



MENTALITY AND NEUTRALITY *

ACCORDING to classical Cartesian dualism, mental events are actions or states of nonphysical substances, in particular, of unextended substances. By contrast, Hobbes's mind-body materialism maintains that, since mental events are caused by motions and since motions are corporeal and can cause nothing but other motions, mental events are corporeal states of corporeal substances.¹ Few would champion either view today. For Hobbes's arguments rest on a priori premises that need no less support than his materialist conclusions. And even aside from general skepticism about the fruitfulness of distinguishing kinds of substance, there is little or no reason to accept the idea that unextended substances exist. Indeed, the eliminative materialism of Richard Rorty and Paul K. Feyerabend,² though not so intended, has substantial force when adapted to apply to Cartesian dualism of substances. If being unextended is definitive of being a mental substance, it is tempting to argue that we regard nothing as a mental substance precisely because we no longer regard any substances as literally unextended. Persons may be substances with mental states, but we describe neither persons nor anything else as mental substances.

It is probable, however, that difficulties over the notion of substance in general are responsible for the abandonment of the seventeenth-century practice of couching the mind-body problem in terms of kinds of substance. For it is hard to know what evidence there could be that would bear on the existence and nature of the substances referred to in that tradition. But there is a significant contemporary tendency, inherited from the seventeenth century, to regard the mind-body problem as somehow nonempirical in nature. So there remains a felt need to capture the nonempirical

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¹ *Leviathan*, Part I, chapter 1. Cf. David Coder's different reconstruction of Hobbes's argument in "The Fundamental Error of Central State Materialism," *American Philosophical Quarterly*, x, 4 (October 1973): 289-298, p. 292.

² Feyerabend: "Mental Events and the Brain," this JOURNAL, LX, 11 (May 23, 1963): 295/6; "Materialism and the Mind-Body Problem," *The Review of Metaphysics*, xvii, 1 (September 1963): 49-66; "Reply to Criticism: Comments on Smart, Sellars and Putnam," in Robert S. Cohen and Marx W. Wartofsky, eds., *Boston Studies in the Philosophy of Science*, vol. II (New York: Humanities, 1965), pp. 256-259; and "Problems of Empiricism," in Robert G. Colodny, ed., *Beyond the Edge of Certainty* (Englewood Cliffs, N.J.: Prentice-Hall, 1965), pp. 185-197.

Rorty: "Mind-Body Identity, Privacy, and Categories," *The Review of Metaphysics*, xix, 1 (September 1965): 24-54 (henceforth "MBIPC"), and "In Defense of Eliminative Materialism," *ibid.*, xxiv, 1 (September 1970): 112-121.

aspect of the mind-body problem, though with no remaining temptation to see this nonempirical aspect as a matter of kinds of substance. This has led to extensive discussion, in the recent literature on the mind-body problem, of the mental properties of mental events and, in particular, of whether such properties are irreducibly psychic, or nonphysical. For a priori considerations pertaining either to mental properties or to mental substances seem to be the only alternatives for locating a nonempirical component of the mind-body problem.

In this paper, I examine these discussions of mental properties with a view to showing that nothing about such properties gives rise to any nonempirical aspect of the mind-body problem. In section I, I consider the view that mental properties are irreducibly psychic³ and argue that, insofar as this claim conflicts with materialism, it is baseless. I choose this so-called "irreducibly psychic properties" (henceforth "IPP") objection to materialism because it is representative of antimaterialist arguments that rest on nonempirical considerations, and decisively disabling this objection will illustrate how other a priori antimaterialist arguments can be disarmed, as well. My treatment of the IPP objection makes no use of the standard materialist response, namely, that mental predicates can be given a reductive translation into predicates that are topic neutral ("SBP," 167) and hence not problematic for materialism.⁴ So, in section II, I discuss that response, which few regard as successful and which, like the objection it seeks to counter, relies on nonempirical considerations, in this case concerning the meanings of predicates. I argue that the topic-neutral response derives from a confusion between features of reductions proper to theoretical definition and those proper to semantic definition. I argue also that

³ First discussed by J. J. C. Smart in "Sensations and Brain Processes," in V. C. Chappell, ed., *The Philosophy of Mind* (Englewood Cliffs, N.J.: Prentice-Hall, 1962), p. 166 (henceforth "SBP"). This is a slightly revised version of an article of the same title in *The Philosophical Review*, LXVIII, 2 (April 1959): 141-156.

⁴ "SBP," 167. Also, Smart's "Brain Processes and Incommensurability," *The Australasian Journal of Philosophy*, XI, 1 (May 1962): 68-70, p. 69; *Philosophy and Scientific Realism* (London: Routledge & Kegan Paul; New York: Humanities, 1963), p. 96 (henceforth *PSR*); "Materialism," this JOURNAL, LX, 22 (October 24, 1963): 651-662, pp. 653-656 ("M"); "Comments on the Papers," in C. F. Presley, ed., *The Identity Theory of Mind* (St. Lucia: Univ. of Queensland Press, 1967), pp. 90/1 (henceforth "Comments"); "Reports of Immediate Experiences," *Synthese*, XXII, 3/4 (May 1971): 346-359 (henceforth "RIE"); "Further Thoughts on the Identity Theory," *The Monist*, LVI, 2 (April 1972): 149-162, pp. 149-153 and 161/2 ("FTIT"); and D. M. Armstrong, *A Materialist Theory of the Mind* (New York: Humanities, 1968), pp. 76-85 (henceforth *MTM*).

the widespread view, of materialists and antimaterialists alike, that success in answering the IPP objection is tied to success in giving topic-neutral translations⁵ results from a misconception of the nature of both; the failure of that materialist response, therefore, in no way weakens the materialist case. In a short final section, I briefly examine a recent defense by Rorty of eliminative materialism.⁶ I argue that Rorty's discussion needlessly accepts a fundamental antimaterialist premise and that the covert acceptance of this same premise by contemporary materialists explains the unsatisfactory character of their defenses of mind-body materialism.

I

It is obvious that predicates used to pick out mental events as such are not synonymous with those used to talk about neural events as such.⁷ It is natural to infer from this that we attribute distinct properties to an event when we say of it, for example, that it is a sensation of a red triangle and when we characterize it in neurophysiological terms. Even if, as seems likely, Hilary Putnam⁸ and Max Deutscher⁹ are correct in holding that property identity does not require synonymy of corresponding predicates, still, the property of being of a red triangle may seem to be clearly distinct from the property of being the excitation of particular neural pathways. One initial reaction to this might be to argue that no identity of mental with neural events can obtain, on the ground that to say that a neural event is of a red triangle, or that a mental event is

⁵ See, e.g., Jerome Shaffer, "Could Mental States Be Brain Processes?," this JOURNAL, LVIII, 26 (December 21, 1961): 813-822, and "Mental Events and the Brain," *ibid.*, LX, 6 (March 4, 1963): 160-166 (henceforth "MEB"); James W. Cornman, "The Identity of Mind and Body," *ibid.*, LIX, 8 (Aug. 30, 1962): 486-492, pp. 487-490 ("IMB"), and *Metaphysics, Reference, and Language* (New Haven: Yale, 1966), pp. 41-45 (henceforth *MRL*); Rorty, "MBIP," 25-28; and A. Campbell Garnett, "Body and Mind: The Identity Thesis," *The Australasian Journal of Philosophy*, XLIII, 1 (May 1968): 77-81, pp. 79/80 ("BM:IT").

⁶ "Incorrigibility as the Mark of the Mental," this JOURNAL, LXVII, 12 (June 25, 1970): 399-424 (henceforth "IMM"), and "More on Incorrighibility," *Canadian Journal of Philosophy*, IV, 1 (September 1974): 195-197 (henceforth "MI").

⁷ In what follows I shall speak indifferently of neural processes, states, and events, and also of mental ones. I shall also speak indifferently of mental states and the having of them. I shall not discard talk of sensations for talk of experiences of sensations, as Smart urges ("SBP," 168), and I shall not assume, as he seems to, that having a sensation and being aware of it must be the same.

⁸ "On Properties," in Nicholas Rescher *et al.*, eds., *Essays in Honor of Carl G. Hempel* (Boston: Reidel, 1970), pp. 235-254, and "Psychological Predicates," in W. H. Capitan and D. D. Merrill, eds., *Art, Mind, and Religion* (Pittsburgh: University Press, 1967), pp. 37-39, reprinted as "The Nature of Mental States," in *Mind, Language and Reality: Philosophical Papers, Volume 2* (New York: Cambridge, 1975), pp. 429-431.

⁹ "Mental and Physical Properties," in Presley, ed., *op. cit.*, pp. 73-78.

located in the striate cortex, is to speak nonsense, or commit a category mistake, or violate some sort of semantic rule.¹⁰ But moves of this kind require that we be able to distinguish such semantic transgressions from mere unfamiliarity of idiom, and if a claim of semantic transgression is to be more than mere pronouncement, it must be supported to some degree independently of our intuitions about the cases in question. It is unlikely that these demands can be met.

The IPP objection, by contrast, seeks to undermine mind-body materialism independently of any such considerations. Granting that mental events may be identical with neural events, as the identity theorist claims, the IPP objection maintains that this identity would by itself be insufficient to uphold materialism. For, even if mental events are a kind of physical¹¹ event, unless all the properties of such events are physical properties, materialism will fail; the existence of nonphysical properties of mental events, even if the events themselves are physical, would refute any thoroughgoing physicalist position (see "M," 652). And according to the IPP objection, at least some properties of mental events are nonphysical.

Nothing in any statements of identity of mental with neural events which a materialist might endorse precludes the possibility that mental events have some nonphysical properties. Such statements of identity will clearly be nonanalytic, since no mental description is synonymous with any neural description.¹² So those neural events which are also mental events if materialism is correct would have to be identifiable independently as satisfying mental and as satisfying neural descriptions. And this suggests that the properties by virtue of which events satisfy the relevant mental descriptions are distinct from those by virtue of which the events

¹⁰ See Cornman, "IMB," 490-492; Shaffer, "MEB," 165/6; Robert C. Coburn, "Shaffer on the Identity of Mental States and Brain Processes," this JOURNAL, LX, 4 (Feb. 14, 1963): 89-92; Rorty, "MBIPC," 26-28; and Jerry A. Fodor, *Psychological Explanation* (New York: Random House, 1968), pp. 100-106.

¹¹ I intend to use 'physical' and 'mental' with their colloquial applications; 'physical' should suggest no required connection with the terms or entities of theoretical physics, but only what is involved in speaking, e.g., of so-called "physical objects." So the existence of borderline cases, the availability of precise criteria, and the possibility of changes in scientific theories are not at issue.

¹² This is independent of the question whether such identity statements must, as Saul A. Kripke maintains, be necessarily true if true at all. See "Naming and Necessity," in Gilbert Harman and Donald Davidson, eds., *Semantics of Natural Language* (Boston: Reidel, 1972), pp. 335-342, and "Identity and Necessity," in Milton K. Munitz, ed., *Identity and Individuation* (New York: NYU Press, 1971), pp. 161-164.

satisfy the relevant neural descriptions. More is needed, however, to establish that the former properties, or indeed any properties of mental events, are nonphysical. Recognizing this, Jerome Shaffer has attempted to give an argument that will establish just this conclusion ("MEB"). Although he concedes that mental events may sometimes be identified as satisfying particular mental descriptions on the basis of such physical properties as being caused by particular stimuli, Shaffer urges that at least sometimes making such identifications requires the events to have some nonphysical properties. Having argued that when a person reports having a mental event he must notice that something occurred and must also notice enough of its features to say what kind of event it is, Shaffer continues:

Now it seems to me obvious that, in many cases at least, the person does not notice any *physical* features—he does not notice that his brain is in some particular state, nor does he notice any external physical stimulus, nor any physical event between the stimulus and the neurophysiological response. Yet he does notice *some* feature. Hence he must notice something other than a physical feature. The noticing of some nonphysical feature is the only way to explain how anything is noticed at all ("MEB," 163; emphasis original).

Shaffer's argument suggests that introspection is to be modeled on the perception of external objects and events. It is natural to assume that noninferential reports of external objects and events, and of nonmental bodily events, such as veins throbbing and muscle spasms,¹³ are possible because we notice these things and notice properties that differentiate them. Shaffer rightly insists that one can notice a thing by noticing some but not others of its properties. And his argument also appeals to the fact that, in general, the properties we notice are those we think we notice; in noticing, we are normally correct to take what we notice at face value. So if we seem to notice the redness of a brick, it is implausible to think we might really be noticing something else instead. It follows that if introspection involves noticing in this way, then if we seem to notice the redness of a sensation and not anything about our bodies or in the external environment, this should convince us that such properties as the redness of sensations exist. Familiar

¹³ See "IMM," 409. Rorty assumes that the reason such reports are not introspective is that they are about physical events. In order not to close off the possibility of there being physical events that are also mental, I urge instead that these reports are nonintrospective simply because they are about events that are nonmental.

differences between introspection and observation may add to the plausibility of this conclusion. The temptation to regard introspective reports as incorrigible, for example, may increase the felt need to invoke properties such as the redness of sensations to explain this striking access we have to our own mental states. And the idea that such properties are in some way not intersubjective may strengthen the conviction that they must be utterly different in kind from the physical properties of physical things.

But although the “eye cast inward” model of introspection is inviting, it can serve to cover obscurities in our understanding of the ability people have to give introspective reports. For that model suggests that we not only know directly what mental states we are in, but also know directly what features of our mental states are responsible for our knowing what states we are in. It is clear that introspection must involve differential cognitive responses to our mental states, unless one adopts the unlikely reductive view that introspective reports are really just disguised reports about the external environment. But it is obscure how we could know directly what properties of our mental states make these differential responses possible, and it may be that given our current knowledge we simply cannot say what properties do this. If so, Shaffer’s argument cannot provide a basis for concluding that these properties are nonphysical. Perhaps to avoid the charge that he is illicitly conceiving of introspection on the model of perception, Shaffer has since recast his argument to depend not on our noticing, but merely on our being aware of, nonphysical features of our mental states.¹⁴ But although this reformulation has the advantage of greater ease of idiom, the needed assumption—that introspection requires knowledge of those properties of mental states which make introspective reports possible—remains unsubstantiated.

Though the known nature of introspection does not show that mental events have nonphysical properties, this is not to deny that such events do have properties that are distinctively mental. And perhaps the existence of these properties is sufficient, without appeal to arguments of the sort Shaffer offers, to establish the IPP objection. For the phenomenal properties of sensations, such as their redness or painfulness, and the intentional properties of events of thinking, such as being about something or having some particular propositional content, seem so strikingly different from any standard physical properties of physical things that the tempta-

¹⁴ *Philosophy of Mind* (Englewood Cliffs, N.J.: Prentice-Hall, 1968), p. 46. Cf. also Garnett’s similar argument in “BM:IT,” 79/80.

tion exists to regard them as paradigmatically nonphysical properties. And the existence of such distinctively mental properties, nominalist and extensionalist scruples aside, seems guaranteed by the fact that mental events can be identified and described by means of a wholly mentalistic vocabulary.

This argument for the existence of nonphysical properties relies on at least one of two assumptions, neither of which is sufficiently obvious to make support for it unnecessary. For the argument requires that one show either that mental properties and standard physical properties are so disparate that mental properties could not be kinds of physical property, or else that something about distinctively mentalistic expressions implies that the properties they determine cannot be physical in nature.¹⁵ The need for such additional argument is seldom noticed, perhaps because of the almost universal practice of casting the antimaterialist objection we are considering in terms of irreducibly psychic properties. But such properties can cause materialism no embarrassment whatever unless they are not only irreducibly psychic, but also nonphysical as well; and, undefended, the belief that mental properties must be nonphysical is little more than antimaterialist dogma. So, if the IPP objection is to succeed, one of the two assumptions isolated above must get support. I now consider each in turn.

It is beyond dispute that the phenomenal properties of sensations and the intentional properties of thought events belong to distinctive families of properties unlike any others of which we have any idea. The redness of sensations is not the same kind of property as the redness of physical objects, and although thought processes and speech acts alike have propositional content, if speech acts simply inherit their intentionality from thought events in some way,¹⁶ the distinctiveness of intentional properties is undiminished. But once such distinctiveness is granted, it is far from clear what can be accomplished by going on to deny physical status to those

¹⁵ If 'property' is regarded as material mode for 'predicate' or if mental properties are seen simply as meanings of mentalistic expressions, these two assumptions will not differ in any clear way. I distinguish them to avoid ruling out the possibility of a viable notion of mental property, independent of the notion of mentalistic predicates.

¹⁶ See Roderick M. Chisholm and Wilfrid Sellars, "Chisholm-Sellars Correspondence on Intentionality," in Herbert Feigl, Michael Scriven, and Grover Maxwell, eds., *Minnesota Studies in the Philosophy of Science*, vol. II (Minneapolis: Univ. of Minnesota Press, 1958), pp. 521-539; and Rosenthal and Sellars, "The Rosenthal-Sellars Correspondence on Intentionality," in Ausonio Marras, ed., *Intentionality, Mind, and Language* (Urbana: Univ. of Illinois Press, 1972), pp. 461-503.

properties; by itself, the striking distinctiveness of a family of properties does not justify the conclusion that they are nonphysical. Colors of physical objects make up a highly distinctive family of properties, but even before their explanation within physical theory, this did not constitute grounds for supposing them not to be physical. No claim that mental properties are recalcitrant to scientific treatment can be warranted without considerable clarity as to what is permissible in the physical sciences, as they are now conceived, and what explanation in terms of them can involve. And the physical sciences, here, must include the natural sciences generally; even if the distinctive properties of life forms which make them special cannot be fully treated within physics proper, this by itself should lead no one to doubt that those properties are physical. Nor does the problematic, or unintuitive, or largely unknown nature of mental properties, as compared with the observable properties of physical objects, help; for properties such as spin and charge, as attributed to quantum particles, exhibit exactly these difficulties. It is not that nothing whatever could lead us to count any properties at all as nonphysical; if there are supernatural or divine entities, their properties might well be nonphysical. But this would be because such entities were independent, in some interesting way, of the physical order of things, which neither mental events nor their properties are. Even if our access to mental properties is restricted to introspection—and this assumption invites supporting argument—it is not obvious what bearing this would have on whether such properties are physical. In general, differences in the ways we know about things do not by themselves guarantee particular differences in the kinds of things known.

If the disparateness of mental and standard physical properties does not make mental properties nonphysical, perhaps something about the mentalistic descriptions that determine mental properties will. But parallel considerations undermine the plausibility of this move as well. It is familiar that language used to characterize the propositional content of thoughts and beliefs resists translation into nonpsychological terms.¹⁷ And it is likely that descriptions of sensations in phenomenal terms would equally resist such translation, at least if we take care not to assimilate 'red' as applied to sensations to 'red' as used to characterize physical objects. But this fact about mentalistic language does not support the idea that mental properties are nonphysical. For, unless there is a way

¹⁷ See Chisholm, "Sentences about Believing," *Proceedings of the Aristotelian Society*, LVI (1955/6): 125–148.

to characterize mentalistic language other than as simply being mentalistic, such recalcitrance to translation into nonmentalistic terms reduces to uninformative tautology. We cannot, in general, expect to translate language by means of which we say a particular range of things into language by means of which we do not. And attempts to give independent characterizations of mentalistic language are likely to fail.¹⁸ Many nonmental families of expressions, moreover, resist translation into terms lying outside the family. The notorious difficulties in translating dispositional into nondispositional terms tempt no one to regard dispositions, whatever their nature, as nonphysical, and this despite there being no known way to reduce dispositions to, say, structural properties, and, given the variety of dispositions, little expectation of any. Similar difficulties affect attempts to translate theoretical into nontheoretical language, but this does not tempt us to think that the entities and properties that theoretical sentences refer to are less physical than those which nontheoretical sentences refer to. Less dramatic cases abound; it is hard to see how words pertaining to physical color, shape, or motion could be translated into other terms without remainder. Such facts are not, in general, reliable indicators of the nature of things. As for the idea that mentalistic language seems to preclude assigning spatial location to mental properties, many physical properties, such as weight, seem no less resistant to being located in space. And just as it is plausible to locate some paradigmatically physical properties, such as colors, at, for example, the surface of an object, the property of painfulness can similarly be assigned bodily location in a natural way, at least if the property of painfulness is not conflated with the awareness of pain.

The intentional properties of beliefs and thought events may appear to pose special problems. For having propositional content can be construed as bearing a relation to a proposition, as when we speak of someone's thought expressing a particular proposition. And if propositions are abstract entities, being related to a proposition might seem to be as clear a case of a nonphysical property as one could hope to find. But the weight of a body, and its dimen-

¹⁸I have argued elsewhere that such attempts must fail for the case of language used to describe the intentional properties of thoughts and related mental states: "Talking about Thinking," *Philosophical Studies*, xxiv, 5 (September 1973): 283-313. Although many terms used to describe the phenomenal properties of sensations are also used, in a distinct but related way, to talk about physical objects, it is likely that these terms, used phenomenally, will be, if anything, even less susceptible of an informative, independent characterization.

sions, are also abstract entities; yet having some particular weight and size are paradigmatically physical properties. One might attribute the difference to the fact that we need not construe having some particular weight as being related to an abstract entity; we can construe it as a sortal property and dispense entirely with reference to weights as entities. But we can, in the same way, construe having propositional content not as a relation borne to a proposition but simply as a sortal property by virtue of which thought events are differentiated as to kind. It may be objected that a nonrelational account of having propositional content is unacceptable, because unless we can compare with one another the abstract propositions that thought events express, we cannot explain how, for example, somebody's thought that all tigers are mammals is related to somebody else's thought that all tigers are animals. But this conclusion, if true, would hold equally for weight; we could argue just as well that without reference to abstract weights we could not explain how one body's weighing ten pounds is related to another's weighing twenty. So whatever one's conclusions on these matters, the abstractness of propositions cannot by itself support the contention that intentional properties are non-physical. Indeed, it is likely that it is simply our relative lack of clarity about what having propositional content amounts to, and not anything related to abstractness, that has tempted some theorists to place having propositional content outside the physical order of things.

The situation may seem different, however, for the intentional property of being about something. For considerations of abstractness aside, one may feel that since a thought event can be about something that does not exist, being about something must be a nonphysical property. But the situation is similar with dispositional, modal, and hypothetical descriptions of things, in which an object or event putatively referred to need not exist, and there is no intuitive tendency to think that the phenomena described in these cases must be of a kind with thoughts and beliefs, nor that some nonphysical property of things is involved. And many things indisputably physical in nature, from utterances and inscriptions to tapestries and tone poems, can, like thoughts, be about things, and about things that fail to exist. It may be, as Roderick Chisholm has urged, that the intentionality of all such things is derivative in some way from the intentionality of

thoughts.¹⁹ But this will not support the claim that being about something is a nonphysical property unless we can also show either that physical objects and events with no discernible nonphysical nature cannot really, despite appearances, be about things at all, or that such objects and events, when they do inherit intentionality from thoughts, do so by way of inheriting some nonphysical property. Neither move is promising. Nor is the weaker claim that, even if being about things is not automatically nonphysical, at least being a "source of intentionality" (Chisholm and Sellars, *op. cit.*, p. 533) is. For again, it is likely that our relative ignorance about what this metaphorically described property of thoughts might amount to, rather than any positive account, is what may incline one to believe that this property is nonphysical.²⁰

II

In the foregoing section, I have argued that there is no reason to believe that mental properties or predicates are nonphysical in any way that conflicts with the truth of materialism. By themselves, the above arguments do not show that such properties or predicates are physical. But if the arguments are correct, they clear the way for this to be shown on the basis of empirical considerations alone. Suitable discoveries would then vindicate materialism, whereas only empirical evidence that no such findings will be forthcoming could lend support to antimaterialist views of the mental. In the absence of additional argument, then, the best the opponent of materialism can claim is that no reason now exists, other than metaphysical preference or expectation of future findings, to favor materialism over its denial.

It is reasonably clear and uncontroversial what empirical results would show that mental events are neural events; temporal and causal correlations, and the ability to explain and predict events by appeal to those correlations, should suffice.²¹ But it may seem less clear what empirical findings would show that the mental

¹⁹ Chisholm and Sellars, *op. cit.*, p. 533: "Hence thoughts are a 'source of intentionality'—i.e., nothing would be intentional were it not for the fact that thoughts are intentional."

²⁰ As for problems peculiar to phenomenal qualities, even if such qualities have, as Sellars has urged [*Science, Perception and Reality* (London: Routledge & Kegan Paul; New York: Humanities, 1963), p. 36], the second-order property of being ultimately homogeneous in contrast with the discreteness of the properties of neural events, this results in no difficulty. For the property of ultimate homogeneity, whatever it may amount to, would be exhibited equally by, e.g., the color properties of physical objects. These brief remarks do not, however, do justice to Sellars' complex argument.

²¹ This is not to say that these conditions are also necessary for mental events to be physical.

properties of those events are also physical. The exact nature of mental properties, moreover, is obscure in a way that seems to go beyond the obscurity of properties in general. This can make it difficult to see how, if mental properties are physical, we might discover their specific physical character in the way we can discover the physical nature of, for example, the color properties of physical objects. So it will be useful to indicate how the results of future inquiry could contribute to establishing that mental properties are physical.

There are at least two reasonable ways in which one can argue that this might happen. The first depends on insisting that, however intuitive our discourse about mental and other sorts of properties may be, it is really no more than material mode for discourse about predicates. It follows that the claim that mental properties are physical can amount only to the claim that mental predicates are physical in some suitable way. Since it would clearly be misguided to expect mental predicates to be synonymous with any physical predicates that are not also mental, the way is then open to maintain that predicates that describe wholly physical events are physical predicates. One can then argue that there is nothing to the discovery that mental properties are physical beyond the discovery, say, that mental predicates are true of physical events, and the further discovery of the specific physical nature of those events. According to this view, there is no problem about mental properties over and above that of the nature of mental events themselves. And though one might urge that mental properties are more puzzling than mental events because of obscurity about the nature of properties in general, it is far from clear that their nature is more problematic than the nature of events in general.

A second way in which one can argue that empirical findings would help establish that mental properties are physical would be to urge that we may come to be able to reduce mental properties to physical properties in just the way that common-sense properties in general can be theoretically reduced to those of scientific theories. Such reduction would require that there be lawlike correlations between mental events and physical events of some sort; merely accidental connections would not warrant a theoretical reduction. But such reduction could take place without there being correlations of interesting sets of one sort of phenomenon with interesting sets of the other, insofar as our classification of phenomena is based on current knowledge. For the discovery of theoretical reductions commonly results in new, and sometimes surprising, ways of

classifying both the reduced and the reducing phenomena. If we are not confined to current ways of classifying things, it is overwhelmingly likely that future investigation will yield many non-trivial psychophysiological correlations. And if reclassification takes place entirely within families of reduced and reducing phenomena, its occurrence would not indicate that a change of subject matter has occurred, nor that a successful reduction would have to be eliminative.²² Unlike the approach of the previous paragraph, this

²² Donald Davidson has argued against the possibility of lawlike psychophysiological correlations ["Mental Events," in Lawrence Foster and J. W. Swanson, eds., *Experience & Theory* (Amherst: Univ. of Massachusetts Press, 1970), pp. 89–98 (henceforth "ME"); "The Material Mind," in Patrick Suppes *et al.*, eds., *Logic, Methodology and Philosophy of Science*, vol. IV (Amsterdam: North-Holland, 1973), pp. 716–722 (henceforth "MM"); and "Psychology as Philosophy," in S. C. Brown, ed., *Philosophy of Psychology* (London: Macmillan; New York: Harper & Row, 1974), pp. 44–52 (henceforth "PP")], and has maintained that this "Anomalism of the Mental" ("ME," 81), together with the fact that at least some mental events are causes or effects of physical events, entails that at least some individual mental events are identical with individual physical events ("ME," 99/100, and "PP," 42/3; cf. "MM," 712). But Davidson claims that, these identities of event tokens notwithstanding, "we know in advance that all the resources of physics will not suffice to pick out important (open or infinite) classes of events which are defined by psychological predicates" ("MM," 713). And he suggests that a full-blooded materialism requires type-type correlations or identities, rather than merely token-token ones (712–722; see "ME," 87/8).

Since Davidson's argument pertains only to intentional mental events, it casts no doubt on the existence of lawlike correlations between sensations ["if there are any" ("ME," 84)] and physiological events. His argument against lawlike regularities involving intentional mental states, moreover, rests on the impossibility of determining a person's beliefs except in conjunction with hypotheses about meaning and the assumption of the person's basic rationality, and on Davidson's claim that these difficulties do not occur when we attribute properties from the special sciences ("ME," 97/8, "MM," 720–722, and "PP," 51/2). But even if this is so, "the disparate commitments of the mental and physical schemes" ("ME," 97) differ no more than the evidential and conceptual commitments of the common-sense physical realm differ from those of scientific theories. We attribute physical color properties, e.g., only in conjunction with many background assumptions, some quite general, about the physical environment and our experience of it, whereas we seem to determine the light-emitting and -reflecting properties of molecules, e.g., by appeal to nothing outside a self-contained body of theory. Scientific reduction of common-sense physical properties takes place in spite of these considerations, however, although it sometimes requires some reclassification within families of phenomena. And the relevant correlations, in these cases, are clearly sharp and lawlike; accidental generalizations would support no reduction, and mere statistical generalizations, as against genuinely lawlike statements (see "PP," 45; cf. "MM," 713, and "ME," 90), would occasion no reclassification of phenomena. Davidson maintains that the situation with psychological reduction is different, because the need for assumptions about meaning and rationality which underlie attributions of belief makes it impossible to determine uniquely what a person believes ("ME," 98, "MM," 720, and "PP," 51). But if the admissible alternative determinations

approach clearly provides for a positive account of the nature of mental properties, which, if suitable empirical findings are forthcoming, will support the truth of materialism.

These two ways of dealing with mental properties are independent of each other, and no difficulty results from combining them. For the theoretical reduction of mental to, say, biological properties can be seen as establishing a theoretically justified relation between the conditions for ascription of mental predicates and those of predicates distinctive to biological theory.²³ If, however, one remained disturbed by the idea that mental properties are intuitively nonphysical and unconvinced by the above arguments that such properties are not problematic for materialism, one might hope to answer this objection more decisively by showing mental predicates to be synonymous with predicates that are not intuitively nonphysical. This treatment of mental properties, like the first, adopts a material-mode view of properties, though it goes further than the first in also invoking the idea that property identity be construed as synonymy of predicates. And it resembles the second approach in attempting to reduce mental properties to properties that are unproblematic, though here the attempted reduction is semantic rather than theoretical. If successful, this approach, by establishing semantically that mental predicates are devoid of anything nonphysical, would not only make clear how empirical discoveries could show mental properties to be physical, but would also at the same time disarm the IPP objection. It is this third way of dealing with mental properties which J. J. C. Smart adopts

are empirically equivalent, it is far from obvious that our inability to choose among them rules out lawlike correlations.

Davidson's argument proceeds "from the categorial difference between the mental and the physical to the impossibility of strict laws relating them" ("ME," 98/9) and from there to "the identity of the mental with . . . the physical" (99). One can therefore see the argument as appealing to irreducibly psychic properties to establish the identity of psychological with physical event tokens. Whereas others commonly take such irreducibility to show, if anything, that neither type-type nor token-token identities can hold, Davidson concludes this only about type-type identities.

²³ Shaffer, e.g., writes that "to say that psychic properties are different from physical properties is simply a way of saying that mentalistic expressions have different meanings and different conditions for ascription from physicalistic expressions"; and he goes on immediately to urge that the fact "that psychic and physical properties are different does not in any way imply that they are 'irreducibly' different" and invokes the reduction of temperature to mean molecular kinetic energy to illustrate his point ("Could Mental States Be Brain Processes?", 820; cf. "MEB," 164). In broad outline, this is also what Sellars seems to have in mind in "The Identity Approach to the Mind-Body Problem," *The Review of Metaphysics*, xviii, 3 (March 1965): 430-451.

in advancing his well-known view that a successful defense of materialism requires topic-neutral translations of mentalistic sentences.

Smart begins his defense of materialism by stressing that, for mental events to be identical with neural events, no meaning relation need obtain between the mentalistic and neural descriptions involved in formulating such identities.²⁴ So it is perhaps surprising to find him going on to insist that those very same mentalistic descriptions must be synonymous with expressions of the relatively special sort he has dubbed "topic neutral" (henceforth "TN"). But Smart's goal in so doing is to disarm the objection that mental properties appear to be intuitively nonphysical. If mental predicates were synonymous with predicates that lack that appearance, Smart could argue that the appearance is not part of what such predicates mean and is, therefore, nonessential to them as mental predicates. For this reason, Smart claims that we must "elucidate the remark that there are no 'emergent' properties . . . [by] saying that there must be no predicates that are not definable in a physicalist language" ("FTIT," 161/2). And, having already recognized that mental predicates are synonymous with none that are specific to any of the uncontroversially physical sciences, Smart turns to TN translations as the only remaining means of accommodating mental predicates definitionally within a physicalist language.

In his earliest discussions, Smart had used 'TN' to apply solely, following Ryle, to words that are wholly neutral with respect to subject matter.²⁵ But, in later discussions, Smart has used the term primarily to apply, by extension, to those proposed translations of mentalistic sentences and predicates which make essential use of TN words in the original, narrower sense.²⁶ (Unless otherwise indicated, I shall use 'TN' in this latter, extended way, reserving 'strictly TN'

²⁴ These passages (e.g., "SBP," 164/5, and *PSR*, 92/3) make clear that Smart intends to be committed not to the nonnecessity of psychophysiological identity statements, but only to their nonanalyticity and to their being, in Kripke's sense, "a posteriori" ("Naming and Necessity," 260–264). It is a separate question whether, as Kripke maintains (*ibid.*, 336), a causal or topic-neutral analysis of a mental predicate "is regarded by the theorists in question as [determining] a contingent property of the state" it applies to (cf. "Identity and Necessity," 161–163) and whether it must be so regarded.

²⁵ "SBP," 167; "Sensations and Brain Processes: A Rejoinder to Dr. Pitcher and Mr. Joske," *The Australasian Journal of Philosophy*, xxxviii, 3 (December 1960): 252–254, p. 254. See Gilbert Ryle, *Dilemmas* (New York: Cambridge, 1954), p. 115, for Ryle's use of 'TN'.

²⁶ *PSR*, 95; "Further Remarks on Sensations and Brain Processes," *The Philosophical Review*, lxx, 3 (July 1961): 406/7, p. 406; and "Comments," 89.

for expressions that are wholly subject-matter neutral.) Smart's ambiguous use of 'TN' may encourage the belief that he is proposing to deal with the putative nonphysical character of mental predicates by translating them into strictly TN predicates. Such translations would have to fail, since their neutrality with respect to all subject matters would prevent them from capturing the mentalistic content of the predicates they are supposed to translate.²⁷ But this objection is without foundation. Smart nowhere requires that his translations be strictly TN, but only that they make essential use of strictly TN words. Nor is it obvious that TN translations of mental predicates must, to avoid being intuitively nonphysical, be strictly TN. Indeed, Smart is explicit that the semantic neutrality he is after is not unqualified neutrality, but only neutrality in implying neither materialism nor its denial.²⁸

Nonetheless, the rubric Smart uses to construct his translations is far from satisfactory. For it amounts to translating a predicate such as 'is a sensation of something red' by the TN 'is an event similar to the event that occurs when one is visually stimulated by a red object in standard conditions of visual perception'.²⁹ Possibly by way of highlighting the essential use this translation makes of the strictly TN words 'similar to the event that occurs when', Smart maintains that his proposal "depends on the possibility of our being able to report that one thing is like another without being able to state the respect in which it is like."³⁰ But if what Smart has in mind is that our use of mental predicates consists simply in reporting the likeness of one thing to another without our being able to state the respect of this likeness, he is mistaken. That something is a sensation of a red triangle entails, for example, that it is a mental representation with phenomenal, and not intentional, properties. And it entails a multitude of other things as well, pertaining to phenomenal color and shape. So if Smart's proposal requires

²⁷ This objection is suggested by Rorty, "MBIPC," 28, and "IMM," 401–403.

²⁸ See "FTIT," where Smart claims that "the identity theorist needs to show that our ordinary common sense talk about the mental is *neutral* as between materialist and nonmaterialist theories of mind. For since . . . it does not imply materialism, it either implies immaterialism or it is neutral" (149; emphasis original). See also "M," 654, "RIE," 346/7, and "The Identity Thesis—a Reply to Professor Garnett," *The Australasian Journal of Philosophy*, XLIII, 1 (May 1965): 82/3, p. 82 (henceforth "IT—RPG").

²⁹ "SBP," 167. Smart later considers replacing 'when' in this formula "by some such thing as 'typically when'" ("RIE," 348; cf. also the earlier "M," 654).

³⁰ "SBP," 168. In the original version of this article, Smart expresses doubt about whether this is in fact possible (150); in the later, widely anthologized version, he expresses confidence that it is (168). See also "M," 655/6, and "RIE," 353–355.

that respect of similarity be wholly unspecified, as Cornman assumes ("IMB," 489, and *MRL*, 42), the mental predicate and its translation will differ so radically in extension that not only will they fail to be synonymous, but there will be no reasonable way in which one might regard the TN predicate as translating the mental expression. For the TN predicate would then be true of any event whatever, true not only of nonred sensations as Cornman in effect urges,³¹ but also of nonsensations, and even of events that are not mental at all. So understood, Smart's translations would indeed be strictly TN, even though he explicitly requires only topic neutrality *tout court*.

But respect of similarity need not, *pace* Cornman, be taken as unspecified in this way. Even when no respect of similarity is stated, in the context of a specific subject matter the word 'similar' commonly carries with it understood restrictions regarding relevant respects of comparison. And Smart's remark about respects of similarity is perhaps best read simply as pointing this out. So it may be that Smart's TN predicates use 'similar' in ways sufficiently and suitably restrictive to pick out the right events in every case. But even if this move shows that every mental predicate is, in this way, contextually coextensive with some TN predicate, it shows equally that predicates of whatever sort are, in that way, contextually coextensive with TN predicates. It is therefore hard to see how the possibility of giving such translations of mental predicates could show anything of interest about them. More important, getting such TN predicates to be true of the right things is a matter of contextual restrictions on the word 'similar' occurring in the predicate; nothing in what the predicate means could by itself reliably indicate what respects of comparison one should take as germane. In order to dispel the nonphysical appearance of mental predicates, however, TN predicates would have not only to lack any such appearance, but also to be synonymous, or close to synonymous, with mental predicates. Since Smart's TN

³¹ "IMB," 489/90, *MRL*, 43/4, and *Materialism and Sensations* (New Haven: Yale, 1971), p. 44. In these places, Cornman argues that no modification of the phrase that follows 'similar' in Smart's TN rubric would capture the extension of the mental predicate under consideration. It is correct that, unless respect of similarity is somehow specified, no variations on these phrases can help. But Cornman's argument does not show this. For he offers a series of modifications and urges that, although each more closely approximates the extension of the predicate in question, none ever succeeds in reaching it. But Cornman's successive translations are increasingly weak, and so capture progressively less of the content of the target predicate and not, as his argument requires, progressively more.

predicates are, at best, contextually coextensional with mental predicates, they cannot help Smart achieve this goal. And if his TN predicates were strengthened so as to become close to synonymous with mental predicates, they would have to state explicitly relevant respects of similarity, such as phenomenal color or shape. But to do this, they would have to make use of terminology no less problematic for Smart than the original mental predicates. Indeed, it is just these respects of comparison that Smart claimed we need not be able to state if his translations are to do their job.

Smart believes that “[t]o say that a process is an ache is simply to classify it with other processes that are felt to be similar” (“M,” 655) but that, since this ability to classify is solely a matter of the operation of as yet unknown causes (“RIE,” 355), we need not invoke phenomenal or intentional properties to explain our ability to report our own sensations and thoughts. And he maintains that, although phenomenal and intentional properties would be emergent properties (“RIE,” 353; cf. “M,” 654/5, “IT—RPG,” 82, and “FTIT,” 152), mentalistic discourse about sensations appeals to no properties other than common-sense properties of physical objects (“SBP,” 166/7). So such discourse is translatable without remainder into predicates that apply solely to common-sense physical objects (*ibid.*); “[t]hat is, our talk of immediate experience is derivative from our talk about the external world” (“M,” 654). But ‘red’ as used to characterize sensations is not analyzable in terms of ‘red’ as it applies to physical objects. Whereas color words determine common-sense physical color properties when we predicate them of physical objects, when we apply them to sensations they determine phenomenal color properties. For color words applied to sensations form a family of predicates whose characteristic relations with one another, both semantic and nonsemantic, parallel the characteristic relations among color words applied to physical objects; no sensation can be entirely red and green, and yellow sensations resemble orange ones more than either resembles blue ones. And the distinctions among kinds of sensation are as fine-grained as those we make among the observable properties of physical objects. But since these characteristic relations among predicates do not apply between the two families, neither family can be analyzed without remainder in terms of the other. Smart believes that his TN “account of sensation statements . . . explains the singular elusiveness of ‘raw feels’—why no one seems to be able to pin any properties on them” (“SBP,” 167); sensations “are colorless for the very same reason that *something* is colorless” (*ibid.*;

emphasis original). But even though a sensation of something red is not itself red in the way a physical object or flash of light can be, this causes no difficulty in saying what properties sensations have; there is no reason to expect that the properties of sensations will be among those which physical objects can have. And the existence of characteristic relations among color words applied to sensations shows that these words truly characterize sensations themselves, and that the redness of a sensation is not a matter of its being related in some way, however loosely or tightly specified, to a red physical object. Even though 'red sensation' is equivalent to 'sensation of something red', being a sensation of something red is not being related to something physically red.³²

It is far from clear, however, that the failure of Smart's TN translations constitutes any difficulty for materialism. Smart intends his translations to capture the essential content of mental predicates and yet not themselves be mental predicates nor have the putative nonphysical appearance of such predicates. But this program is misguided. Any vocabulary adequate to express what mental predicates essentially express will itself be a mentalistic vocabulary, and so any successful translations will avoid a nonphysical appearance just in case mental predicates themselves do so. If the argument of section 1 is correct, mental predicates do lack any such appearance, and Smart's translational program is at best superfluous in dealing with the IPP objection. But even if Smart were correct about the problematic nature of mental predicates, no translational program could overcome this difficulty, since a successful translation, by being mentalistic, would itself be problematic. If Smart had been more critical in formulating and trying to handle the IPP objection, it is doubtful that he would ever have been drawn into proposing TN translations of mental predicates. But in fact there has been a general tendency among proponents, and some critics, of materialism to use discussion of TN translations as proxy for discussion of the IPP objection, thereby reflecting and perpetuating the confusions of both.³³

³² Similar considerations apply to the phenomenal shape of sensations and to other phenomenal properties that are named after observable properties of physical objects. Though Smart believes that "the experience of having an image . . . is described indirectly in material object language, not in phenomenal language, for there is no such thing" ("SBP," 168), he does not appear to consider the possibility of both uses of words existing side by side and being interrelated; what he rejects, rather, is a totally independent phenomenal language (*ibid.*, esp. fn 15).

³³ The idea that the IPP objection can be met, if at all, by finding TN translations is the single point on which the characterizations of that objection given by Smart, Shaffer, Cornman, Armstrong, and Rorty clearly converge.

In his most recent discussion, Smart seems possibly to recognize this. For he remarks that, on his view, mental sentences are themselves TN, and his translations simply make "this topic neutrality obvious" ("FTIT," 150). But, even in this most recent article, he reaffirms the idea that dealing with the IPP objection requires defining mental predicates "in a physicalist language" (162) and also still endorses giving TN translations as a way of doing this. Smart clearly believes that mental predicates must yield to some sort of reduction and that this reduction must take the form of a semantic translation. But there is a tension between a program of semantic translation and one of reduction, for it is unclear how one expression could reduce or even help to reduce another when the two are semantically equivalent.³⁴ So Smart is led to propose translations that are semantically substantially weaker than mental predicates. This might be useful if theoretical rather than semantic reduction were in question. For a theoretical reduction can be facilitated by formulating predicates that apply to the phenomena under consideration, but do so only contingently. Moreover, it is natural to suppose that there is more to the nature of mental events than mental predicates assert of them, and Smart's TN predicates can seem appealing as analyses of mental predicates precisely because they suggest both the possibility and the need of further determination of mental events by nonmental predicates. But there is no reason to think that such further determination is possible only if mental predicates are semantically sparse in the way that Smart's TN predicates are. Such TN predicates cannot be attractive as semantic analyses of mental predicates, therefore, but only as surrogates for predicates that could be used in a theoretical reduction of mental properties. And Smart's evident desire that his translations not be mentalistic adds support to this idea, for that desire would make sense only if Smart's goal were not semantic definition, but theoretical reduction.

An actual theoretical reduction of mental properties is the only means, beyond the arguments of section 1, by which one could decisively dismiss the charge that mental predicates are in some significant way nonphysical. Relative to molecular or atomic physics, most or all of the predicates we apply to macroscopic ob-

³⁴ The point is analogous to the so-called "paradox of analysis" [C. H. Langford, "The Notion of Analysis in Moore's Philosophy," in Paul Arthur Schilpp, ed., *The Philosophy of G. E. Moore* (LaSalle, Ill.: Open Court; London: Cambridge, 1942), p. 323]. This tension explains at least some of the self-defeating air of theses such as behaviorism and phenomenalism when these are put forward as programs of strict definitional reduction.

jects determine emergent properties. Although one can argue, in the style of section 1, that this constitutes no reason to regard such properties as nonphysical, only an actual theoretical reduction of such properties could conclusively show them to be wholly physical. So the more one is preoccupied by the question of whether mental or other common-sense properties are nonphysical, the more considerations proper to theoretical reduction will tend to motivate one's treatment of this problem.

If theoretical reduction were in question, however, synonymy between the reduced mental predicates and the reducing predicates would be a pointless and idle demand. And since Smart's formula for TN translations is no more nor less effective with mental predicates than it would be with any others, it is hardly likely to yield translations that could be useful in paving the way for some theoretical reduction. Nor does anything Smart says manifest any explicit interest in such reduction, except insofar as it is obvious that it should be possible if materialism is true. Nonetheless, Smart's treatment of the IPP objection reflects a tension, unrecognized by him, between semantic and theoretically reductive definition. For, despite Smart's claims, his actual proposal is geared to theoretical and not semantic reduction, and in fact only theoretical reduction would help in his undertaking. Smart's discussion of TN translations therefore makes manifest a confusion between two ways of being able to dispense with predicates, namely, a confusion between being able to dispense altogether with particular predicates because of their synonymy with others and being able to dispense with a range of predicates pertaining to a subject matter by means of a theoretical reduction. Failure to be clear on this difference has very likely caused Smart to make his otherwise unmotivated demand of synonymy for his TN translations. For only synonymy would enable the absolute elimination of particular predicates, and only a conflation of this kind of elimination with that made possible by theoretical reduction would make it appear that one could dispense altogether with all mental predicates without severe loss of descriptive ability. And a conflation of semantic with theoretical considerations is evidenced by Smart's distinct accounts of emergent properties as, in one place, those which "are not definable in a physicalist language" ("FTIT," 162) and, in another, as those properties which are "connectible with physicalist ones only through 'nomological danglers'" ("RIE," 353), that is, through nomologically unacceptable connections. Finally, a failure to distinguish the two kinds of reduction may also explain Smart's vacillation between re-

quiring full synonymy for his translations and requiring, as he occasionally has, something very substantially less.³⁵

Since Smart's original discussions, both D. M. Armstrong and David Lewis have proposed TN translations that more closely approximate the truth conditions of mentalistic sentences than Smart's do. Rather than rely, following Smart, solely on the similarity of mental events to what occurs under particular conditions of stimulation, Armstrong's translations refer instead to the causal relations mental events bear to patterns of behavior (*MTM*, 82). Since, special metaphysical theories aside, any two things can be related as cause and effect, 'causes' is strictly TN, and Armstrong's translations are therefore TN. Armstrong advances his proposal over Smart's because, he claims, reference to stimuli cannot account for such mental events as intentions, whereas reference to behavior can (79–82). Whether or not this is so, it does not justify us in preferring Armstrong's general program over Smart's, for stimuli and not behavior will very likely be as central to any tenable account of sensations as behavior is to a tenable account of intentions. The advantage of Armstrong's proposal over Smart's is rather that it uses causal relations to pick out mental events, instead of mere resemblance.³⁶ Whereas Smart, in his earliest and most recent statements, insists on at least near-synonymy for his proposal, Armstrong readily concedes that rough coextensionality is probably the best that TN translations can achieve.³⁷ It is not clear, however, that Armstrong's liberal attitude here helps. For Armstrong also recognizes that, to use TN translations to overcome the IPP objection, he must require that the translations do "justice to the phenomena" (85). But it is hard to see what this can amount to other than straddling the same line that Smart straddles between theoretical and semantic reduction.

³⁵ In "Brain Processes and Incorrigeability," Smart claims that his proposal provides merely "the general purport of sensation reports" (69), and he makes a similar disclaimer in *PSR* (96). In "Comments," he claims that his "topic-neutral analysis . . . [is] mainly of heuristic value" (90/1), as would be expected if theoretical reduction were in question. In "FTIT" (150/1, esp. fn 3), he repudiates this earlier cautiousness and again insists on synonymy.

³⁶ Smart has acknowledged since 1963 that reference to behavioral responses may be useful in connection with some sensations ("M," 654, and later in "RIE," 346); more recently, he has conceded the usefulness, within limits, of making reference to causal relations ("RIE," 348 and 353/4) and to the resemblance, in some unspecified respect, between mental states (354/5; cf. "M," 655).

³⁷ *MTM*, 84. But Armstrong also claims to be giving "a certain logical analysis of the mental concepts" (90), perhaps referring there only to the form of his translations.

Lewis's materialist argument³⁸ relies on the semantic "hypothesis that names of mental states are like functionally defined theoretical terms" ("PTI," 257), where we "[t]hink of common-sense psychology as a term-introducing scientific theory" (256). Lewis construes common-sense psychology as asserting all or most of the "platitudes which are common knowledge" "regarding the causal relations of mental states, sensory stimuli, and motor responses" (*ibid.*), and he constructs functional definitions of the names of mental states from a Ramsey sentence modified to assert not merely that common-sense psychology, so conceived, is satisfied, but also that it is satisfied uniquely ("AIT," 20–23, and "PTI," 253/4 and 256; see "HDTT," 438). Since these definitions each have the form \lceil the event that plays causal role $R \rceil$, they are TN, and since the specifications of causal role come from the "modified Ramsey sentence" ("PTI," 253) of common-sense psychology, no names of mental states occur in Lewis's definientia. But the platitudes that make up common-sense psychology typically, and perhaps invariably, describe mental states partly in terms of one another; so the definition of each name of a mental state will ineliminably refer to many other mental states ("PTI," 254/5, and "HDTT," 438), resulting in the interdefinition of such names ("AIT," 21, and "PTI," 256).

In spite of obvious similarities, Lewis's proposal differs significantly from those of Smart and Armstrong. Armstrong does remark that

... in many cases, an account of mental states involves not only their causal relation to behaviour, but their causal relation to other mental states. It may even be that an account of certain mental states will proceed solely in terms of the other mental states that are apt for bringing them about (*MTM*, 83).

But he immediately goes on to insist that we must be able to eliminate any account of a particular mental state which mentions other mental states in favor of an account of that state couched solely in terms of causal relations to behavior.³⁹ By disallowing all ineliminable interdefinition, after the style of behaviorism (cf. "AIT," 21), Armstrong rules out any proposal that, like Lewis's,

³⁸ "An Argument for the Identity Theory," this JOURNAL, LXIII, 1 (Jan. 6, 1966): 17–25 (henceforth "AIT"); "Psychophysical and Theoretical Identifications," *The Australasian Journal of Philosophy*, L, 3 (December 1972): 249–258 (henceforth "PTI"); and "How to Define Theoretical Terms," this JOURNAL, LXVII, 13 (July 9, 1970): 427–446 (henceforth "HDTT").

³⁹ "So all that is demanded is that our analysis must *ultimately* reach mental states that are describable in terms of the behaviour they are apt for" (*MTM*, 83; emphasis original).

“defines the mental states by reference to their causal relations to stimuli, responses, and each other” (“PTI,” 256). For this reason, Armstrong’s and Lewis’s suggestions that their translational programs are the same⁴⁰ are highly misleading. Prompted by the absence in Lewis’s TN definitions of any names of mental states and by Lewis’s holistic approach to defining those names, Smart has enthusiastically endorsed Lewis’s proposal as “far the best, most sophisticated, and most convincing.”⁴¹ But only limited agreement seems to underlie this praise. For, although Smart has come to permit TN definitions to reflect “interanimation between our mentalistic words” (“RIE,” 350), he does not couch such interdefinition in terms of causal connections among mental states, but rather restricts it to matters of resemblance among such states, still proscribing all mention of respect of similarity (354/5). So it is far from clear that Smart would accept a proposal in which the analysantia, though containing no names of mental states, still made use of relations among such states substantially stronger than similarity in some unspecified respect. But, as Lewis points out, the case that such interdefinition is often indispensable is wholly compelling (“AIT,” 21, and “PTI,” 257/8).

Smart’s and Armstrong’s resistance to Lewis’s more relaxed constraints on TN translations will seem unmotivated unless one recalls that their purpose in proposing such translations is to disarm the IPP objection. If TN analyses made ineliminable and non-trivial reference to mental states, this would render them useless in any attempt to dispense with the distinctively mentalistic aspect of mental predicates and, hence, in any attempt to overcome the IPP objection in the way Smart and Armstrong both hope to overcome it. Armstrong permits such reference, therefore, only if it is

⁴⁰ “PTI,” 250, fn 3; and Armstrong, “Materialism, Properties and Predicates,” *The Monist*, LVI, 2 (April 1972): 175, and “Epistemological Foundations for a Materialist Theory of Mind,” *Philosophy of Science*, XL, 2 (June 1973): 180/1.

⁴¹ “FTIT,” 162. See “RIE,” 346, 350/1, and 353/4. Smart qualifies his approval because, he claims, Lewis “relies heavily on the concept ‘property’” (“FTIT,” 162). But Lewis explicitly states identity conditions for properties in terms of synonymy of predicates (“AIT,” 19), and Smart himself believes we must appeal to synonymy in order simply “[t]o elucidate the remark that there are no ‘emergent’ properties” (“FTIT,” 161). Lewis also gives a possible-world account of property identity (“HDTT,” 437) and of meaning [435; see “Languages and Language,” in Keith Gunderson, ed., *Minnesota Studies in the Philosophy of Science*, vol. VII (Minneapolis: Univ. of Minnesota Press, 1975), pp. 3 and 10], and it may really be this which Smart finds objectionable. But the additional refinement that Lewis believes is afforded by reference to possible worlds (16) is of minor consequence (17).

eliminable, and Smart only if its content is palpably trivial;⁴² it is hard to see how the resulting impoverished accounts of the mental in any way improve on the behaviorist accounts that Smart (*PSR*, 88–91) and Armstrong (*MTM*, 67–72) both take to task (cf. “BM:IT,” 80). By contrast, Lewis recognizes that the IPP objection is groundless and that showing it to be groundless has nothing to do with giving TN translations (“AIT,” 19). Lewis’s goal, rather, is to argue that such analyses in terms of causal roles, together with unproblematic discoveries that neural states occupy those causal roles, would entail the identity of mental with neural states (“AIT,” 17, and “PTI,” 249). And since quantified variables replace names of mental states in the specifications of causal roles, no discoveries are needed that would relate neural states to mental states, named as such. Whereas Smart’s and Armstrong’s stricter requirements for translations force them to retreat, at best, to rough coextensionality as a goal, Lewis claims “analytic necessity” for his definitions (“AIT,” 17 and 20). And, because he obtains them from our psychological “platitudes which are common knowledge . . . [and] the meanings of our words are common knowledge” (“PTI,” 256), Lewis’s translations can reasonably aim for, and very likely achieve, near-synonymy.⁴³

⁴² M. C. Bradley, reacting to Smart’s earliest discussions, has argued that, if mentalistic expressions occur in translations of mental sentences, this precludes such translations from being “genuinely topic-neutral in the required sense” [Critical notice of *PSR*, *The Australasian Journal of Philosophy*, XLII, 2 (August 1964): 266] and that translations that contain mentalistic expressions lead to a vicious regress (267) or to circularity [“Sensations, Brain-Processes and Colours,” *ibid.*, XLI, 3 (December 1963): 389]. This is not so, unless being “genuinely topic-neutral in the required sense” entails meeting the IPP objection by dispensing with the mental. If topic neutrality is not tendentiously redefined in this way, an expression that specifies events in solely causal terms, as Lewis’s definitions do, will be TN no matter what expressions occur in it. And determining mental events by reference to others need constitute no vicious circularity or regress if, as in Lewis’s proposal, the number of mental events is reasonably large and they are determined by causal relations to nonmental as well as mental events.

⁴³ Although Lewis expresses his definitions as identities (“PTI,” 254/5, and “HDTT,” 438 and 442), on his view this suffices to specify the senses of names of mental states, since sense is a matter of reference in every possible world (“HDTT,” 435). Lewis’s argument requires that each mental state is, by analytic necessity, identical with the state occupying a specified causal role, but not also that predicates that ascribe mental states be synonymous with those which ascribe the specified causal roles (“AIT,” 19, and “HDTT,” 437). So, even if the phenomenal or intentional content of mental predicates is absent in the predicates that specify the relevant causal roles, this will cause Lewis no difficulty. But Lewis allows common-sense psychology to contain, in addition to causal platitudes, those pertaining to kind inclusion and “platitudes of other forms as well” (“PTI,” 256); so perhaps intentional and phenomenal content

III

If section I is correct, there is nothing about the mental that is now known to conflict with the truth of materialism; those arguments should therefore lead us to place no stock in whatever residual reluctance one may feel toward materialism. And the arguments of section II should dispel any idea that the failure of Smart's and Armstrong's TN translations shows either that the IPP objection has some force or that there is some difficulty about how empirical discoveries could support materialism. And whatever the source and nature of people's intuitive misgivings about materialism, such qualms do not by themselves amount to an antimaterialist argument.⁴⁴

Nonetheless, the idea that both mental events and their mental properties are physical may continue to seem at best counterintuitive. For, the IPP objection aside, there exists a pronounced tendency to contrast what is mental with what is physical, and this may appear to be at odds with the claim that mental phenomena are kinds of physical phenomena. This tendency may explain much of the attention that both materialists and their opponents have given to the mental properties of mental events, rather than to the events themselves. For, if one concedes that mental events are neural events, then that aspect of the mental by virtue of which it contrasts with the physical must be located with the properties that such events have, or with predicates that are true of them. Feyerabend reasons in this way when he writes that the claim that mental events are neural events

... backfires. It not only implies, as it is intended to imply, that mental events have physical features; it also seems to imply ... that some physical features, viz. central processes, have nonphysical features. It thereby replaces a dualism of events by a dualism of features ("Mental Events and the Brain," 295).

If the contrast between mental and physical requires that something about mental phenomena be nonphysical, the materialist has

will appear in his definientia. Or perhaps Lewis is correct in suggesting that everything that one can convey by our mentalistic vocabulary, if it can be captured by a definition at all, is expressed by the sum of the causal platitudes (256/7).

⁴⁴ Compare our attitude toward intuitive qualms about scientific theories, when these qualms are unbuttressed by the articulation of some conceptual difficulty. This is not to say that the diagnosis of such misgivings is unimportant; see, e.g., Thomas Nagel, "Physicalism," *The Philosophical Review*, LXXIV, 3 (July 1965): 353-356; and Keith Gunderson, "Asymmetries and Mind-Body Perplexities," in Michael Radner and Stephen Winokur, eds., *Minnesota Studies in the Philosophy of Science*, vol. IV (Minneapolis: Univ. of Minnesota Press, 1970), pp. 273-309.

only two options. One is to accept the view that at best a qualified materialism can hold and to seek to confine the nonphysical aspect of the mental as much as possible. The other is to embrace the eliminative materialism of Rorty and Feyerabend, which maintains that the empirical discoveries envisaged by materialists would warrant dispensing altogether with the category of the mental and, hence, with the contrast between mental and physical. Against this background, the IPP objection is simply a special case of a more general claim, that phenomena correctly characterized as mental must in some respect be nonphysical. If that is so, materialism would be tenable, if at all, in its eliminative version.

Rorty has recently given a sustained and forceful defense of eliminative materialism, based on such considerations. According to Rorty, the contrast between the mental and the physical is grounded in the meaning of 'mental'; he claims that "it is part of the sense of 'mental' that being mental is incompatible with being physical, and no explication of this sense which denies this incompatibility can be satisfactory" ("IMM," 402). Since phenomenal and intentional properties imply no such incompatibility, on Rorty's view they cannot be definitive of the mental. In this way, Rorty dismisses all possible marks of the mental save a particular kind of incorrigibility consisting in a "linguistic practice, which dictates that first-person contemporaneous reports of such states are the last word on their existence and features" (414). Rorty argues that, since this practice could not be captured in neurological terms, no theoretical reduction of the mental is possible. So only if empirical discoveries led to the abandonment of this practice could materialism be vindicated. For, then, no events would be mental, and hence none would be nonphysical.⁴⁵ Rorty concludes that materialism is defensible only in its eliminative form.

Rorty's argument relies on his claim that being mental entails being nonphysical.⁴⁶ But even the more modest idea that 'mental'

⁴⁵ Rorty does not grant, as does the proponent of the IPP objection, that thoughts and sensations might be neural events. See "MBIPC" (25–28), where Rorty sees Smart's TN translations as intended to disarm not the IPP objection but rather the claim that applying mental predicates to neural events constitutes a category mistake, thereby making the identity of mental with neural events impossible.

⁴⁶ According to Rorty, being able to be the subject of incorrigible reports can be viewed as due either to a general belief about thoughts and sensations or to the meanings of 'thought' and 'sensation'. So he regards as dogmatic the idea that 'thought' and 'sensation' can apply to nothing that cannot be incorrigibly reported ("IMM," 415/6). If Rorty were similarly liberal about 'mental', the discovery that reports about thoughts and sensations can be overridden would merely be the discovery that our direct access to our own

and 'physical' simply happen to apply to distinct things is, without support, question-begging as the basis for an argument against non-eliminative materialism. And the use of the mental-physical contrast to establish either claim is unconvincing. If one neglects that this contrast is only one of a number of cases in which we contrast something with the physical, one may be led to think that some incompatibility is in question. But in general, simply contrasting something with the physical does not provide an actual characterization of a range of phenomena so much as delimit a subject of study. In the context of chemistry, one contrasts chemical with physical properties by way of isolating those which are special to chemical compounds and processes as such. But in biological contexts, the properties and processes peculiar to chemistry and physics count alike as physical, as against properties special to life forms, and biological properties themselves count as physical when one focuses on the mental. The point is not, as Noam Chomsky, for example, has suggested, that we simply extend the term 'physical' to cover whatever is susceptible of satisfactory explanation,⁴⁷ though in fact we may sometimes do this. It is rather that to contrast a range of phenomena with what is physical is, special theories aside, simply to indicate that there are distinctive features of some sort or other that distinguish those phenomena from any others more basic than, or taken for granted in discussions of, the phenomena under consideration. So what counts as physical and as nonphysical do not remain fixed and specific in the way that what is biological or mental does; though what counts as physical in a particular context is commonly clear enough, what we count as physical expands and contracts as the context of discussion changes. Simply to contrast a range of phenomena with the physical leaves open for investigation and theory what the nature of those phenomena is; it does not settle it in advance. A form of vitalism might hypothesize that the biological is in its very nature nonphysical, just as some theories of mind have advanced that view about the mental. Perhaps super-

mental states is not "the last word on their existence and features" (414). To defend eliminative, as against standard materialism, Rorty needs his premise that the incompatibility with 'physical', and hence incorrigibility, results from the meaning of 'mental'. I examine and criticize Rorty's arguments for this premise in "Against Eliminative Materialism," presented at the American Philosophical Association, Eastern Division, December 29, 1975, and in "Matter with Mind," forthcoming.

⁴⁷ *Language and Mind* (New York: Harcourt Brace Jovanovich, 1972), enlarged ed., p. 98. Chomsky remarks that this is an "uninteresting terminological" point (98). This extended use would serve to group together what we cannot now explain into a single area of concern.

naturally inclined theoretical alchemists once so speculated about particular chemical substances. None of these theories is analytic or inconsistent, and none is implied or undermined by a contrast with the physical, which by itself serves only to indicate the possibility of relatively autonomous theories about distinctive kinds of phenomena.

So, to maintain, with Rorty, that "it is wildly paradoxical to say that a mental event might turn out to be a physical event" ("MI," 195) is to mistake a mental-physical contrast used merely to point to a range of phenomena that can fruitfully be studied relatively independently of others for the idea that the distinctiveness of those phenomena lies in their being nonphysical. Mental events would be nontrivially nonphysical if, for example, they involved unextended substances or had no normal causal connections with nonmental, physical objects. But the relative autonomy of psychological theory would ensure the continuation of an intuitive mental-physical contrast regardless of the discovered nature of mental phenomena, and such autonomy will result from the characterization of mental events, as in sections I and II above, in phenomenal and intentional terms. And, if the mental is not incompatible with the physical, the incorrigibility of the mental may be no more than the fact that, given the limitations of our current knowledge about mental states, introspective reports are generally more reliable than nonintrospective reports.

Rorty believes that without

... the opposition between the mental and physical ... considered as an opposition between two incompatible types of entity, rather than as an opposition [merely] between two ways of talking about human beings, ... we would not have had a mind-body problem at all ("IMM," 408)

and that thinking that there is a mind-body problem depends on believing that the mental constitutes "a natural kind—indeed an 'irreducible ontological category'" ("MI," 197). If so, we must either accept immaterialism or dispense altogether with the mental. So it is tempting to think that Rorty's characterization of the mind-body problem is specifically geared to the eliminative-materialist conclusion he wishes to defend. But noneliminative materialists and critics of materialism alike generally share, albeit tacitly, Rorty's assumption that an a priori mental-physical incompatibility underlies the mind-body problem, though few would follow Rorty in regarding that incompatibility as defining the mind-body problem or as stemming from the meaning of 'mental'. For such in-

compatibility would be the only basis for the belief that irreducibly psychic properties are automatically irreducibly nonphysical. And the idea that TN translations are needed to meet the IPP objection amounts to the assumption that, if mental events have any determinate properties other than, say, neurological ones, those properties are nonphysical.

Not only does the TN approach to overcoming the IPP objection share with eliminative materialism the assumption of mental-physical incompatibility; the two are also alike in defending materialism by dispensing with what is believed to be intuitively mental about mental events, whether this is their phenomenal or intentional nature or their incorrigibility.⁴⁸ Rorty's materialist argument that nothing has properties distinctive to the mental is simply a generalized version of Smart's and Armstrong's covert denial that anything has such properties as phenomenal redness. But materialism depends not on denying what is distinctive to the mental, but rather on successfully showing that construals of the distinctively mental as nonphysical are mistaken. We need discard nothing of what we attribute to the mental unless arguments that it is nonphysical cannot be disarmed.

Smart's, Armstrong's, and Lewis's materialist arguments each rest on translational programs, and Rorty's eliminative position involves the possibility of empirical discoveries causing changes in the ways we use words. So, although their views about meaning vary widely, from Rorty's rejection of a clear line between belief and meaning ("IMM," 415) to Smart's relatively unrestrained appeal to synonymy ("FTIT," 161/2), all rely to some degree on positive claims about the semantic properties of mental terms. Indeed, Lewis's use of semantic hypotheses about mental terms to enable him to project psychoneural identities following solely from discoveries about the causal roles of neural states is both elegant and inviting. But, if what I have argued is correct, no appeal to matters of meaning is necessary to defend materialism. For such tools would be needed only to combat the a priori assumption that the mental is nonphysical; and, unsubstantiated, this assumption can cause no problem for mind-body materialism.

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⁴⁸ Rorty earlier regarded phenomenal character, rather than incorrigibility, as irreducibly nonphysical ("MBIPC," 25–27). And Smart has continued to find the eliminative position inviting, at least within limits ("Comments," 91–93, "RIE," 347, and "FTIT," 150–152).