [By physical causal closure] *P\** must also have a physical cause, *P*, simultaneous with *M*.
8. So *P\** has two causes, *M* and *P*.
9. [By causal exclusion] Either *M* or *P* must go (as a cause of *P\**).
10. [By physical causal closure] *P* stays; *M* must go.
11. This contradicts our initial premise that *M* causes *M\**.

<sup>12</sup>See, e.g., "Mechanism, Purpose, and Explanatory Exclusion," reprinted in my *Supervenience and Mind* (Cambridge: Cambridge University Press, 1993).

<sup>13</sup>This is the argument I first presented in my "'Downward Causation' in Emergentism and Nonreductive Materialism," in *Emergence or Reduction?* ed. A. Beckermann, H. Flohr, and J. Kim (Berlin: de Gruyter, 1992). For more details see my *Mind in a Physical World* (Cambridge MIT Press, 1998).



The argument is completely general and applies to any mental event, or property, you choose. And  $M^*$  is any mental effect  $M$  may have: if you would like to begin with the supposition that  $M$  has some physical effect, you could begin the argument at step 6. Hence, the argument shows that mental events or properties in general can have no causal powers—no powers to cause either a mental or a physical event.

We can summarize all this in the following statement:

*The problem of mental causation.* Causal efficacy of mental events/properties is inconsistent with the joint acceptance of the following four theses:

- (i) mind-body supervenience
- (ii) physical causal closure
- (iii) causal/generative exclusion
- (iv) mental-physical property dualism

Physical causal closure and mind-body supervenience are, or must be, among the inescapable commitments of all physicalists. The exclusion principles are general metaphysical constraints, and I don't see how they can be successfully challenged. This leaves mind-body property dualism as the only negotiable item. But to discard it is to embrace reductionism. This will cause a chill and shudder in those physicalists who want to eat and have their cake—that is, those who want both property dualism and mental causation. I believe that the question no longer is whether or not those of us who want to protect mental causation find mind-body reductionism palatable. If we want mental causation, we had better be prepared to live with reductionism whether we like it or not. The point is quite simple, and I believe it was seen by Descartes' contemporary critics: Unless you bring the mind fully into the physical domain, there is no hope of explaining how the mind can participate in physical causal processes.

## V

So the conclusion at this point is that under some widely accepted physicalist principles, in particular physical causal closure and mind-body supervenience, minds can have powers to influence events and initiate physical changes *only if* they are reducible to physical processes, presumably neurobiological processes of the brain. That is to say, there is no room in nonreductive physicalism to accommodate mental causation. To appreciate this result, however, is to begin to see that none of the available alternatives looks very attractive.

If minds are something worthwhile having and if mentality and consciousness are what makes us special, then minds must be capable of making a difference in the world. And the only difference that matters is causal difference. As we have seen, minds are causally efficacious only if they are reducible to brains. But if minds are reduced to brains, aren't we really abandoning minds? Minds would no longer be something special and distinctive but only physi-

cal/biological structures or some aspect thereof. If we must save minds' causal efficacy only by giving up minds, that seems like no way to save it. Or so it might seem to some of us.

So we are apparently caught in a dilemma. Either mentality is reducible or it isn't. If it is, we can save its causal powers but in the process we may lose just the thing we set out to save, namely minds. If mentality isn't reducible, we can save it as something distinctive and special, but we have to pay a price: it turns out to be causally impotent. What is so special about hanging onto something that has no causal powers? Why should we care about things that have no powers to affect anything else, things whose existence or nonexistence makes no difference to anything else? Either way we seem to be threatened with the loss of the mind as something significant.

A dilemma like this is not a happy place to end a story. But our story does not end here. Philosophy goes on. I believe that if we travel a little more distance, as I believe we can, the dilemma can be largely alleviated if not entirely resolved. But that is for another occasion, and today I will end my story here.

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