

2

Non-Cartesian Substance Dualism

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Non-Cartesian substance dualism is a position in the philosophy of mind concerning the nature of the mind-body relation—or, more exactly, the *person*-body relation. It maintains that this is a relationship between two distinct, but not necessary separable, individual substances, in the sense of ‘individual substance’ according to which this term denotes a persisting, concrete object or bearer of properties, capable of undergoing change in respect of at least some of those properties as time passes. When such an object undergoes such a change, it undergoes a change of state, for a state of an object consists in its possession of some property at a time, or during a period of time. Using a more traditional terminology, we may speak of these states as modes of the object or individual substance in question.¹ As we shall see, non-Cartesian substance dualism differs from its more familiar cousin, Cartesian substance dualism, with regard to the class of modes that it considers persons—as opposed to their bodies—to be capable of possessing. Therefore, it takes a different view concerning what kind of individual substance a person—or, more generally, a subject of experience—should be taken to be. More precisely,

whereas Cartesian substance dualism takes subjects of experience to be necessarily immaterial and indeed nonphysical substances, non-Cartesian substance dualism does not insist on this. As we shall also see, this distinctive feature of non-Cartesian substance dualism gives it certain advantages over Cartesian dualism, without compelling it to forfeit any of the intuitive appeal that attaches to its more traditional rival.

1. THE SELF AS A PSYCHOLOGICAL SUBSTANCE

The view that I wish to defend in this essay is that a human person, conceived as a subject of mental states, must be regarded as a substance of which those states are modes—and yet not as a *biological* substance: not, that is, as a living organism of any kind, even though a human person's body is clearly just such an organism. What sort of substance, then? Quite simply, a psychological substance. More specifically, a person, in my view, is a substantial individual belonging to a natural kind which is governed by distinctively psychological laws, with the consequence that individuals of this kind possess persistence conditions which are likewise distinctively psychological in character. However, saying just this about persons is consistent with regarding a person as being something like a Cartesian ego or soul—and this is a position from which I expressly wish to distance myself. The distinctive feature of the Cartesian conception of a psychological substance is that such a substance is regarded as possessing *only* mental characteristics, not physical ones. And this is largely why it is vulnerable to certain skeptical arguments to be found in the writings of numerous philosophers during the past three hundred years, including Locke and Kant. The burden of those arguments is that if psychological substances—by which the proponents of the arguments mean immaterial 'souls' or 'spirits'—are the real subjects of mental states, then for all I know the substance having 'my' thoughts today is not numerically identical with the substance that had 'my' thoughts yesterday. The lesson of this is taken to be that—on pain of having to countenance the possibility that my existence is very much more ephemeral than I care to believe—I had better not identify *myself* with the psychological substance, if any, that is currently having 'my' thoughts, or currently 'doing the thinking in me.' But if *I* am

not a psychological substance, then it seems gratuitous even to suppose that such substances exist. Certainly, their existence cannot be established by the Cartesian *cogito*.

But why should we suppose, with Descartes, that psychological substances must be essentially immaterial? Descartes believed this because he held a conception of substance according to which each distinct kind of substance has only one principal 'attribute,' which is peculiar to substances of that kind, such that all of the states of any individual substance of this kind are modes of this unique and exclusive attribute.² In the case of psychological or mental substances, the attribute is supposed to be thought, whereas in the case of physical or material substances, the attribute is supposed to be extension. On this view, no psychological substance can possess a mode of extension, nor any physical substance a mode of thought. However, I am aware of no good argument, advanced either by Descartes himself or by anyone else, in support of his doctrine of unique and exclusive attributes. Accordingly, I am perfectly ready to allow that psychological substances should possess material characteristics—that is, that they should include physical states among their modes. It may be that there is no material characteristic which an individual psychological substance possesses essentially, in the sense that its persistence conditions preclude its surviving the loss of this characteristic. But this does not, of course, imply that an individual psychological substance essentially possesses *no* material characteristics: indeed, to suppose that it did imply this would be to commit a 'quantifier shift fallacy' of such a blatant kind that I am loath to accuse Descartes himself of falling prey to it.

How, though, does this repudiation of the Cartesian conception of a psychological substance help against the skeptical arguments mentioned a moment ago? Well, the main reason why those arguments seem to get any purchase is, I think, that in presupposing that psychological substances would have to be wholly nonphysical, they are able to take it for granted that such substances are not possible objects of ordinary sense perception. Such arguments represent psychological substances as being invisible and intangible and, as such, perceptible, at best, only by some mysterious faculty of introspection—and hence only by each such substance in respect of itself. But once it is allowed that psychological substances have quite

familiar physical characteristics and can thus be seen and touched at least as ‘directly’ as any ordinary physical thing, the suggestion that we might be unable to detect a rapid exchange of these substances becomes as fanciful as the skeptical suggestion that the table on which I am now writing might ‘in reality’ be a succession of different but very short-lived tables successively replacing one another undetectably. Whether one can conclusively refute such skepticism may be an open question, but I see no reason to take it seriously or to allow it to influence our choice of ontological categories.

I believe, then, that a perfectly tenable conception of psychological substance may be developed which permits us to regard such substances as being the subjects of mental states: which is just to say that nothing stands in the way of our regarding persons precisely as being psychological substances. The detailed development of such a conception is the topic of the remaining sections of this essay, and for the time being it must suffice to say that I conceive of psychological substances as being the proper subject-matter of the science of psychology, which in turn I conceive to be an autonomous science whose laws are not reducible to those of biology or chemistry or physics. However, it will be appropriate to close the present section with some remarks on the relationship between psychological and biological substances, that is, between persons and their bodies. I restrict myself here, thus, to the case of persons who—like human persons—have animal bodies.

With regard to this issue I am, as I indicated at the outset, a *substantial dualist*. Persons are substances, as are their bodies. But the two are not identical substances, for persons and bodies have different persistence conditions, just as do persons’ bodies and the masses of matter constituting those bodies at different times. I should perhaps emphasize here that where a person’s body is a biological substance, as in the case of human persons, the body is to be conceived of as a living organism, not as a mere mass of matter or assemblage of physical particles. Clearly, though, my version of substance dualism is quite different from Descartes’s. Descartes, it seems, conceived a human being to be the product of a ‘substantial union’ of two distinct substances: a mental but immaterial substance and a material but nonmental substance. How such a union was possible perplexed him and every subsequent philosopher who endeavored to

understand it. The chief stumbling block was, once again, Descartes's doctrine of unique and exclusive attributes. How could something essentially immaterial be 'united' with something essentially material? But psychological substances as I conceive of them are *not* essentially immaterial. Moreover, on my view, human persons are themselves just such psychological substances, rather than being a queer hybrid of two radically alien substances. I should perhaps stress, though, that my criticism of Descartes here pertains solely to his doctrine of 'substantial union' and not to his conception of psychophysical causation, which I consider to be far more defensible.³

So, as far as the relationship between a person and his body is concerned, I do not see that this need be considered more mysterious in principle than any of the other intersubstantial relationships with which the natural sciences are faced: for instance, the relationship between a biological entity, such as a tree, and the assemblage of physical particles that constitutes it at any given time. Most decidedly, I do not wish to minimize the scientific and metaphysical difficulties involved here. I do not, for example, think that it would be correct to say that a person is 'constituted' by her body in anything like the sense in which a tree is 'constituted' by an assemblage of physical particles.⁴ Nonetheless, it is my hope that by adopting a broadly Aristotelian conception of substance and by emphasizing not only the autonomy but also the continuity of the special sciences, including psychology and biology, we may see a coherent picture begin to emerge of persons as a wholly distinctive kind of being fully integrated into the natural world: a picture which simultaneously preserves the 'Lockean' insight that the concept of a person is fundamentally a psychological as opposed to a biological one, the 'Cartesian' insight that persons are a distinctive kind of substantial particulars in their own right, and the 'Aristotelian' insight that persons are not essentially immaterial beings.

2. THE SELF AS A BEARER OF PHYSICAL CHARACTERISTICS

Let us recall that we are not required to deny that a person or self has physical characteristics and recall that, although we have to regard it

as being *distinct* from its body, we are not required to think of the two as separable—except, perhaps, purely conceptually, or purely in imagination. But what physical characteristics can we allow the embodied self to possess? All of those physical characteristics that are also ascribable to its body? Or only some of these? Or some or all of these plus others that are not ascribable to its body? What we need at this point, above all, is a principled way of distinguishing between those statements of the form ‘I am *F*’—where ‘*F*’ is a physical predicate—which are more properly analyzed as ‘I have a body which is *F*,’ and those which can be accepted at their face value as being literally true. And here it may help us to consider whether or not the self is a *simple* substance—that is, whether or not it has parts. For if it does not, then no statement of the form ‘I am *F*’ can be taken at face value if being *F* implies having parts. My own view is that the self is indeed a simple substance, and I shall argue for this later.

But does not *every* physical predicate imply divisibility into parts, as Descartes held—this being the basis of one of his main arguments for the immateriality of the self? No, it does not. For instance, ‘has a mass of seventy kilograms’ does not imply having parts. A self could, thus, strictly and literally have a mass of seventy kilograms without it following logically that it possessed various parts with masses of less than that amount. After all, an electron has a finite rest mass, but it does not, according to current physical theory, have parts possessing fractions of that rest mass. Again, ‘is six feet tall’ does not, I consider, imply having parts, in the relevant sense of ‘part.’ The relevant sense of ‘part’ is this: something is to be accounted a ‘part’ of a substance in this sense only if that thing is itself a substance. We may call such a part a ‘substantial part.’ Simple substances have no substantial parts. We must, then, distinguish between a substantial part of a thing and a merely spatial part of it. A spatial part of an extended object is simply some geometrically defined ‘section’ of it—not literally a section, in the sense of something cut out from it, but merely a region of it defined by certain purely geometrical boundaries. Thus, for example, the left-hand third of my desk as it faces me is a spatial part of it. It is doubtless the case that there is also a substantial part of my desk which at present coincides exactly with that spatial part—namely, the mass of wood contained within that region. But it would

be a category mistake to identify that mass of wood with the left-hand third of my desk.⁵ Now, 'is six feet tall' certainly implies having spatial parts, but it does not imply having substantial parts. Extended things—the claims of Descartes and Leibniz notwithstanding—*can* be simple substances.

So far, then, I can allow that physical statements such as 'I weigh seventy kilograms' and 'I am six feet tall' may be taken at their face value. But a statement like 'I am composed of organic molecules' *cannot* be so taken, but must be analysed rather as 'I have a body which is composed of organic molecules.' Even so, it is surely evident that if 'I weigh seventy kilograms' is literally true of me, it will be so only in virtue of the fact that I have a body which weighs seventy kilograms. And, indeed, it seems clear that all of the purely physical characteristics which are literally ascribable to the self will be thus ascribable in virtue of their being ascribable to the self's body—so that we can say that the self's purely physical characteristics 'supervene' upon those of its body.

But what, now, *is* it for the self to 'have' a certain body as 'its' body? Partly, it *is* just a matter of that self having certain physical characteristics which supervene upon those of *that* body rather than any other—although it is clear that this fact must be derivative from some more fundamental relationship. More than that, then, it must clearly also be a matter of the self's perceiving and acting 'through' that body: and this indeed must be the crucial factor which determines *which* body's physical characteristics belong also to a given self. But what *is* it to perceive and act 'through' a certain body rather than any other? As far as agency is concerned, this is a matter of certain parts of that body being directly subject to the agent's—that is, the self's—will: I can, of necessity, move certain parts of *my* body 'at will' and cannot move 'at will' any part of any body that is not part of mine.⁶ Here it may be conceded that someone who is completely paralyzed may still possess a certain body, although only because he *could* once move parts of it 'at will' and still perceives through it. But someone who was completely paralyzed from birth—if such a condition is even possible—could only in a more attenuated sense be said to 'have' a body. So much for agency. As far as perception is concerned, apart from the obvious point that one perceives the world

from the position at which one's body is located—except under abnormal circumstances, as when one looks through a periscope—it may be remarked that a person perceives her own body in a different manner from how she perceives others' bodies in that her sensations of it are phenomenologically localized in the parts perceived. For example, when one feels one's foot, one locates that feeling in the foot, whereas when one feels a wall, one does not locate that feeling in the wall.

Now it is true that in a less interesting sense all action and perception is 'through' a certain body, namely, in the sense that as an empirically ascertainable matter of fact I need my limbs to move and my eyes to see. But *these* facts do not as such serve to qualify my limbs and eyes as especially *mine*, that is, as parts of *my* body. For, of course, I can be fitted with various prosthetic devices for locomotion and vision, and yet these do not *thereby* become parts of my body, although they *may* do so if they enter into the more intimate relationships discussed a moment ago. What makes my body peculiarly mine, then, is not determined merely by the empirically ascertainable dependencies that obtain between its proper functioning and my ability to engage in perception and agency. Thus, for example, even though it turns out that I need a brain in order to be able to think, it does not follow that this relationship suffices to make that brain peculiarly mine. In fact, I should say that a certain brain qualifies as mine only derivatively, in virtue of being the brain belonging to *my* body, where the latter qualifies as mine in virtue of having parts related to me in the more intimate ways mentioned earlier. As far as these more intimate relationships are concerned, however, my brain is as alien to me as a stone or a chair.

My thoughts, feelings, intentions, desires, and so forth all belong properly to *me*, not to my body, and are to be associated with my body only in virtue of those intimate relationships which make it peculiarly mine. It is impossible to associate such mental states with a body non-derivatively, that is, without relying upon their ascription to the self or person whose body it is—or so I would claim. No mere examination of brain function or physical movement can warrant such an association, without a detour through a recognition of the

existence of a self or person to whom the body belongs. This recognition, in interpersonal cases, will naturally have to issue from empirical evidence—but it will be evidence of *embodied selfhood* in the first instance, not directly and independently of particular mental goings-on.

3. THE SELF AS A SIMPLE SUBSTANCE

But what now of my crucial claim that the self is simple, or lacks substantial parts? Well, what substantial parts *could* it have, given that the self is not to be identified with the body? Parts of the body cannot be parts of the self. If the self and the body had exactly the same parts, then they would apparently have to be identical substances after all. Certainly, standard mereological theory would imply this.⁷ Similarly, if it were urged that all and only parts of the brain, say, are parts of the self, this would imply that self and brain are identical. So I conclude that the self can have none of the body's parts as parts of itself, unless perhaps the self could have other substantial entities in addition to bodily parts as parts of itself.

However, no other substantial entity does appear to be a tenable candidate for being a substantial part of the self, whether or not in addition to bodily parts. For instance, the self patently does not consist of a plurality of lesser 'selves' acting cooperatively, despite the picturesque 'homuncular' descriptions of mental functioning advanced by some philosophers.⁸ Such descriptions are not intelligible if taken literally. Similarly, we should not take literally talk of 'corporate persons,' that is, the idea that institutions like clubs and firms are genuinely persons in their own right.⁹ At neither level—neither the subpersonal nor the suprapersonal—does the concept of a person find anything other than merely metaphorical application. Nor should we regard the mind's various 'faculties'—will, intellect, and appetite, or modern variants of these, such as linguistic or visual information-processing 'modules'—as being 'parts' of the self. For, in the first place, it is a mistake to reify such mental faculties or modules, and, in any case, they certainly could not qualify as *substantial* parts, which are what are now at issue. Mental faculties or modules, unlike sub-

stances, enjoy no possibility of an independent existence, and talk of them should be interpreted as referring to nothing more than certain abstractions from the overall psychology of a person. Thus, for instance, the notion of a will without an intellect, or of a language module in the absence of belief and desire, is just plain nonsense. Finally, it will not do to speak of the self's psychological states and processes themselves—its beliefs, intentions, experiences, and so forth—as being 'parts,' much less as being substantial parts, of it. For this would at best be at all appropriate only on a Humean constructivist view of the self—the so-called bundle theory—which I reject entirely as incoherent. I conclude, therefore, that if the self is a substance, then it must indeed be a simple substance, entirely lacking substantial parts.¹⁰

The simplicity of the self goes some way towards explaining its unity, including the unity of consciousness that characterizes its normal condition. Where this unity threatens to break down—as in various clinical conditions such as those of so-called multiple personality, schizophrenia, brain bisection, and so on—we are indeed inclined to speak of a plurality of selves, or of divided selves. But I think, in fact, that such talk should again not be taken literally, and that the psychological unity that most fundamentally characterizes the self is not merely to be located at the level of consciousness. A divided consciousness is, I think, in principle consistent with self-identity: what is not consistent with this is a radical disunity of beliefs and values, manifested in a radical inconsistency of thought and action. Of course, we all display mild inconsistencies, but no one person could intelligibly be interpreted as possessing the incompatibilities of belief and value that typically characterize two different persons. Now, a *complex* entity can act in disunified ways because the various incompatible or conflicting activities can be referred to different parts of that entity. Thus a corporate entity such as a firm or a club can act inconsistently because its members may act in conflicting ways. But the actions of the self—those that are truly predicable of *it*, because they are genuinely intentional, and not merely of *the body*, such as so-called reflex actions—cannot in this way be ascribed to different elements or parts within the self. So we see that the simplicity and the unity of the self are indeed intimately related, even

though there must clearly be much more to the matter than these brief remarks reveal.¹¹

Another consequence of the simplicity of the self is this. If the self is a simple substance, then it appears that there can be no diachronic criterion of identity which grounds its persistence through time.¹² This is not to say that there may not be some *cause* of its persistence. It may well be, thus, that the continued normal functioning of the brain is a causally necessary condition of the persistence of the self, at least in the case of embodied, human persons. But it would not follow from this that the identity of the self over time is *grounded* in continuity of brain function, or indeed anything else. Nor should we think it contrary to the self's status as a substance that its existence may be thus causally dependent upon the functioning of another, distinct substance—the brain or, more generally, the body. No tenable account of substance can insist that a true substance must be causally independent of all other substances. For instance, a tree provides as clear an example of a substantial entity as anyone could wish for—and yet, of course, a tree's continuing existence depends upon the maintenance of a delicate balance of forces in nature, both within it and between it and its environment. However, a tree is a *complex* substance, and accordingly its persistence can be understood as being grounded in the preservation of certain relationships between its substantial parts, despite the gradual replacement of those parts through natural processes of metabolism and growth. Not so with a self, any more than with, say, an electron or other 'fundamental' particle. Thus the reason why the self—or indeed any simple substance—cannot be provided with a criterion of diachronic identity is that such a criterion, in the case of a substance or 'continuant,' always makes reference to the substance's constituent parts, of which simple substances have none.¹³

That the diachronic identity of simple substances, including the self, is primitive or ungrounded should not be seen as making their persistence over time somehow mysterious or inscrutable. For, in the first place, as I have already remarked, it does not preclude us from recognizing the involvement of various causal factors in their persistence. Secondly, we can still concede—or indeed, better, insist—that there are certain necessary constraints on the possible history of a

simple substance of any given kind: that is to say, limits on the sorts of changes that it can intelligibly be said to undergo, or limits arising from empirically discoverable natural laws governing substances of this kind. Thus in the case of the self, a possible history must have a certain internal coherence to be intelligible, not least because perception and action are possible only within a temporal framework that includes both forward- and backward-looking mental states—intention and memory. Finally, the persistence of at least some simple substances is, I consider, presumed at the very heart of our understanding of time and change in general, so that we should not expect to be able to give an exhaustive or reductive account of all such persistence.¹⁴ Indeed, since the only simple substances *directly* known to us, without benefit of scientific speculation and experimentation, are precisely ourselves, I would urge that the pretheoretical intelligibility of time and change that is presupposed by all scientific theorizing actually rests upon our acquaintance with ourselves as simple persisting substances. So, although in the *ontological* order of nature it may well be the primitive persistence of fundamental physical particles which underpins objective time-order—in other words, which makes the world *one* world in time—still, in the *conceptual* order of thought it is the persistence of the self that underpins our very grasp of the notion of objective time-order. If this is indeed so, then it would clearly be futile to expect the concept of the self to reveal upon analysis an account of the self's identity over time which did not implicitly presume the very thing in question.

A consequence of the ungroundedness of the self's identity over time is that there is, and can be, no definitive condition that necessarily determines the ceasing-to-be or, indeed, the coming-to-be of a self. In the case of complex substances, which are governed by clearly specifiable criteria of identity, the conditions for substantial change—that is, for their coming- or ceasing-to-be—can be stated fairly exactly, even though these conditions may in some cases be infected by some degree of vagueness. But not so with simple substances. And this is not, with them, a matter of vagueness at all—not, at least, in the sense in which 'vagueness' implies the existence of 'fuzzy' boundaries, whose 'fuzziness' may be measured in degrees. This observation certainly seems to apply in the realm of fundamental particle

physics, as far as I can judge. Thus if, in a particle interaction, an electron collides with an atomic nucleus and various fission products arise, including a number of electrons, it would seem that there may be no determinate ‘fact of the matter’ as to whether the original electron is, or is not, identical with a given one of the electrons emerging from the impact event. There is here, it would seem, a genuine indeterminateness—I prefer not to say *vagueness*—of identity.¹⁵ But this should not lead us to view with suspicion the idea that electrons do genuinely persist identically through time. Note, too, that known constraints on the possible history of an electron *may* enable us to rule out *some* re-identifications as impossible in a case such as that described—so that the indeterminacy is not totally unconstrained, which would be bizarre indeed. However, the point is that, even when all such constraints are taken into account, there may still be a residual indeterminacy in a given case.

Returning to the self, we see, thus, that while we may well think that we have good scientific grounds for believing that the functioning of the brain is *causally* necessary for the continued existence of the self, nonetheless, in the nature of the case, such evidence as we possess for this is bound to be inconclusive—and not just for the reason that all empirical evidence is defeasible—since we lack any reductive analysis of what would constitute the ceasing-to-be of a self. Lacking such an analysis, we cannot really say what empirical evidence would or would not support a claim that a self had definitely ceased to be. This is why the prospects for life after bodily death must inevitably remain imponderable and unamenable to decisive empirical determination.

Against this it may be urged that, since I have insisted that perception and agency are essential to selfhood, I must allow that the cessation of these *would* constitute a decisive terminus for the self’s existence. However, it is the *capacity* for perception and agency that is essential, not its perpetual *exercise*. Very well, so can we not say that the demise of this capacity—and certainly its *permanent* demise—would constitute the demise of the self? But the trouble is that saying this is not really informative. For what would *constitute* the permanent demise of this capacity? Only, as far as I can see, the very demise of the self—in other words, no genuinely *noncircular* answer

to the question can be provided. It will not do to say that the permanent cessation of brain function would constitute the demise of the capacity for perception and agency. For the most that we can really say is that there seems to be an empirical correlation between mental activity and brain function, at least in the case of human persons. But the capacity for perception and agency does not by its very nature reside in any sort of cerebral condition. Indeed, there is nothing whatever unintelligible about supposing the existence of a capacity for perception and agency in a being entirely lacking a brain.

4. PHYSICALISM, NATURALISM, AND THE SELF

Here it may be asked: is physiological psychology, or neuropsychology, simply a contradiction in terms, then—because psychology has, in essence, nothing to do with the brain as such? Not at all, so long as this branch of science is simply seen as telling us various empirical facts about the condition of embodied human persons or selves—that is, as telling us what sorts of processes, as a matter of fact, go on in their brains and nervous systems when they think or feel or act. This is not, however, and cannot be, an account of what *constitutes* thought or feeling or agency in a human person. Thought can no more *be*, or be constituted by, a brain process than a chair can *be*, or be constituted by, a set of prime numbers.¹⁶ Nor should we be tempted into saying such things as that brain processes may ‘realize’ episodes of thinking, as more cautious modern physicalists sometimes put it—for what, really, is this supposed to mean?

In answer to this last question, it will perhaps be said that what it means to say that brain processes ‘realize’ thought episodes is that thought episodes *supervene* upon brain processes, at least in the case of human persons. But saying this sheds no real illumination either, for the notion of supervenience—however useful it may be in some contexts—is entirely out of its depth here. Suppose we ask what it means to say that thought episodes supervene upon brain processes. We shall be told, perhaps, that what this means is that if *A* and *B* are two human persons who share type-identical brain states at any given time—that is, whose brain structures are atom-for-atom,

neuron-for-neuron, indistinguishable at that time, with all of these neurons in identical states of excitation—then *A* and *B* must be enjoying type-identical thought episodes at that time. Perhaps it will be conceded that *A*'s and *B*'s thought episodes need not be identical in content—if Putnam and Burge's verdicts regarding so-called Twin-Earth cases are accepted¹⁷—but it may nonetheless be insisted that their thought episodes must be subjectively indistinguishable, whatever that may be exactly taken to mean. However, the empirical status of this sort of claim—and, presumably, it cannot be advertised as being anything more than a merely empirical claim, since it can have no a priori justification—is highly problematic, as I shall now try to explain.

Let us, first of all, be clear that the thesis being advanced must be that thought episodes supervene globally or holistically—rather than just piecemeal—upon brain processes. For it is evident that, to the extent that thought is dependent on the brain, it can be so only in a holistic way which will not permit us to make any empirically confirmable claims about individual dependencies between particular or 'token' thought episodes and particular or 'token' brain events and processes.¹⁸ So the thesis must be that a person with a brain *exactly replicating mine* at a level of neuronal organization and excitation will enjoy a mental life—feelings, beliefs, memories, and so on—indistinguishable from mine, but *not* that any partial replication would necessarily engender any corresponding partial similarity in mental life. Nothing short of whole-brain replication will do. But what we now need to ask is this: what causal constraints would there be upon the process of bringing two distinct brains into such a state of exact neural replication? It is irrelevant to point out that one might, in some sense, be able to imagine this being done, perhaps instantaneously, by means of a machine that we rather question-beggingly call a 'brain replicator.' In this imaginary scenario, I walk in through one door of the machine, the operator throws the switch, and then I and my doppelgänger walk out through another door. One might as well say that the trick could be performed by magic. So too might pigs fly. But in fact it seems clear that there is simply no non-miraculous way in which this feat could be achieved. It would not even suffice, for instance, to take identical twins from the moment of

conception and attempt to submit them to exactly similar environmental and social stimuli. For, first of all, the growth of nerve cells involves a good deal of randomness,¹⁹ and secondly, it seems likely that brains, at the relevant level of organization, constitute a class of so-called chaotic systems.²⁰ Thus, it could be that because the twins are subjected to minutely different influences for brief periods during their early development—as is effectively unavoidable—neural connections end up getting laid down in quite different ways in the two brains. The more that one reflects on the matter, I suggest, the more evident it should become that the whole idea of bringing two different human brains into identical neural states is so completely fanciful that it merits no place in serious philosophical inquiry.²¹

It will not do for the physicalist to protest here that all that he is interested in or committed to is the bare conceptual possibility of such whole-brain replication: for even if one can really make sense of this notion, what is one supposed to do with it? Precisely because the notion of such replication is the stuff of pure fantasy, utterly beyond the realm of scientific possibility, it cannot be conjoined with any genuine scientific findings from neuropsychology in order to yield a verdict on the truth or falsehood of the supervenience thesis. Nor can we justify such a verdict by consulting our ‘intuitions’ regarding the upshot of the imagined replication experiment—for we are simply not entitled to any ‘intuitions’ about the matter, and any that we do have we probably owe simply to our own prejudices. So my conclusion is that even if the supervenience thesis is coherently statable—and even this may be in question—we can have no possible basis, either empirical or a priori, for judging it to be true.

Now, however, it may be objected that this rejection of physicalism even in the comparatively weak form of the supervenience thesis is unacceptably at odds with a ‘naturalistic’ view of human beings and their minds. The emergence of the human mind, it may be said, must be recognized as being a result of evolutionary processes working upon the genetic makeup of animal life-forms, through wholly biochemical means. Hence, it may be concluded, a biological account of human mentality is inescapable if one has any pretense to being ‘scientific.’ There cannot—so it will be said—be anything more to thought than can be exhaustively explained in biochemical terms, for

otherwise the emergence of mind seems to be an inexplicable freak or accident. But, again, this is an objection which just reflects a dogmatic prejudice. Indeed, it is thoroughly question-begging and circular. It is just assumed from the outset that any wholly adequate explanation of the *emergence* of mind must be purely biological in character, because it is already presupposed that mind or mentality is a wholly biological characteristic of biological entities—animal life-forms. But the whole burden of my position is precisely that the mind is *not* a biological phenomenon and that mentality is *not* a property of the biological entities which constitute human bodies. That such entities should be apt to embody selves or persons can, indeed, be no accident—but why presume that the evolution of such bodies or organisms is to be explained in exclusively biochemical terms? It is the *environment* of organisms that determines the evolutionary pressures on them to adapt and change: but the ‘environment,’ in the present instance, cannot necessarily be specified in wholly physical and biochemical terms. All that can be said is that the *proximate* causes of genetic mutation are biochemical, as are the *proximate* causal factors favoring selection. But these causal factors are themselves effects of other causes—and the chain of causation can easily take us beyond the biochemical sphere. After all, we know that minds can affect the evolution of organisms, for the intelligent activities of human beings have done so within historical time. So there is nothing miraculous or non-naturalistic in the idea that the evolution of mind and that of body are mutually interactive, just as, on my view, individual minds and bodies are themselves mutually interactive. Thus, my answer to the ‘evolutionary’ objection is that, unless it is presumed, quite unwarrantably, that the mental must be biologically based in order to contribute to the environmental selective pressures on organisms, it cannot be held that a nonbiological view of the mental such as mine is in any way in conflict with evolutionary theory.

But we need not take a purely defensive stance on this issue. It is worth remarking that archaeological evidence points to the occurrence of a fundamental intellectual transition in the human race some 35,000 or so years ago, not apparently connected with any very radical biological or neurological development in the human organism.²² This was a rather sudden transition from a markedly primitive socio-

cultural condition—which had endured virtually unaltered for many millennia and in which human creativity was limited to the production of the most rudimentary and severely practical tools—to a condition recognizably akin to our own, with the flourishing of visual and plastic arts reflective of a sophisticated aesthetic sensibility. The development of this condition, we may reasonably suppose, went hand in hand with that of true language, systems of religious thought, and the beginnings of political structures. At the root of these developments, it seems, was the emergence of genuine systems of representation, without which the sophisticated level of thought, communication, and social structure essential for personal existence as we know it would be impossible. Now, as I say, it seems likely that these developments were not the upshot of any radical change in human brain structure or neural processing capacity, but arose rather through concomitant changes in patterns of social interaction and organization.²³ And, indeed, we can observe essentially the same phenomenon in microcosm today in the education and socialization of human infants—who, unless they are subjected to appropriate social, cultural, and linguistic stimuli at an early age, are doomed never to develop a truly human personality and character. The implication of all this, I suggest, is that selves or persons are not, in essence, created through *biological* processes but rather by means of sociocultural forces, that is, through the cooperative efforts of other selves or persons. Quite literally, *persons* create other persons.

The picture that I am sketching of self-creation and the evolution of human personality is, I believe, not at all fanciful or ‘unscientific.’ On the contrary, what seems utterly fanciful and facile is the biological reductionism that we see so forcefully promoted by many philosophers today.²⁴ When we reflect on how much we depend for our human condition upon the artificial and social environment that we ourselves have created, it seems quite incredible to suppose that one could hope to explain the human condition as having a basis solely in the organization of the human brain. Indeed, where human brain development and structure do differ significantly from those of the higher primates, such as chimpanzees—for instance, in connection with our respective linguistic capacities—it seems proper to regard the difference as being at least as much a product as a cause of the

different lifestyles of human beings and primates. For, of course, the neural structures in these distinctive parts of the human brain develop in human infants only in response to the right sorts of educative and social influences. It is true that a chimpanzee cannot, by being treated from birth like a human child, be made to develop in the way that the latter does, and this seems to indicate some innate biological difference between them. But we cannot assume that what we possess and the chimpanzees lack is some innate propensity specifically to develop human personality, language use, aesthetic appreciation, mathematical abilities, and so forth. For it may be that what prevents the chimpanzees from benefiting by our human processes of socialization and personality-creation is not an innate incapacity to acquire the abilities which these processes confer upon us, but rather just an incapacity to engage appropriately with these particular processes, geared as they are to specifically human needs and characteristics. After all, a human being could probably never learn to swim if it had to take lessons from dolphins! But this doesn't show, of course, that it is impossible for human beings to acquire a capacity to swim—only that the acquisition process must be one that is geared to distinctively human limitations. Similarly, then, it is not altogether inconceivable that chimpanzees could be successfully subjected to processes of personality-creation analogous to our own, if processes appropriately tailored to their particular limitations could be discovered and exploited for that purpose.²⁵ In partial confirmation of this, it is worth noting that, whatever one makes of the various attempts to teach chimpanzees the genuine use of language, it is clear that those attempts began to look successful only when they took into account the fact that chimpanzees have severely restricted capacities for vocalization, and substituted sign language for speech.²⁶

Perhaps the following analogy will help to convey the general sense of my proposal. A potter takes a lump of clay—which has, as such, no special propensity to be formed into any particular type of artifact, such as a statue or a vase, even though it is *suitable* material for such a purpose, in a way that a bunch of feathers, for example, would not be—and he forms it, let us suppose, into a vase. In creating the vase, he has created a new substantial individual which is distinct from, although at the same time embodied in, the lump of clay. In a

somewhat similar manner, I suggest, human persons acting cooperatively take the biological ‘clay’ of their children and ‘shape’ it into new persons. And this ‘clay’—although, of course, it has to be *suit*ed to the ‘shaping’ processes applied to it—need not be thought of as having any special propensity to receive just such a ‘shape.’ Finally—to complete the analogy—the human person emerging from this ‘shaping’ process is a new substantial individual which is distinct from, although embodied in, the biological entity that is the ‘clay.’ It is no accident, surely, that it is precisely this metaphor for the creation of persons that we find so often in religious and mythic literature.

Notice, furthermore, one other aspect of the analogy that is particularly apt: what constitutes ‘suitable’ material for formation into an artifact of any given type is not purely a function of the inherent properties of that material together with the nature of the type of artifact in question, but also a function of the sorts of creative processes that the artificer is equipped to apply to the material. Clay is a suitable material to make into vases as far as *human* artificers are concerned, but only because human beings have hands with which they can shape the clay. However, it should also be remarked that many processes of artifact creation can be facilitated through—and, indeed, are sometimes made possible only by—the use of previously created artifacts, such as, for example, the potter’s wheel. In an analogous manner, then, what makes *human* biological material ‘suitable’ for the creation of persons is not just a function of the inherent biological characteristics of that material together with the nature of the psychological capacities which need to be conferred, but also a function of the creative processes available to us given our own particular limitations—although, indeed, some of these limitations may be progressively transcended through the exploitation of previous products of our own creativity, that is, through the exploitation of our growing sociocultural, linguistic, and technological heritage.

I should perhaps stress, in conclusion, that what I have just been developing is only an analogy: I do not want to suggest that persons literally *are* artifacts, other than in the very liberal sense that they are products of personal creativity. Above all, unlike material artifacts, persons or selves are *simple* substances: parts of their bodies are not

parts of *them*, as bits of clay are parts of a vase. Moreover, whereas it is plausible to hold that all of a vase's intrinsic properties supervene upon certain properties of its constituent clay, it is not, as we have seen, reasonable to regard the self's psychological properties as supervening upon any properties of its body, such as neurophysiological properties of its brain. As Joseph Butler, the famous Bishop of Durham, might have said, *the self is what it is, and not another thing*.

NOTES

1. For more on the ontology of substance and mode, see Lowe 2006.
2. See Descartes, *Principles*, part 1, §53.
3. See further Lowe 1992 (repr. 2003).
4. For criticism of this suggestion, see Lowe 1989a: 119–20. The view in question is, notably, advanced by Baker (2000).
5. For further discussion of these issues, see Lowe 1998, chs. 5 and 7.
6. In another terminology, we may say that movements of certain parts of its own body can necessarily be executed as 'basic' actions by the self. The locus classicus for the notion of a 'basic' action is Danto 1965.
7. See, e.g., Goodman 1977: 33–40. Standard mereological theory is possibly wrong on this score, if it is correct, as I myself believe, to differentiate between a tree, for example, and the mass of wood which temporarily composes it—for these may seem to have the same parts, at least during the period in which the one composes the other. However, while the tree and the wood arguably have the same *spatial* parts, it is much more debatable whether they have the same *substantial* parts. For instance, a certain root will be a substantial part of the *tree*, but hardly of the wood composing the tree. By contrast, a substantial part of the wood composing the tree arguably *is* also a substantial part of the tree. The issue is a complex one, which I cannot go into in further depth here. But, in any case, I think it independently reasonable to deny that substantial parts of the body are literally parts of the self—and I do not think of the body as in any sense *composing* the self.
8. See, e.g., Dennett 1979: 122–24.
9. See, e.g., Scruton 1989.
10. For a much fuller exposition and defense of this view, see Lowe 2001.
11. I say much more about such matters in Lowe 2005a.
12. For more general discussion of persistence and criteria of identity, see Lowe 1998: ch. 5 and also Lowe 1989b.

13. See further Lowe 1998: chs. 5 and 7.
14. *Ibid.*
15. A sizable literature related to this issue has grown out of Evans 1978, although this is no place for me to attempt to engage with it. I discuss the electron case more fully and challenge Evans's argument against indeterminate identity in Lowe 1994. See also Lowe 1998: 63–69 and Lowe 2005b.
16. Compare Geach 1979: 134.
17. See, especially, Burge 1979.
18. This appears to be an inescapable implication of Donald Davidson's well-known thesis of the 'holism of the mental,' for which see Davidson 1980: 217. I do not, however, accept Davidson's own view of the relations between mental and physical events, which is a 'token-token' identity theory. See further Lowe 1989a: 113–14, 132–33.
19. See further Edelman 1989: 33–37.
20. See, e.g., Crutchfield et al. 1986: 38–49 and Goldberger et al. 1990: 34–41.
21. It has also been pointed out that if quantum states of the brain have to be taken into account (as they will be if mental states are at all dependent on them), then exact duplication at the relevant level of organization will be ruled out by quantum mechanical principles. See Penrose 1989: 270.
22. See White 1989 and 1982. See also the essays by White and others in Mellars and Stringer 1989, especially section 2.
23. This would be consistent with much of the recent work of psychologists, anthropologists, and ethologists presented in Byrne and Whiten 1988.
24. My opposition extends even to the most sophisticated modern proponents of the biological approach, such as Ruth G. Millikan: see Millikan 1984. However, a detailed critique must await another occasion.
25. I should remark, incidentally, that I by no means wish to deny mentality to chimpanzees and other higher primates, although I very much doubt whether any such animal may be said to possess or embody a 'self,' as I would define that term—for, as I understand it, a 'self' is a being capable of rational thought and conscious self-reflection. Thus, inasmuch as mental states necessarily attach to psychological subjects which are not to be identified with their biological bodies, I am committed to the view that persons or selves are not the only species of psychological substance, and that—in an older terminology—there are 'animal souls' which find a place 'below' ourselves in a hierarchy of psychological substances. I hope to discuss this issue more fully elsewhere.
26. See, e.g., Linden 1976.

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