

DUALISM, MONISM, PHYSICALISM

Tim Crane

ABSTRACT

Dualism can be contrasted with monism, and also with physicalism. It is argued here that what is essential to physicalism is not just its denial of dualism, but the epistemological and ontological authority it gives to physical science. A physicalist view of the mind must be reductive in one or both of the following senses: it must identify mental phenomena with physical phenomena (ontological reduction) or it must give an explanation of mental phenomena in physical terms (explanatory or conceptual reduction). There is little reason to call a view which is not reductive in either of these senses "physicalism". If reduction is rejected, then a non-physicalist form of monism is still available, which may be called "emergentism".

KEYWORDS

Physicalism; dualism; mind; ontology; reductionism

0. INTRODUCTION

The purpose of this paper is to provide a taxonomy of certain ways of thinking of the mind-body relation. It is often said that the chief contrast which should be made in discussing theories of the ontology of mind is between dualism and physicalism. I shall argue that matters are somewhat more complex than this. In section 1, I argue that dualism should be initially contrasted with monism; in section 2, I argue that physicalism is then a kind of monism which gives a certain kind of authority to physical science. In section 3, I examine the idea of reduction, and distinguish between two types of reduction. Section 4 looks at the prospects of non-reductive physicalism, and the final section distinguishes so-called non-reductive physicalism from another kind of monism, which I call "emergentism".

1. MONISM AND DUALISM

The traditional doctrine of mind-body dualism is defined in terms of substances. A substance in this sense is an entity which persists through change, is the bearer of properties or attributes, and is capable of independent existence. To say then that minds and bodies are distinct substances is at least to say that minds and bodies are capable of independent existence; i.e. existence independent of each other, and of other things of the same kind.

Monism denies that minds and their bodies are distinct substances. Monists assert that substances are all of one kind. They could say that all substances are mental; or they could say that all substances are bodily. Either of these views could be combined with the view that there is only one substance, properly so-called; but I

shall continue to talk about substances in the plural. Monism in this sense, then, is a doctrine about the number of kinds of substances rather than about the number of individual substances.

Monists who hold that all substances are bodily do not have to deny mental things; they should simply say that mental substances are the same substances as bodily substances. What makes a substance mental is that it has mental properties; what makes a substance bodily is that it has bodily properties. (Bodily properties may be *physical* properties; but they may not be. In general, they are the characteristic properties of bodies.) For a monist, then, the contrast between minds and bodies is drawn in terms of attributes or properties.

Likewise, a dualist can say that the contrast between minds and bodies is ultimately a contrast between their characteristic attributes: for Descartes, these were thought and extension respectively. But we need not commit ourselves to Descartes's conception of the nature of these substances; the distinguishing mark of dualism, in the sense to be discussed here, is the claim that there are substances which have mental properties but no bodily properties. Monism, by contrast, says that any substance which has mental properties also itself has bodily properties. (Or at least, so says a monist who allows that there are bodies; this is the kind of monism I will be discussing here: *materialist* monism.) Dualists deny this.

Dualists hold that minds and bodies are capable of independent existence. Spelling out what "capable" means can be a delicate matter (see Hart 1988). Perhaps a dualist can hold that it is a nomological necessity that actual minds are not distinct (i.e. separable in all nomologically possible worlds). So disembodied minds are not a nomological possibility. But nonetheless disembodied minds are (for this dualist) a metaphysical possibility: there are worlds in which such disembodied minds exist. Or perhaps a dualist will hold that it is not even nomologically necessary that minds and bodies are not distinguishable, and that therefore our actual world could (or does) contain disembodied minds.

In any case, if such separability were a sufficient condition of distinctness of substances, then it would seem that any materialist monist would not be able to allow that monism was a contingent truth. For if it were contingent, then there are worlds in which disembodied minds exist, and therefore mind and body are (in some sense) capable of separate existence. But this is what is definitive of dualism.

Perhaps it should not be surprising or objectionable that materialist monism should be a necessary truth, if true at all. After all, monism and dualism are views about substance and attribute, metaphysical views if there are any such, so why should we expect them to be contingent truths? One answer here is that they are contingent and yet *a priori*. But if they are contingent, then the monist has to express

what he is denying (i.e. dualism) in a different way from above: minds must not just be separable from bodies, *capable* of independent existence, but they must be *separate*.

Treating monism as a contingent truth in this way makes it much easier to believe in this kind of monism, by making its denial, dualism, a very strong doctrine. But thinking of things in this way also makes dualism incapable of accommodating Descartes's insight that I am not lodged in my body like a pilot in a ship - the "substantial union of mind and body" - so it makes it harder to make sense of Descartes's distinctive kind of dualism. Certainly many have taken dualism to be the view that mind and body are separate (and not just separable) things, although causally linked in some way. Ryle's description of dualism as the doctrine of the "ghost in the machine" has that connotation. But a more plausible dualism will attempt to accommodate Descartes's insight about our embodied nature, and will find a place for the idea that mind and body are in the actual world, unified and not separate.

It is preferable, then, to think of monism and dualism as both necessary and non-empirical. The weakest form of dualism is committed to the following thesis:

(DUALISM) It is possible that something could have mental properties but no bodily properties.

Monism denies this:

(MONISM) Necessarily, all things with mental properties are also things with bodily properties.

Notice that this claim is consistent with the idea that the same mind could, in another possible world, have bodily properties which it does not have in the actual world.

2. PHYSICALISM

So far, I have drawn the contrast between monism and dualism without mentioning the *physical*, or *physicalism*. Dualism and monism about mind and body have been defined as doctrines about substances in the metaphysical sense: in terms of the separability (or not) of the things which have mental and bodily properties. Monism is a denial of dualism; dualism one way of denying monism.

However, in contemporary philosophy, dualism is often contrasted with physicalism, rather than monism. The terminological cross-classification should itself make us initially suspicious of this contrast: the term "dualism" suggests a numerical

classification, while “physicalism” suggests a classification by scientific nature. The physical, after all, is the subject-matter of physics, and this suggests that physicalism should be understood (as it is for many philosophers) as a doctrine about the scope and ambitions of physics.

I suspect that many will respond as follows: “there are two kinds of monism: idealism (everything is mental) and materialism (everything is material). Physicalism is just a way of expressing the second kind of monism. Materialism says that everything is material; i.e. made of matter. Physics is the science of matter; therefore physicalism and materialism are innocent terminological variants of one another.”

But thinking of things in this way - identifying physicalism with materialistic monism - does not leave room for the kind of position which the term “physicalism” was originally intended to introduce. This is a position which does not simply affirm the material nature of everything (materialism), but gives an explanatory priority to physics in giving a full account of reality. That these positions are distinct can be seen from the fact that materialism is committed *a priori* to the existence of matter, whereas physicalism (in this sense) is only committed to matter if physics says that there is matter. Someone who held, as Russell once did, that physics no longer needs to employ the category of matter, could be a physicalist in this sense, but could not be a materialist.

Physicalism in this sense has its origins in Logical Positivism (according to Carnap (1955, p.312) the term was coined by Neurath). The positivists did not see physicalism as an ontological doctrine, since traditional ontological questions were either meaningless (“is there one substance or two?”) or transformed into scientific questions (“is matter corpuscular?”). Their concerns were epistemological or methodological: when organising the data of experience, should we adopt the language of physics or a phenomenalist language of sense-data? To affirm physicalism is to hold that the language of physics is the language we should adopt in giving an account of the world.

Contemporary physicalism comes in many forms, but in its central forms, it retains the positivist view about the priority of physics. This view is transformed, in post-positivist philosophy, into an ontological doctrine: physical science sets the ontological standards and tells us whether a given entity meets these standards. This is particularly clear in Quine’s philosophy, in which ontological questions are re-introduced on a par with any other question of natural science: the positivist rejection of ontological questions is itself rejected as part of the rejection of Carnap’s distinction between internal and external questions. For Quine, it is because physical science provides us with the best way of “limning the true and ultimate structure of

reality” that we should accept that physics answers the ontological question: what is there?

Quine’s answer to the ontological question is the first physicalist doctrine with which I shall be concerned:

(PHYSICALISM) Everything is physical.

This way of expressing physicalism has the advantage of simplicity: the most obscure term in the statement of the view is “physical”, which can be defined with reference to the actual content of physics. The fact that the content of physics may change over time gives physicalism little to worry about: PHYSICALISM is both a methodological doctrine and an ontological doctrine. It asks us to address the ontological problem in this way: see what physics says there is, and then commit yourself to *that* (whatever it is) being all there is. As time develops, it may be that your commitments develop too. But this is just a reflection of the fact that you have no standard (other than physics) from which to answer the question of what there is. (For more on the definition of ‘physics’, see Crane and Mellor 1990, and Poland 1993.)

Clearly, physicalism in this sense is a distinctively different doctrine from (materialistic) monism. Monism appeals to what I am calling bodily properties - i.e. the properties of bodies - but it does not tie its conception of these properties to the content of physics. What’s more, monism is a doctrine whose statement (MONISM) is framed in metaphysical terms, notably in terms of the concept of a property and by using the concept of necessity. PHYSICALISM, by contrast, uses neither the concept of a property nor is it formulated in modal terms.

But what does physicalism say about our original subject: the distinction between mind and body? One response is Quine’s (1958): there are no mental entities at all. But those who accept mental entities are not prohibited from endorsing PHYSICALISM. It’s just that if there are mental entities, then they must be physical, if PHYSICALISM is true. The idea that mental entities are physical is often called “reductionism”. What does this mean?

3. REDUCTIONISM

PHYSICALISM should not say that non-physical things are “really” physical things; for it should not say that there are non-physical things. If there are no such things, then they are not “really” anything. What it should say is that insofar as it *appears* that there are non-physical things, these things are “really” physical. A reduction is

therefore the process or procedure of demonstrating that, and in what way, these things are physical.

A distinction is sometimes made between “ontological” and “conceptual” reduction. But this terminology, though useful, can give rise to confusion. Ontological reduction suggests the idea of one thing being reduced to another. But of course, one *thing* cannot literally be *reduced* to another thing: either the one thing is the “other” thing, or it is not. Reduction should not be thought of on the model of reducing a sauce in cookery: for there, the cook starts off with a larger amount of material and ends up with a smaller amount. Physicalism should give an account of what there actually is. It should not start off by affirming the existence of something which it then goes on to say is “really” something else. For, to state the obvious: nothing is really something else.

Of course, physicalists will deny certain ontological claims made by non-physicalists, and to the extent that they do this, they are eliminativists about the entities postulated in these claims. To be an eliminativist about Xs is just to deny the existence of Xs. There is nothing wrong with being eliminativist as such; everyone is an eliminativist about something. But it is important to distinguish elimination from reduction. A reduction of Xs does not deny the existence of Xs; rather, it tells us something about Xs which we did not previously know.

What sense, then, can be made of the idea of ontological reduction? The best answer is given in terms of the idea of identity: an ontological reduction (in Huw Price’s words) “identifies the entities of one domain with a subclass of entities of another” (Price, 1998). Or, to put it another way: we start off with the target entity, X, and find a reason for identifying X with Y. Our reduction tells us something we didn’t know about X: that it is Y. We could say, if we liked, that X is “really” Y, but given that identity is a symmetrical relation, this is about as sensible as saying that Y is really X. Is Hesperus really Phosphorus, or is Phosphorus really Hesperus? Better to reject the question, and stop talking about “really” in this context.

Claims to ontological reduction are therefore identity claims. The identity theory which we find in the work of Feigl, Smart, Place, Lewis and Armstrong is the paradigm example of a reductionist theory of mind. The favoured non-mental parallel from the philosophy of science was the reduction of temperature to mean molecular kinetic energy: temperature is reduced to mean kinetic energy by being identified with it.

This “identification” is factually incorrect, but (somewhat ironically) it is incorrect in a way which can be put to the advantage of the identity theory. Temperature in a gas may be identified with mean kinetic energy (though as Hugh Mellor has often pointed out, it is hard then to know what to say about the

temperature of an accelerating lone gas molecule, which certainly has a mean kinetic energy) but temperature in solids cannot, and the temperature of empty space (radiant heat) shows that molecules are not needed at all. This point nicely parallels Lewis's (widely ignored) response to Putnam's "variable/multiple realisation" objection to the identity theory, the objection that we should not identify mental properties with physical properties since it would commit us to the implausible empirical conjecture that all creatures (say) in pain must have the same physical property in common. To this Lewis (1980) responded that the identity claim must be relativised, perhaps to a species, perhaps to an individual. We should distinguish between pain in humans, pain in dolphins and so on, and each of these can be identified with a different physical property. Similarly, we can have temperature in a gas, in a solid, and so on, and each of these can be identified with a different property. The "variable realisation" of temperature does not by itself undermine the ontological reduction of temperature, any more than the variable realisation of the mental on its own undermines the ontological reduction of mental properties. (As we shall see in §4, however, there are reasons for rejecting these reductions. The present point is just that they cannot be knocked out merely by pointing to the fact of variable realisation.)

Understood ontologically, then, a reduction of A to B involves the claim that $A=B$. We should not say, however, that formulating such identity claims exhausts the application of the idea of reduction, or that reduction just is identity. For after all, identity is symmetrical, yet a reduction of A to B is not a reduction of B to A. And there are plenty of identity claims which are not reductions: it would be at best a pointless extension of terminology to say that the discovery that Hesperus is Phosphorus is a reduction of Hesperus to Phosphorus. What reduction needs, in addition, is the idea that the "reduced phenomenon" (if we can allow ourselves to talk in this way) is made more comprehensible or intelligible by being shown to be identical with the "reducing phenomenon". We understand thermodynamical phenomena better when we are shown that they are (so the story goes) identical with certain kinds of mechanical activity. And we understand the mind better when we are shown that it is identical with the brain.

These virtues of reduction - making sense of the phenomena, rendering them intelligible - are not ontological in the strict sense. That is, they are not virtues of how things are, in and of themselves, but to how things strike us, how they can be incorporated into our picture of the world. This brings us to the so-called explanatory or conceptual reduction, which is that to which these virtues actually belong.

If we can translate claims made in one vocabulary into claims made in another, then this can be an advance in our understanding, so long as we understand well how to use the latter vocabulary. This could be called a “reduction of the concepts” expressed by the translated claims. But conceptual reduction need not be reduction of concepts in this sense; it can also be an explanatory relation between theories. This is what Peter Smith (1992) calls ‘modest reduction’. When one theory explains why another theory is true, or gives us an insight into the underlying mechanisms which explain how the entities of the reduced theory work, then this is one thing which deserves the name of reduction - that is, it is one of the things which those philosophers who introduced the term into philosophy meant.

I think that as it is normally understood, reduction is meant to be both conceptual and ontological. We have an explanation of why one theory is true in terms of the truth of another theory, the theories linked by bridge laws, and this gives us a reason for identifying the phenomena of the two theories. But it is not hard to see how one can have one without the other. An ontological reduction without a conceptual reduction would hold an identity theory of the entities in question without holding that the theories of these entities can stand in an explanatory relation. An example of such an approach is Davidson’s anomalous monism, according to which all mental events are physical events but there is no explanatory link between the mental theory and the physical theory (Davidson 1970). Notice too that Davidson upholds PHYSICALISM: everything is physical. Davidson is a nominalist (i.e. someone who denies universals) so the entities in the domain of the quantifier “everything” are particulars: objects and events. And these are all physical. But there is no explanatory link between commonsense psychology (the psychology of the propositional attitudes) and physics. Davidson has a controversial *a priori* argument to this effect.

What about conceptual reduction without ontological reduction? What this means will only come into view when we examine so-called “non-reductive” versions of physicalism below. But the basic idea is that there can be an explanatory relation of the appropriate kind between the theories of X and Y without having to identify Xs with Ys. More needs to be said about what an explanatory relation between theories is. But whatever it is, it is clearly possible that explanatory relations can hold between theories of two distinct kinds of entity.

Davidson and his followers believe that there are *a priori* reasons which demonstrate that there cannot be a conceptual reduction of psychology to physics (or as they put it, there cannot be psychophysical laws). Davidson’s target is a very specific conception of what conceptual reduction amounts to - essentially, reduction by bridge principles - and whatever its force against this target, it is hard to see how

the argument can be re-formulated to apply to the most plausible forms of conceptual reduction. Davidson has to say that there is a point in our investigation of mental phenomena where nothing more can be said which will inform us about how these phenomena are related to phenomena described in the physical vocabulary. I believe, on the contrary, that whether there is such a point is an empirical question, and this is precisely because whether there can be conceptual reductions (in my sense) is an empirical question.

There is a general feeling in current philosophy of mind that reductionism is a Bad Thing, and it is more reasonable to be an anti-reductionist. This is sometimes claimed because reduction is understood as elimination: a conceptual reduction would render the reduced theory false, useless or empty. But even once the distinction between reduction and elimination is made, still some philosophers recoil from the idea of reduction. Insofar as reduction is understood as conceptual reduction - where this is conceived of as a kind of explanation - then this must be a mistake. Explanations are advances in our knowledge, and faced with a possibility of advancing our knowledge it would be irrational to reject it merely on the grounds that it is "reductive". (Or rather, it makes little sense to do so, since "reduction" is just a name for this sort of advancement of our knowledge.)

4. PHYSICALISM WITHOUT REDUCTIONISM?

Nonetheless, in the case of the mental, ontological reduction - that is, the identity theory - is rejected by many philosophers. Here I am classifying any identity theory as reductive, even if (like Davidson's) the theory holds that there is no conceptual reduction of the mental to the physical. Of course, in this sense, Davidson is an anti-reductionist, but for the moment I would prefer to classify him as a reductionist, since he believes in PHYSICALISM.

Non-reductionist philosophers of mind (of the kind I am interested in here) reject PHYSICALISM: they hold that there are non-physical things. Yet they do not reject PHYSICALISM because they accept some form of Cartesian dualism. The non-physical things in which they believe are not non-physical substances, but non-physical properties. These philosophers are therefore sometimes called *property dualists* or *dual aspect theorists*. (The second term is not very helpful, actually: are the two properties supposed to be two aspects of the same thing? What thing? If the substance, then why talk of *aspects* of substances, rather than properties or attributes? The alternative way of understanding "dual aspect" - that they are aspects of the same property - makes little sense.)

The chief reason why these philosophers reject ontological reduction is because of the variable realisation argument of Putnam. As we saw above, there is a

response to this argument on behalf of the ontological reductionist: the identity claims should be relativised, to a species or to a population. But this response raises the question, what do all these relativisations have in common? Take the temperature analogy. We could say that there is a property P of having a certain determinate temperature, which is identical to one thing in a gas, another in a liquid, and so on. Or we could say that P is identical to none of these things, but it defined simply by the thermodynamic principles in which it figures. The structures and their properties which underpin the having of these thermodynamic properties are just other properties which the things instantiating temperatures must have.

What is to choose between these ways of talking (i.e. taking temperature P to be identical - suitably relativised - with an underlying physical state or not)? Unless there is some independent reason for adopting the first (ontological reductionist) way of talking, then it seems to me that the second is preferable. Temperatures are properties distinct from the mechanisms which realise them; and mental properties are properties distinct from the physical properties which realise them.

On the non-reductionist view, mental properties are non-physical simply because they are not among the properties which are the subject matter of physics. That's all that is meant by saying that mental properties are non-physical. So given that they accept the existence of non-physical entities, why do these non-reductionist physicalist philosophers call themselves physicalists? What is the point of describing oneself as a physicalist, if one rejects the claim that everything is physical?

One reason that could be given for calling this view physicalism is that it is a kind of monism. Remember that monism is the following view:

(MONISM) Necessarily, all things with mental properties are also things with bodily properties.

If we understand bodily properties as physical properties, then we have this view:

(PHYSICAL MONISM) Necessarily, all things with mental properties are also things with physical properties.

One reason for holding PHYSICAL MONISM is the conviction that all particulars are physical, in the sense that they all have physical parts which compose them exhaustively: take away the physical parts and there is nothing left. Call this claim "Physical composition":

(PHYSICAL COMPOSITION) All particular things are exhaustively composed of physical parts.

A physical part is a part with some physical properties. This sort of monism gives a certain priority to the physical: there are physical things which are not mental, but there are no mental things which are not physical. But it is silent on the issue which first motivated physicalism: that physics has an *explanatory* priority. PHYSICAL COMPOSITION and PHYSICAL MONISM have nothing to say, and entail nothing, about how the physical and the non-physical properties are related. This is the arena of explanation: relations between properties. But for all PHYSICAL COMPOSITION and PHYSICAL MONISM say, these relations could be any way whatsoever. Nor does it follow from the fact that everything is composed out of physical parts that the sciences which deal with these parts are in any sense more fundamental than the sciences which deal with the wholes, apart from in the sense that the wholes are composed out of these parts.

Sometimes the non-reductive versions of physicalism are called “token identity theories” to contrast with the “type identity theories” which assert that all properties are physical. But either the idea of a token identity theory is just another way of expressing physical monism, or it is not clear what it means. The way some philosophers talk, what are supposed to be identical are “token events” where events are conceived of as *instances of properties*. Now Davidson’s theory may be called a token identity theory - although he does not call it this himself - because it says that all particulars (objects and events) are physical. But Davidson rejects properties, so *a fortiori* he would not construe his theory as a theory of instances of properties.

The idea of an “instance of a property” can be thought of in two ways. On one way of thinking of it, instances are the items (the particular objects) which have the property in question: in this sense, I am an instance of the property *being human*. In this sense of “instance of a property”, to affirm a token identity theory of mental and physical “property instances” is just to assert PHYSICAL MONISM: the entity which has the mental property is the same entity which also has the physical property.

The second way of thinking of instances of a property construes instances as complex entities, composed out of objects, properties and times. I instantiate the property of being human, and the instance in question is the complex fact consisting of me, the property *being human* and the time at which I have this property. This fact can also be called a *state* or a *state of affairs*. But on this conception of instances, a token identity theory of “property instances” is not distinct from the type identity

theory. For according to the standard view of the identity conditions of states, states are identical when they contain the same constituent things, properties and times. So if mental states are instantiations of properties, then the identity conditions of the mental states are the identity conditions of their constituent properties. On this view, then, the “token” identity theory collapses into the “type” identity theory (a similar point is made by Kim 1996 p.60).

In the only way in which it is sensibly understood, then, the idea of token identity does not give any explanatory priority to the physical. Non-reductive physicalists tend to supplement the claim about particulars with a claim that mental properties *supervene* on physical properties. Supervenience is a kind of dependence between properties or facts: there can be no difference in the mental properties without a difference in the physical:

(SUPERVENIENCE) Everything supervenes on the physical

Another way of putting the supervenience claim is to say that the physical facts determine all the facts: fix the physical, and you fix everything else.

SUPERVENIENCE goes beyond the basic claim made by PHYSICAL

COMPOSITION: it is consistent with PHYSICAL COMPOSITION to say that two physical systems could differ mentally without differing physically, so long as they are each exhaustively composed out of physical parts.

Though some writers (Armstrong, Jackson, Lewis) take supervenience claims as reductive, this is obviously an addition to the basic idea of SUPERVENIENCE. For SUPERVENIENCE itself does not express any sense in which the non-physical is nothing over and above the physical. It is quite consistent to hold both that the physical facts determine all the facts, and also to hold that the non-physical facts are distinct from the physical facts. In a word: determination of A by B does not imply that A and B are not distinct. Therefore, belief in a supervenience thesis does not require that one’s ontological commitment to the supervenience base exhausts one’s ontological commitments. One might, of course, have other reasons for requiring this - consider, for instance, the reasons which lead Lewis (1966) and Jackson (1996) to an identity theory - but the present point is that these reasons are independent of the supervenience thesis itself.

SUPERVENIENCE, then, is not a thesis which has much to do with the explanatory priority of the physical. Indeed, this thesis could be accepted by a dualist of some sort, so it is not even in itself a physicalist thesis. Nor do PHYSICAL COMPOSITION or PHYSICAL MONISM assign any special explanatory role to the physical sciences. None of these doctrines add very much the basic content of

MONISM. In particular, they do not entail physicalism, if we are to maintain the traditional core of this doctrine.

5. CONCEPTUAL REDUCTION AND PHYSICALISM

It is not clear, then, that a doctrine defined by the three claims - PHYSICAL MONISM, PHYSICAL COMPOSITION and SUPERVENIENCE - deserves the name of physicalism. Consider, for instance, a version of monism, which accepts all three claims but denies that physical science has any special priority in explaining the relation between the mental and the physical. There are many sciences, each with their own explanatory domains; the standards of success or failure within each science are set by the sciences themselves. Sciences other than physics do not have to be vindicated in any sense by being underpinned by explanations from physics. In other words, this view accepts the various monist views, but rejects conceptual reduction.

How would such a view differ from non-reductive physicalism? Of course, a non-reductive physicalist might just accept this kind of view as one of the many possible versions of non-reductive physicalism available, on the grounds that non-reductive physicalism is defined by the three doctrines mentioned. But nonetheless, it seems to me that there is a good reason for withholding the label “physicalist” from this kind of view. For unless we do withhold it, then it is hard to find room for the monist position I have just described - that is, it is hard to find room for a position which upholds the monist doctrines yet denies the explanatory priority of physics. And this doctrine should certainly not be called physicalism.

Of course, a non-reductive physicalist could deny that the explanatory priority of physics is part of the content of physicalism; but this seems a perverse and misleading stipulation. Non-reductive physicalism should be the conjunction of the monist doctrines, plus the claim that there is a conceptual reduction of the mental to the physical. I think this latter claim is what should distinguish the non-reductive physicalist position from the non-physicalist monism I have just described. The position which I am thinking of as non-physicalist denies, as I said, the conceptual reduction of the mental to the physical. (The position actually could with some justice be called “emergentism”: for more on such a view, see Crane 2000.) Now, whether there actually *can* be such a conceptual reduction is surely an empirical question. Any naturalist has to accept that it *may* turn out that there is no conceptual reduction of the mental. What should our attitude be if this were the case?

My answer is that we should accept non-physicalist monism or emergentism: we do not need to move to dualism to understand the sense in which the mental is

explanatorily independent of the physical. Rejecting therefore both conceptual and ontological reduction gives us a non-physicalist position; but it does not give us dualism. This allows us to define physicalism (in the most general sense) as the doctrine that accepts monism, and conceptual or ontological reduction, or both. This gives meaning to the common charge that in one sense or another, all physicalism is reductive.

I have been discussing the question of the formulation of physicalist doctrines and how these doctrines relate to the traditional doctrines of monism and dualism. I have not discussed the truth of physicalism, or of monism and dualism. The choice between monism and dualism must be made on *a priori* grounds, but the choice between non-physicalist monism and physicalism depends on whether there can be one or both of the ontological and conceptual reductions. So-called “reductive” versions of physicalism (i.e. those which endorse PHYSICALISM) accept ontological reduction, and may or may not accept conceptual reduction. But non-reductive physicalism is really misnamed: for what distinguishes this view from non-physicalist monism is the fact that it accepts conceptual reduction while denying ontological reduction.

I draw two conclusions. The first is that the physicalist/non-physicalist distinction is not the physicalist/dualist distinction. The second conclusion is that whether or not non-reductive physicalism is true depends on whether there can be a conceptual reduction. Given that this is still an open question, then it should be an equally open question whether physicalism (in any sense) is true.

Department of Philosophy
University College London
Gower Street
London WC1E 6BT
UK
tim.crane@ucl.ac.uk

REFERENCES

- Carnap, R., (1955) *Logical Syntax of Language* (Berkeley, University of California Press).
- Crane, T., & Mellor, D.H., (1990) There is no question of physicalism, *Mind* 99, pp 185-206.
- Crane, T., (2000), The significance of emergence, in B. Loewer (ed.), *Physicalism and its Discontents* (Cambridge, Cambridge University Press).
- Davidson, D., (1970) Mental events, in L. Foster & J. Swanson (eds.) *Experience and Theory*(London, Duckworth).
- Hart, W.D., (1988) *The Engines of the Soul* (Cambridge, Cambridge University Press).
- Jackson, F., (1996), Mental causation, *Mind* 105, pp 377-413.
- Kim, J., (1996) *Philosophy of Mind* (Boulder, Westview).
- Lewis, D., (1966), An argument for the identity theory, *Journal of Philosophy* 63, pp 17-25.

- Lewis, D., (1980) Review of Putnam, in Ned Block (ed.) *Readings in the Philosophy of Psychology*, volume I (London, Methuen).
- Poland, J., (1993) *Physicalism: the Philosophical Foundations* (Oxford, Oxford University Press).
- Price, H., (1998) Ramsey, reference and reductionism, Mimeo (School of Philosophy, University of Sydney).
- Quine, W.V.O., (1958) On mental entities, in *The Ways of Paradox* (Cambridge, Mass., Harvard University Press).
- Smith, P., (1992) Modest Reductions and the Unity of Science, in D. Charles and K. Lennon (eds.) *Reduction, Explanation and Realism* (Oxford, Oxford University Press).

ACKNOWLEDGEMENTS

I am grateful to Michele Di Francesco, who commented on this paper at the ESF conference in Turin in 1998, to participants at the 1998 meeting of the Central European Sub-Division of ESAP in Noszvaj, Hungary, and to Katalin Farkas, David Owens, Helen Steward and Riccardo Viale for useful discussion.