

Descartes' Dualism and Contemporary Dualism

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Abstract

After drawing a distinction between two kinds of dualism—numerical dualism (defined in terms of identity) and modal dualism (defined in terms of supervenience)—we argue that Descartes is a numerical dualist, but not a modal dualist. Since most contemporary dualists advocate modal dualism, the relation of Descartes' views to the contemporary philosophy of mind are more complex than is commonly assumed.

Descartes is rightly held to have inaugurated the modern debate over the relationship between mind and body. He is also perceived as having been the first, or among the first, to occupy one of the leading positions in this debate: dualism. Our aim in this essay is to show that this perception is only partly accurate. Although Descartes is certainly a dualist of some sort, he is not a dualist as that term is commonly understood today. His position is more complex and, in certain ways, more intriguing than many popular expositions of his views nowadays suggest. We shall argue that he would in fact come out as endorsing *materialism*, as that is now understood within mainstream analytic philosophy. At the same time, there is a clear sense in which his position is a dualist one. We conclude that the assumption that we can simply transpose Descartes' philosophy

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of mind directly onto the contemporary debate is faulty and is bound to give an erroneous picture of his true position.

Our paper begins by outlining two different kinds of dualism, which we will call respectively numerical and modal dualism (the latter being the most representative version of dualism in contemporary debates). Correspondingly, we will differentiate between numerical materialism and modal materialism. We will then argue that, while Descartes was a numerical dualist, he would also have endorsed modal materialism. We acknowledge that the vast gulf between Descartes' own metaphysics and anything that would acceptably pass under that name today will only allow at best an *approximate* mapping of his views onto those prevalent in contemporary debates. We argue, nevertheless, that the most approximate mapping of Descartes' views to current views would reveal that his position is far closer to modal materialism than to modal dualism.¹

1. Varieties of Dualism and Materialism

Broadly speaking, dualism is the view that there is an ultimate distinction between the mental and the physical; materialism is the view that there is no such distinction. But this broad definition elides two theses that might equally well be styled dualist, and two that can lay equal claim to the title of materialism. We suggest the following definitions/distinctions:

Numerical Dualism

Not every mental entity (object, event, state, process, property, state of affairs, etc.) is one and the same as some physical entity.

Numerical Materialism

Every mental entity is one and the same as some physical entity.

Modal Dualism

Not every possible world that physically duplicates the actual world contains every mental entity that the actual world contains.

Modal Materialism

Every possible world that physically duplicates the actual world contains every mental entity that the actual world contains.

The kind of possibility invoked by the last two definitions is *logical* possibility. To deny that something is possible in this

sense is to say that it is like a million's being less than two, or azure's being a shade of yellow; to call something logically necessary is to liken it to two's being less than a million, or to azure's being a shade of blue.

What do we mean by "physical" and "mental"? There can be no question of definitions here; the most we can offer are instructive tautologies. Physical states of affairs are states of affairs concerning what exists and happens, physically speaking. They comprise the facts that physicists would—given enough time, brains, and funding—discover. It would be a mistake to equate physical entities with phenomena of the sort recognized by present-day physics, since present day physics is incomplete, and in some respects probably wrong. The physical domain crucially encompasses biological phenomena, such as the structure, function, and behavior of human organisms.

The term "mental" is more slippery. In one sense, a mental state is any state whose presence explains certain forms of behavior, primarily complex goal-oriented behavior. This is what contemporary philosophers of mind often call the 'psychological' aspect of the mental. However, there is another sense of "mental" in which to describe something as a mental state is to say that there is something that it is like to be in that state. This is the "phenomenal" aspect of the mental. Hereafter, we use the word "mental" to cover both psychological and phenomenal aspects of the mental; thus, to say that mental phenomena are physical is to say that every psychological *and* every phenomenal state, event, property, fact, etc., is physical.²

Modal materialism does not imply that every possible world that physically duplicates the actual world duplicates it mentally. The view is compatible with the possibility of a world physically identical to our own that contains all the mental entities that our world contains *plus* some extra mental entities (disembodied minds, perhaps) that do not exist in our world. The modal materialist claims only that any possible world physically identical to ours is a world in which there exist *at least* those mental phenomena that exist in our world. It is possible for a modal materialist to make the further claim that any world physically identical to ours is one in which there exist at least *and at most* the mental phenomena that actually exist, but this is not mandatory, and not a further claim that all contemporary proponents of modal materialism are prepared to make.³

How does modal materialism relate to numerical materialism? According to numerical materialism, each mental entity is numerically identical to some physical entity; this is a straightforward version of the Identity Theory. Numerical materialism entails modal materialism, since if all mental entities are identical to physical entities, any world that contains all the physical entities that exist in our world also contains all

the mental entities that exist in our world (namely, those mental entities that are none other than various actual physical entities). But one can reject numerical materialism without rejecting modal materialism. One can maintain, for example, that although it would be impossible for the universe to have been just the way that it is in all physical respects without containing all the phenomenology that it actually contains, still, this phenomenology is not *identical* to anything physical. It is one thing to say that the existence of the physical entities that actually exist logically necessitates that of the mental entities that actually exist; it is another (and stronger) thing to say that these physical entities *are* the mental entities whose existence they logically necessitate. Modal materialism commits its proponents only to the former claim; numerical materialism carries a commitment to the latter as well.

While numerical materialism is a stronger thesis than modal materialism, numerical dualism is a weaker thesis than modal dualism. To prove modal dualism, one must show that it would be possible for everything to have been exactly as it actually is, physically, but for there not to have existed some mental entity that does actually exist. To that end, one might argue that the physical facts of our world are logically compatible with the nonexistence of any conscious minds at all; this is the currently influential “zombie argument” for modal dualism.⁴ Alternatively, one might argue that everything could have been the same as it actually is physically, even if we had had yellow instead of blue visual phenomenology when gazing at the clear autumn sky. A possible world in which we are equipped with bodies identical to the ones we actually have, embedded in a physical environment identical to the one that surrounds us, but in which we fail to have blue phenomenology when looking skyward, would be a world in which there failed to exist some mental entities—various bluish experiences—that actually exist.⁵

The possibility of a physical copy of our world containing no conscious experience, or phenomenally inverted conscious experience, would not only establish modal dualism, but numerical dualism as well. If there is a possible world just like ours physically that fails to contain some actually existing mental entity, then that mental entity cannot be the same as any physical entity. (If it were, it would exist in every possible world in which there exists the physical entity that it is.) But one can consistently advocate numerical dualism without endorsing modal dualism. A numerical dualist might agree with a modal materialist that the physical facts about our world logically necessitate the existence of whatever mental entities exist, yet maintain that these entities (or at least some of them) could exist even in the absence of any physical world. If there is a possible world containing our minds but no bodies, then nothing physical is logically *necessary* for the existence of our

minds, in which case numerical dualism must be true. But the possibility of such a world would not support modal dualism, the defining claim of which is that nothing physical is logically *sufficient* for the existence of our minds, thoughts, and experiences.

2. Descartes' Position

So far we have drawn a distinction between two kinds of dualism and two corresponding kinds of materialism: numerical materialism, which entails (but is not entailed by) modal materialism, and numerical dualism, which is entailed by (but does not entail) modal dualism. The questions we want to consider now is which of these positions Descartes accepts and which he rejects.

Before we can proceed, however, we need first to consider the notion of logical possibility in relation to Descartes. Descartes famously claimed that God was "free to make it not true that all the radii of the circle are equal" (AT, 1:152; CSMK, 25)⁶ and again that "God cannot have been determined to make it true that contradictories cannot be true together, and therefore ... he could have done the opposite" (AT, 4:118; CSMK, 235). One could then infer that he would also accept that it is possible for azure to be a shade of yellow or for a million to be less than two. If one grants this, then arguably he could not have meaningfully endorsed either modal materialism or modal dualism. In a universe in which the principle of contradiction does not obtain, the question of whether physical facts do or do not logically necessitate mental facts (and vice versa) can obviously get no grip.

This aspect of Descartes' thought may prima facie be an obstacle to our mapping of Descartes' dualist position onto the contemporary positions of modal dualism and modal materialism.⁷ We note, however, that Descartes accepts, alongside this strong version of possibility engendered by the divine powers of the Cartesian God, a weaker version of possibility that holds *relative to human minds*. This latter kind of possibility is what we would call logical possibility, and Descartes must accept and apply this notion of possibility in order for the argument of the *Meditations* (and indeed any argument) to get off the ground.

In the *Meditations*, Descartes attempts to found a "stable and lasting" system of knowledge based upon the clear and distinct perceptions of reason. The reliability of reason, however, must minimally require that the principle of contradiction holds. If this principle did not hold, then we would have to admit that reason is unreliable and that what is clearly and distinctly established by reason could be false. For example, if this principle did not hold, we would have to accept that even logically necessary statements (e.g., $2 + 3 = 5$) could be false.

Reason could get no grip and Descartes' project in the *Meditations* must fail.

Descartes' acknowledgment that we as humans must operate within the bounds of logical possibility is clearly found, for instance, in the Replies to the Second Set of Objections. There, Descartes deals with the question of whether a clear and distinct perception could be false as follows:

Now if [the] conviction [from a clear and distinct perception] is so firm that it is impossible for us ever to have any reason for doubting what we are convinced of, then *there are no further questions for us to ask: we have everything that we could reasonably want*. What is it to us that someone may make out that the perception whose truth we are so firmly convinced of may appear false to God or an angel, so that it is, absolutely speaking, false? Why should this alleged "absolute falsity" bother us, *since we neither believe in it nor have even the smallest suspicion of it?* (AT, 7:144–45; CSM 2, 103; emphasis added)

Descartes maintains that there is no point worrying about whether a claim could be "absolutely" false for God (as well it might since God could have willed the principle of contradiction not to hold). Truth as it obtains for the human intellect is all that "we could reasonably want" (or have), and we know we have this when we have a clear and distinct perception that is impossible to ever doubt. Descartes thus makes clear here that humans can only concern themselves with truth and falsehood as they are established through a human reason bounded by the principle of contradiction.

Again, a little later, when asked about whether God's nature is "possible," he replies:

If by "possible" you mean what everyone commonly means, namely "whatever does not conflict with our human concepts," then it is manifest that the nature of God, as I have described it, is possible in this sense.... Alternatively, you may well be imagining some other kind of possibility which relates to the object itself; but unless this matches the first sort of possibility it can never be known by the intellect. (AT, 7:150–51; CSM 2, 107)

Descartes points out that the only kind of possibility that we humans are acquainted with is "whatever does not conflict with our human concepts"—that is, with logical possibility. If there is any other kind of possibility, we are incapable of conceiving it, and thus "it can never be known by the intellect."

In sum, while Descartes admits a strong version of possibility that allows azure to be yellow and a million to be less than two, he also accepts that this kind of possibility "cannot be known by the [human] intellect." Human beings can only think

within the bounds of what is logically possible, and what counts as true or false for them obtains within these bounds. Given this, we think we may cogently ask whether Descartes (*qua* human whose thought is governed by the principle of noncontradiction) would have held that physical facts logically necessitate mental facts. We will accordingly now proceed to consider whether Descartes would have endorsed modal dualism or only numerical dualism, and if only numerical dualism, whether he would also positively embrace modal materialism.

In the *Discourse on Method*, Descartes, in order not to have to contend with “the accepted opinions of the learned” in describing the nature of the material world, decides to “speak solely of what would happen in a new world.” In this new world, Descartes supposes that “God formed the body of a man exactly like our own both in the outward shape of its limbs and in the internal arrangement of its organs, using for its composition nothing but [Cartesian] matter.” Again, Descartes supposes that God did not place in this body any “rational soul,” so that none of the mental features that are present in an actual human being would exist in this individual. Significantly, he then writes:

When I looked to see what functions would occur in such a body I found precisely those which may occur in us without our thinking of them, and hence without any contribution from our soul (that is, from that part of us, distinct from the body, whose nature is simply to think)... *But I could find none of the functions which, depending on thought, are the only ones that belong to us as men; though I found all these later on, once I had supposed that God created a rational soul and joined it to this body.* (AT, 6:46; CSM 1, 134; emphasis added)

The behavior of the mindless organism, Descartes makes clear, could not be the same as that of a thinking human being. Given the same laws of physics, the behavior of a particular body not joined to a rational soul must differ from that of the same body were it to be joined to a rational soul. Thus, suppose that there is a world where minds are entirely absent: Descartes would evidently hold that this world cannot be physically the same as the actual world.

That Descartes would hold this is confirmed by what he says in the Sixth Meditation. Once again, he considers the body of a man “as a kind of machine equipped with and made up of bones, nerves, muscles, veins, blood and skin in such a way that, even if there were no mind in it, it would still perform all the same movements as it now does *in those cases where the movement is not under the control of the will, or consequently, of the mind*” (AT, 7:84; CSM 2, 58; emphasis added). Here again, Descartes makes clear that the body without a mind would not perform exactly the same movements as the body with a mind—it would

perform only those movements that do not come under the control of the will. (Further evidence that this is Descartes' view is found in AT, 6:55; CSM 1, 139; and AT, 7:229–31; CSM 2, 161–62.)

Descartes' contention that the existence of a normally functioning human body engaged in characteristically human forms of behavior necessitates the existence of a corresponding thinking mind does not, in itself, commit him to modal materialism. As far as the textual evidence so far brought forward shows, it may be that Descartes would think that the physical facts of our world necessitate the existence of thinking minds but *not* the existence of sensations, "raw feels," or qualia. Since these minds and their thoughts are not, on Descartes' view, physical, his claim that their existence is logically entailed by various physical facts about us is already a striking departure from mainstream dualism. All the same, Descartes is not a full-fledged modal materialist unless he would accept that *all* mental phenomena, including sensory phenomenology, are a logically necessary consequence of the world's physical arrangement.

In the Sixth Meditation, Descartes remarks that

Nature teaches me, by these sensations of pain, hunger, thirst and so on, that I am not merely present in my body as a sailor is present in a ship, but that I am very closely joined and, as it were, intermingled with it, so that I and the body form a unit. If this were not so, I, who am nothing but a thinking thing, would not feel pain when the body was hurt, but would perceive the damage purely by the intellect, just as a sailor perceives by sight if anything in his ship is broken. Similarly, when the body needed food or drink, I should have an explicit understanding of the fact, instead of having confused sensations of hunger and thirst. For these sensations of hunger, thirst, pain and so on are nothing but confused modes of thinking which arise from the union and, as it were, intermingling of the mind with the body. (AT, 7:81; CSM 2, 56)

Descartes' claim that he might have perceived the damage to his body purely by the intellect may give the impression that he thinks his body might have exhibited all the changes that it actually does, even in the absence of sensations of pain, hunger, thirst, and so on. But in fact Descartes leaves it open that the behavior of his body would be different from what it actually is, if he perceived damage to it purely intellectually, rather than as he actually does (i.e., by having painful sensations). Furthermore, as we have seen, Descartes holds that his body necessarily *would* move differently from how it actually does if it were not connected to a thinking, willing mind. So, in order to conceive of a situation in which his body does everything it actually does, he must conceive of it as connected with such a mind. But given that it is so connected, sensations cannot help but result, for

“these sensations of hunger, thirst, pain and so on are nothing but confused modes of thinking which arise from the union and, as it were, intermingling of the mind with the body.”

It would be a problem for our interpretation if Descartes stated that bodies could be made to behave exactly as they actually do by minds that *were* present in them as a sailor is present in a ship, rather than by being with the bodies. It would also go against our interpretation if Descartes were found to claim that his body could have been manipulated marionette-wise by God or an angel to move in all the ways it actually moves, without corresponding sensations. If Descartes held such a view, he would have to be counted a modal dualist, although a peculiar one for whom the physical facts of our world logically necessitate the existence of nonphysical minds, thoughts, and acts of will, but not that of sensory phenomenology.

However, there is good evidence that Descartes does not take this position. For example, he gives the following account of sense perception and imagination to Frans Burman.

When external objects act on my senses, they print on them an idea, or rather a figure of themselves. And when the mind attends to these images printed on [the pineal gland] in this way it is said to have sense perception. When, on the other hand, the images on the gland are imprinted not by external objects but the mind itself, which fashions and shapes them in the brain in the absence of external objects, then we have imagination. The difference between sense perception and imagination is really just this, that in sense perception the images are imprinted on the brain by external objects which are actually present, while in the case of imagination the images are imprinted by the mind without any external objects, and with the windows shut, as it were. (AT, 5:162; CSMK, 344–45)

For Descartes, then, phenomenal states of sensation and imagination are states the mind is in when it attends to physical “images” in the brain. The question that concerns us is whether it is Descartes’ view that precisely these phenomenal states *must* arise when the mind attends to the neural images.

At first glance, it may seem that this is not his view. Descartes holds that a particular sensation in our minds always corresponds to a particular (kind of) figure or image in the pineal gland because this correspondence is “naturally instituted” by God. He also seems to allow that God could have instituted a given state of the body to correspond to a different sensation. For example, in discussing the pain-in-the-foot sensation that corresponds to a particular state of the pineal gland, he writes:

It is true that God could have made the nature of man such that this particular motion in the brain indicated something else to the mind; it might for example, have made the mind aware of the

actual motion occurring in the brain, or in the foot, or in any of the intermediate regions; or it might have indicated something else entirely. (AT, 7:88; CSM 2, 60–61)

Given that Descartes is prepared to accept that God could have instituted that a particular motion in the brain (or more precisely, the pineal gland) could have corresponded to a different phenomenal experience, it might seem that he would be all the more prepared to accept that the particular motion that now corresponds to, say, a sensation of red could have been instituted by God to correspond to a violet sensation.

However, a closer look at the larger textual context of Descartes' discussion about the pain-in-the-foot sensation shows that Descartes would have to rule out that it is logically possible for God to institute any other correspondence between sensations and pineal gland states than the ones already so instituted. Descartes makes clear in the *Meditations* that God whom he clearly and distinctly perceives to exist cannot, on pain of contradiction, be other than all-good and nondeceiving:

By "God" I mean the very being the idea of whom is within me, that is, the possessor of all the perfections.... It is clear enough from this that he cannot be a deceiver, since it is manifest by the natural light that all fraud and deception depend on some defect. (AT, 7:52; CSM 2, 35)

It is in the very conception of God that God must be wholly perfect—therefore, he cannot be a deceiver or other than wholly good. Thus, while Descartes is prepared to admit, for the sake of argument, the hypothesis that God might have instituted a different sensation to correspond to a particular brain state, he also makes clear that *this would be logically impossible* given the divine attributes of omnipotence and goodness.

My ... observation is that any given movement occurring in the part of the brain that immediately affects the mind produces just one corresponding sensation; and hence *the best system that could be devised is that it should produce the one sensation which, of all possible sensations, is most especially and most frequently conducive to the preservation of the healthy man*. And experience shows that the sensations which nature has given us are all of this kind; and so there is absolutely nothing to be found in them that does not bear witness to the power and goodness of God. (AT, 7:87; CSM 2, 60; emphasis added)

Descartes makes it clear that the actual system instituted by God for linking specific sensations and particular brain states is the *best* system, the one that is *most* conducive to the preservation of humankind. The sensation that God has linked

to a particular pineal gland state is, Descartes states, the *one* sensation, of *all possible* sensations, that is most conducive to the preservation of the human being. Moreover, the other sensations that we possess are "all of this kind." God thus could not, without contradicting his own nature as all-good, institute any other system than the one we already have. It follows that Descartes would not accept that a system involving, for example, inverted phenomenal spectra could ever be instantiated.

Descartes would thus not have accepted modal dualism. On the contrary, for him, the physical universe could not have been the same without containing all the minds and mental states, events, etc., that it actually contains. For him, the existence of our minds, thoughts, and phenomenal experiences would be a logically inevitable consequence of the structure, function, and behavior of our bodies. He would thus have accepted modal materialism. But he is not a numerical materialist. Descartes repeatedly maintains that minds can exist without the benefit of bodies. In the Second Meditation, he goes so far as to entertain a situation in which his mind exists in the absence of any physical world at all. If such a situation is logically possible—and it appears that Descartes thinks it is—the mind cannot be one and the same thing as the body, for if it were, any situation in which the body failed to exist would be one in which the mind failed to exist as well. Descartes' philosophy of mind therefore defies simple classification as dualist or materialist: his view is a combination of modal materialism and numerical dualism.

We now consider two objections to classifying Descartes as a modal materialist. The first is based on Descartes' physics; the second, on some comments Descartes makes in the Fourth Replies.

2.1 Descartes' Deterministic Physics

Descartes' physics holds to the principle of the conservation of motion and, moreover, maintains that matter can only be set in motion by the impact of other moving matter according to a specific set of physical laws. Descartes' physical world thus appears to be a closed system where every physical state of affairs is determined by some previous physical state of affairs. This being the case, the occurrence or not of mental events would seem incapable of making any difference at the physical level: the physical history of the world might have proceeded just the same as it actually has, even if humans and other creatures had lacked minds entirely.

The tension between Descartes' physics and his view that the presence of the mental somehow bears on the behavior of the physical forms a known crux in Descartes' thought. If every physical event has a completely determining physical cause,

then there are only two ways in which mental events can have physical effects. Either (1) mental events must be a species of physical events or (2) the physical effects of mental events must be causally overdetermined (by the physical and mental events that separately cause them). Since Descartes clearly rejects (1), it appears he must regard a significant amount of human bodily behavior as systematically overdetermined by distinct mental and physical causes—an unprepossessing, even if logically consistent, view.⁸

However, it is not clear that Descartes' physics is completely deterministic. Leibniz, for example, argued that Descartes' claim that matter can only be set in motion by the impact of other moving matter does not rule out that the direction of the movement may be dependent on facts that are nonphysical.⁹ Descartes' principle of the conservation of matter can be preserved, without assuming that every physical event has a complete physical cause, and without precluding nonredundant mental causes for some physical events. More recently, Garber has argued that Descartes' principle of conservation does not rule out that matter can be set in motion by factors other than the impact of other moving matter (such as God or mental substances). More particularly, he points to Descartes' *Principles*, in which his specification of the conservation principle, as well as of his third law of impact, evidently leaves room for physical changes to be brought about by finite human minds.¹⁰

Alternatively, it may be that Descartes does not hold that mental events have physical effects at all. Secada argues that Descartes is an occasionalist for whom there is no genuine causation of empirical events *by* empirical events, not even of physical events by other physical events. On this view, the causal closure of the physical is closure only under an ersatz or derivative causality, and the coordination of mind and body comes of mental and physical phenomena having a common origin in the true causation of divine will. Loosely speaking, we may describe mental events as having physical effects, but we must take care to avoid the "uneducated" error of assuming that a mental event—or *any* empirical event—has the power to create subsequent physical events (AT, 7:49; CSM 2, 33; AT, 7:78–79; CSM 2, 54–55). Empirical events cause other empirical events only in the sense that empirical events occur with a certain diachronic regularity—a regularity that is not self-propagating but results from the orderly manner in which God synchronically causes successive states of the world.¹¹

Whether interactionist or occasionalist, one thing is certain: for Descartes, the existence and activity of minds is not a contingent, but a necessary, prerequisite of certain forms of physical behavior. Thus, if he is an interactionist who regards mental events as having physical effects, he must take these

effects to be ones that *logically* require for their occurrence - the occurrence of the corresponding mental events. Similarly, if Descartes is an occasionalist, he must hold that God cannot possibly will certain forms of physical behavior to take place without willing the occurrence of the corresponding mental events; at least, this must be Descartes' view insofar as he confines his attention to possibilities that are within the realm of human comprehension.

2.2 Descartes' Comments in the Fourth Replies

In his reply to Arnauld's Fourth Set of Objections, Descartes makes claims such as the following:

a body can be understood distinctly as a complete thing, without any of the attributes which belong to the mind (CSM 2, 157)

and

I understand a thinking substance to be just as much a complete thing as an extended substance. (CSM 2, 157)

Such claims might be interpreted as showing that Descartes thought that the mental and material are complete and independent realms, whose various operations proceed wholly independently of each other. In that case, he would accept that it is possible that a body (*qua* complete thing) could exist as it does even if there were no minds—and, similarly, that a mind (*qua* complete thing) could exist in the way it does even if body did not exist.

Whether one can ultimately make cogent sense of Descartes' claims in this portion of the Fourth Replies about complete and incomplete things is far from clear.¹² But the claims as they stand certainly do not support the contention that Descartes was a *modal* dualist. Descartes specifies earlier in the Fourth Replies that he means by a "complete thing" a "substance endowed with the forms or attributes which enable me to recognize that it is a substance" (AT, 7:222; CSM 2, 156). In the Sixth Meditation, he claims that, in recognizing that the body has the attributes of being "extended" and "nonthinking," while he himself (*qua* mind) has the attributes of thought and nonextension, he recognizes that he is "really distinct" from his body, and that he (*qua* thinker) and his body are distinct substances (AT, 7:78; CSM 2, 54). This being the case, the "mind can, at least through the power of God, exist without the body; and similarly the body can exist without the mind" (AT, 7:170; CSM 2, 119).

However, while Descartes thinks that the body can exist without the mind, it does not follow that he thinks that a body that exists without a mind would behave in exactly the same

way as a body that exists connected with a mind, any more than his claim that minds can exist without bodies implies that minds that exist in a universe without bodies would have experiences entirely identical to minds that, like our own, are connected to bodies. With respect to the latter claim, writers like Cottingham have made clear that Descartes holds that it is only minds that are “connected” to bodies that have sensory perception and imagination. In contrast, the utterly disembodied Cartesian mind would possess free will and the ability to ratiocinate but would have no awareness of color, taste or smell.¹³ And, as we have seen, there is ample textual evidence that, in Descartes’ view, bodies in a universe without minds would not exhibit the same movements and changes as bodies in a universe like ours where minds do exist.

In claiming that minds and bodies are complete things, Descartes is indeed maintaining that they are substances that can exist apart from each other—that it is possible for there to be a universe with mind and no body, and one in which there is body but no mind. But this does not thereby commit him to the claim that in a universe with bodies and no minds, bodies could behave in exactly the same way as they would in a universe with bodies “connected” to minds. In particular, it does not commit him to the modal dualist claim (which he elsewhere explicitly rejects) that it is possible for there to be a mindless universe containing bodies that move in all the ways human bodies actually move.

3. Conclusion

We have argued that Descartes’ philosophy of mind is defined by two theses: one that rejects the identity theory of mind and body, and another that is tantamount to materialism, as that position is now commonly understood. For Descartes, the world’s physical nature logically necessitates that there are precisely those minds, thoughts, and conscious experiences that actually exist. Yet these minds are not themselves physical and could, in theory, exist in the absence of any physical world. It seems appropriate to call this pair of theses *Cartesian dualism*.

Why Descartes held this view, and modal materialism in particular, is not at all obvious. Presumably he was alive to the possibility of arguing *against* modal materialism along the same lines as he argues against numerical materialism; it would simply be a matter of arguing for the possibility of (fully operational) bodies without minds rather than minds without (fully operational) bodies; this is, in effect, how Leibniz argues for modal dualism.¹⁴ There is some evidence that Descartes may think that modal dualism does not allow for a relation of mind and body intimate enough to comport with our exercise of free will (AT, 7:18–19; CSM 1, 205 in conjunction with AT, 7:84; CSM

2, 58). There is also some evidence that Descartes thinks that the actual physical world is the only physical world possible—he certainly held that all possible physical states are actualized (AT, 8A:103; CSM 1, 258)—in which case modal materialism would be trivially true.

But the attempt to account for Descartes' embrace of modal materialism must be the subject of another paper. What we hope to have shown here is that Descartes, while accepting numerical dualism, also comes out as a modal materialist. Contemporary philosophers who are tempted to assume that Descartes is a direct ancestor of the most prevalent current versions of dualism neglect the "continental drift" in conceptions of dualism that has taken place between his time and our own.¹⁵

Notes

¹ Some commentators suggest that Descartes may not even have been a numerical dualist; see, e.g., Clarke Desmond, *Descartes's Theory of Mind* (Oxford: Oxford University Press, 2003). It is beyond the scope of this paper to enter into a detailed discussion of such views. We hope that the textual evidence provided in this paper will suffice to show that Descartes is a numerical dualist, as indeed many commentators would accept. Further discussion of the points raised by Clarke must await a further occasion.

² For the phenomenal/psychological distinction, see Thomas Nagel, "What Is It Like to Be a Bat?" *Philosophical Review* 83, no. 4 (1974): 435–50; Ned Block, "On a Confusion about a Function of Consciousness," *Behavioral and Brain Sciences* 18, no. 2 (1995): 227–87; David J. Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (Oxford: Oxford University Press, 1996), 3–31.

³ See, for example, David Lewis, "An Argument for the Identity Theory," *Journal of Philosophy* 63, no. 1 (1966): 17–25; Chalmers, *The Conscious Mind*, 38–41; Frank Jackson, *From Metaphysics to Ethics: A Defense of Conceptual Analysis* (New York: Oxford University Press, 1998), 9–14.

⁴ See Keith Campbell, *Body and Mind* (London: Macmillan, 1970), 100–109; Robert Kirk, "Sentience and Behavior," *Mind* 83, no. 329 (1974): 43–60; Chalmers, *The Conscious Mind*, 94–99.

⁵ For discussion of this "inverted spectrum" argument, see John Locke, *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1979), II.xxxii.15; Ludwig Wittgenstein, *Philosophical Investigations*, 3rd ed. (New York: Macmillan, 1958), Sec. 272; and Sydney Shoemaker, "The Inverted Spectrum," *Journal of Philosophy* 79, no. 2 (1982): 357–81.

⁶ Quotations are from *The Philosophical Writings of Descartes*, Vols. 1, 2, and 3 trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Vols. 1 and 2) together with Anthony Kenny (Vol. 3) (Cambridge: Cambridge University Press, 1985, 1984, and 1991), cited respectively as CSM 1, CSM 2, and CSMK. Reference is also made to Adam and Tannery's *Oeuvres de Descartes*, Vols. 1–12 (Paris: J. Vrin, 1983), cited as AT, followed by the relevant volume and page number.

⁷ See Harry Frankfurt, "Descartes on the Creation of the Eternal Truths," *Philosophical Review* 86, no. 1 (1977): 36–57; E. M. Curley, "Descartes on the Creation of the Eternal Truths," *Philosophical Review* 93, no. 4 (1984): 569–97; and Jonathan Bennett, "Descartes's Theory of Modality," *Philosophical Review* 103, no. 4 (1994): 639–67.

⁸ This view has been defended by, for example, Eugene Mills, "Interactionism and Overdetermination," *American Philosophical Quarterly* 33 (1996): 105–17.

⁹ See Gottfried Leibniz's letter "To Arnauld (April 30, 1687)," in *Philosophical Essays*, ed. Roger Ariew and Daniel Garber (Indianapolis: Hackett, 1989), 81–90, and "The Principles of Philosophy," Sec. 80 of Leibniz's *Monadology* in *Philosophical Essays*, 213–15.

¹⁰ See Daniel Garber, *Descartes' Metaphysical Physics* (Chicago: University of Chicago Press, 1992), 303.

¹¹ See Jorge Secada, *Cartesian Metaphysics: The Scholastic Origins of Modern Philosophy* (Cambridge: Cambridge University Press, 2000), 105–07.

¹² See, e.g., Bernard Williams, *Descartes: The Project of Pure Enquiry* (Harmondsworth: Penguin, 1978), 111–14; Anthony Kenny, *Descartes: A Study of His Philosophy* (New York: Garland, 1987), 86–95.

¹³ See John Cottingham, "Cartesian Trialism," *Mind* 94, no. 374 (1985): 218–30.

¹⁴ In Sec. 17 of the *Monadology*, in *Philosophical Essays*, ed. Roger Ariew and Daniel Garber (Indianapolis: Hackett, 1989), 215.

¹⁵ This apt metaphor is borrowed from Gordon Baker and Katherine J. Morris, *Descartes' Dualism* (London and New York: Routledge, 1996), 148.