9. See R. Kirk, "From Physical Explicability to Full-Blooded Materialism", *The Philosophical Quarterly*, 29 (1979), 229–37. See also the arguments against the modal intuition in, e.g., Sydney Shoemaker, "Functionalism and Qualia", *Philosophical Studies*, 27 (1975), 291–315.
10. *The Philosophical Review*, 83 (1974), 435–50. Two things need to be said about this article. One is that, despite my dissociations to come, I am much indebted to it. The other is that the emphasis changes through the article, and by the end Nagel is objecting not so much to Physicalism as to all extant theories of mind for ignoring points of view, including those that admit (irreducible) qualia.
11. Knowledge *de se* in the terms of David Lewis, "Attitudes De Dicto and De Se", *The Philosophical Review*, 88 (1979), 513–43.
12. See Laurence Nemirow's comments on "What is it…" in his review of T. Nagel, *Mortal Questions*, in *The Philosophical Review*, 89 (1980), 473–77. I am indebted here in particular to a discussion with David Lewis.
13. See my review of K. Campbell, *Body and Mind*, in *Australasian Journal of Philosophy*, 50 (1972), 77–80.
14. Cf. Jean Piaget, "The Child's Conception of Physical Causality", reprinted in *The Essential Piaget* (London, 1977).
15. I am indebted to Robert Pargetter for a number of comments and, despite his dissent, to §IV of Paul E. Meehl, "The compleat Autocerebroscopist" in *Mind, Matter and Method*, ed. Paul Feyerabend and Grover Maxwell (Minneapolis, 1966).

4. Postscript

FRANK JACKSON

Materialism is a doctrine in metaphysics. It is a claim about what there is and what it is like. The knowledge argument turns on an epistemological claim, namely, that no story about our world told purely in physical terms—the kind of terms that appear in the materialists' or physicalists' preferred account of the world and its nature—could enable one to deduce the phenomenal nature of psychological states. How is a doctrine in metaphysics supposed to be threatened by a doctrine about the impossibility of a certain sort of deduction?

Many have asked this question, and what follows is the sketch of my reply. (The matter is discussed at much greater length, in the context of a general discussion of the role of conceptual analysis in metaphysics, in "Armchair Metaphysics," in *Philosophy in Mind*, ed. John O'Leary Hawthorne and Michaelis Michael, Philosophical Studies, Kluwer, 1994.) My reply comes in three stages. I give the first two stages in outline only, as I take it that they involve by now familiar points. I spend a little more time on the third.

The first point to note is that metaphysical theses that make a claim to completeness commit their holders to supervenience theses. Here is how the point applies in the case of materialism. Consider any possible world that is a minimal physical duplicate of our world. It is, that is, exactly like ours in every physical respect: it is physical individual, property and relation exactly like our world, and moreover it contains nothing extra; it contains nothing more than it has to in order to be physically exactly like our world. (We can count the necessarily existing entities, if there are any,

that all worlds have in common as trivially physical for our purposes here.) Materialists who hold that materialism is a complete account of our world, or a complete account of our world as far as the mind is concerned—materialists who are, that is, not some kind of dual attribute dualist—must hold that these minimal physical duplicates are psychological duplicates of our world. They must, that is, hold the following supervenience thesis

(S) Any world that is a minimal physical duplicate of our world is a psychological duplicate of our world.

For suppose that (S) is false. Then there is a difference in psychological nature between our world and some minimal physical duplicate of it. But then either our world contains some psychological nature that the minimal physical duplicate does not, or the minimal physical duplicate contains some psychological nature that our world does not. The second is impossible because the extra nature would have to be nonphysical (as our world and the duplicate are physically identical), and the minimal physical duplicate contains no nonphysical nature by definition. (Perhaps it will be objected that a minimal physical duplicate contains nothing more than it *has* to in order to be a physical duplicate of our world, and that this allows as a possibility that it has some nonphysical nature provided that that nature is necessitated by its physical nature. But its physical nature is exactly the same as our world's. Hence, if this physical nature necessitates some nonphysical nature, our world must have some nonphysical nature and materialism is false. We could stop right here.) But if our world contains some psychological nature that the duplicate does not, this nature must be nonphysical (as our world and the duplicate are physically identical). But then materialism would be false. For our world would contain some nonphysical psychological nature, and so materialism's claim to completeness concerning at least the psychological nature of our world would be false. Hence, if the supervenience thesis is false, materialism is false—that is to say, materialism is committed to the supervenience thesis.

The second point to note is that supervenience theses expressed in terms of quantifications over possible worlds, as is (S), yield entailment theses. We can think of a statement as telling a story about how things are, and as being true inasmuch as things are the way the story says they are. Let Ø be the statement that tells the rich, complex and detailed physical story that is true at the actual world and all and only the minimal physical duplicates of the actual world, and false elsewhere. Let Ω be any true statement entirely about the psychological nature of our world: Ω is true at our world, and every world at which Ω is false differs in some psychological way from our world. If (S) is true, every world at which Ø is true is a psychological duplicate of our world. But then every world at which Ø is true is a world at which Ω is true—that is, Ø entails Ω.

Hence, despite the fact that materialism is a doctrine in metaphysics, it is by virtue of its claim to completeness committed to the entailment of the psychological way things are, including of course the phenomenal way they are, by a rich enough, purely physical story about the way they are.

What has this to do with the possibility of deducing the psychological way things are from the physical way things are? What, that is, has it to do with what I contend that the Mary case shows cannot be done? The answer depends on what should be said about the necessary a posteriori, a controversial matter to which I now turn.

Consider

(A) H_2O covers most of the planet.
Therefore, water covers most of the planet.

Is this argument valid? It is valid in one sense. Every possible world where the premise is true is a world where the conclusion is true. The premise entails the conclusion according to the notion of entailment we presupposed above, the notion of entailment elucidated in terms of being necessarily truth preserving. This is because the conditional 'If H_2O covers most of the planet, then water covers most of the planet' is necessarily true. The argument, though, is invalid, in the sense that it is not possible to deduce a priori the conclusion from the premise. This is because 'If H_2O covers most of the

planet, then water covers most of the planet' is a posteriori. (The necessary a posteriori status of the conditional follows from the famous necessary a posteriori status of 'Water = H_2O'.) As we might put it: the premise necessitates, logically determines, or strictly implies, the conclusion, but it does not a priori entail it.

It might well be thought (and has been by many) that this argument provides a model for a materialist to view the relationship between the physical way things are and the psychological way things are. A rich enough story about the physical way our world is logically determines the psychological way it is, but does not a priori entail the psychological way it is. The idea is that a view of this kind respects the result that materialists must hold that the psychological way things are supervenes on the physical way they are, without forcing them to admit the possibility of a priori deducing the psychological way things are from the physical way they are. Hence, runs the suggestion, materialists can sidestep the challenge posed by the knowledge argument. What Mary knows logically determines or fixes all there is to know about the psychological way things are, including the sensory or phenomenal way they are, but it does not enable her, even in principle, to deduce the psychological way things are.

I think this suggestion rests on a misunderstanding of what we learned from Saul Kripke about the necessary a posteriori. In a nutshell my reply is that we learnt about *two* things together: the necessary a posteriori, and the contingent a priori, and when we bear this in mind, we see that a *rich enough* story about the H_2O way things are a priori entails the water way things are, despite the fact that 'H_2O covers most of the planet' does not a priori entail that water covers most of the planet. I will make the crucial point with a simple, made-up example.

Suppose that I introduce the word 'Fred' as a (rigid) name for the shape of the largest object next door—that is to say, I explain what the word is to mean in these very terms—and let us suppose that that object is, as it happens, square. The statement (schema) 'If X is square, then X is Fred' will be necessarily true, for it is true in every world by virtue of the fact that 'Fred' is a rigid designator of squareness (together, of course, with the fact that 'square' is a rigid designator). But it will not be a priori. Mere understanding of the words that make it up plus logical acumen cannot by themselves reveal whether the statement is true or false. Hence

(B) X is square.
Therefore, X is Fred.

will be valid in the necessarily truth-preserving sense but not in the a priori deducibility sense. This, though, does not mean that there is no argument from the square way things are to the Fred way they are that is valid in the a priori deducibility sense. For 'If X has the shape of the largest object next door, then X is Fred' is contingent a priori. It is contingent because it is false in worlds where the largest object next door is not square. It is a priori because understanding the word 'Fred' is enough to tell you that it is true: the very way I explained the use I was giving the word 'Fred' tells you that any object with the shape of the largest object next door is Fred. Now consider

(B+) X is square.
The largest object next door is square.
Therefore, X is Fred.

This argument is valid in both the necessarily truth-preserving sense and the a priori deducibility sense. It is necessarily truth preserving because, as already noted, (B) is. It allows an a priori deduction of the conclusion from the premises because the two premises together a priori entail that X has the shape of the largest object next door, and 'If X has the shape of the largest object next door, then X is Fred' is, as already noted, a priori. That is to say, a rich enough story about the square way things are—the story given in the two premises of (B+) taken together—a priori entails the Fred way they are.

The same general picture applies, it seems to me, to the relationship between the H_2O way things are and the water way things are. Our understanding of 'Water' is as a rigid designator whose reference is fixed by 'the stuff that fills the water role', where the water role is spelt out in terms of, say (the details are to some extent controversial and indeterminate,

as is inevitable with a real-life example in place of a made-up one), satisfying most of: being an odorless and colorless liquid, falling from the sky, being called 'water' by experts, being necessary to life on the planet, filling the oceans, and so on. The combination of the fact that 'water' and 'H_2O' are rigid designators with its being a posteriori that H_2O fills the water role, explains why statements like 'Water is H_2O' and 'If H_2O covers most of the planet, water covers most of the planet' are necessary a posteriori. The fact that we understand 'water' as being a rigid designator of that which fills the water role means that statements like 'Water = the stuff that fills the water role' and 'If what fills the water role covers most of the planet, water covers most of the planet' are contingent a priori. But then it follows that although argument (A) is not valid in the a priori deducibility sense, the following supplementation of it is valid in both the a priori deducibility sense and the necessarily truth-preserving sense:

(A+) H_2O covers most of the planet.
H_2O fills the water role.
Therefore, water covers most of the planet.

Hence, a *rich enough* story about the H_2O way things are does enable the a priori deduction of the water way things are.

The same goes for the other well-known examples of the necessary a posteriori. As Kripke noted when he argued that 'Heat is molecular motion' is necessary a posteriori, this view goes hand in hand with the view that something like 'Heat causes such and such sensations' is contingent a priori. (Saul Kripke, *Naming and Necessity*, Basil Blackwell, Oxford, 1980, see esp. pp. 132ff. Actually, heat is not always molecular motion, and water is arguably not H_2O so much as sufficiently large aggregations of H_2O molecules; but in the interests of simplicity we fudge.) But then a rich enough story about molecular motion does yield the facts about heat. True, a limited story about molecular motion, one that tells you which substances have a good deal of it but not much else, does not tell you much about heat, despite necessitating the facts about heat. But a story that includes the way molecular motion causes various sensations and whatever else is involved in fixing the reference of 'heat' will tell you all there is to know about heat.

I think that the materialist has to say the same thing about the relationship between the physical way the world is and the psychological way the world is. A partial story about the physical way the world is might logically necessitate the psychological way the world is without enabling an a priori deduction of the psychological way the world is. It might be like the partial stories about H_2O, and squareness encapsulated in the premises of arguments like (A) and (B), above. They necessitate, without a priori entailing, the facts about, respectively, water, and Fred. But the materialist is committed to a complete or near enough complete story about the physical way the world is enabling in principle the a priori deduction of the psychological way the world is. Materialism about the mind is like what we might call 'H_2O-ism' about water. Someone who knows where all the H_2O is *and* enough else about H_2O—that it fills the sea, gets tagged 'water' by experts, its molecules move past each other reasonably freely, and so. and so forth—knows all there is to know about water, and this is crucial to H_2O-ism being, as it is, true. There is nothing more to the water way our world is than the H_2O way it is. In the same way, I think it is crucial for the truth of materialism (materialism proper, not some covert form of dual attribute theory of mind) that knowing a rich enough story about the physical nature of our world is tantamount to knowing the psychological story about our world.

Finally, I should point out that there is a much shorter way of making plausible the knowledge argument's presumption that materialism is committed to the a priori deducibility of our psychological nature from our and our environment's physical nature.

It is implausible that there are facts about very simple organisms that cannot be deduced a priori from enough information about their physical nature and how they interact with their environments, physically described. The physical story about amoeba and their interactions with their environments is the whole story about amoeba. Mary would not lack any knowledge about them. But according to materialism, we differ from amoeba essentially only in complexity of ingredients and their arrangement. It is hard to see how

that kind of difference could generate important facts about us that in principle defy our powers of deduction, and the fact that we have a phenomenal psychology is certainly an important fact about us. Think of the charts in biology classrooms showing the evolutionary progression from single-celled creatures on the far left to the higher apes and humans on the far right: where in that progression can the materialist plausibly claim that failure of a priori deducibility of important facts about us emerges? Or, if it comes to that, where in the development of each and every one of us from a zygote could the materialist plausibly locate the place where there emerge important facts about us that cannot be deduced from the physical story about us?

5. In Defense of Mind-Body Dualism

BRIE GERTLER

> How quaint, the idea that our minds somehow float free of the cold, hard, physical world. Surely dualism is the stuff of fantasy, an indulgence of poets and daydreamers, an echo of antiquated worldviews long ago demolished by the relentless progress of science. Though we may occasionally find comfort in imagining that our minds are special, in our more sober moments we must face the facts: our thoughts and feelings, and those of our loved ones, are just as much a part of the brute material order as sticks and stones.

This sentiment expresses a common attitude. The prevalence of this attitude may explain why physicalism, the view that sensations and other mental states are entirely physical, is generally the default position about the mind. On first approaching the mind-body problem, most scientifically minded people assume that physicalism simply has to be true.

However, the sentiment above seriously misrepresents present-day versions of dualism, the belief that some mental states are nonphysical. Many contemporary dualists are fully *naturalistic*. That is, they hold that mental states are just as much a part of the natural order as sticks and stones; and they favor a scientific approach to the mind, one that is independent of religious considerations. In essence, the contemporary dispute between physicalists and naturalistic dualists is a disagreement about what kinds of *data* there are about the nature of mind, and what sort of *theory*—dualist or physicalist—best explains the data.

In this essay, I defend naturalistic dualism. I take, as my starting point, an argument made by Rene Descartes in his *Meditations*. I expand and defend this argument, drawing on some ideas developed by contemporary philosophers.[1] The expanded argument is, I think, much more powerful than most physicalists recognize. After making my case for dualism, I offer some criticisms of physicalism. The paper will close by defending dualism from the charge that the picture of reality it provides is unacceptably *spooky*.

But first, I must explain in more detail the point at issue between physicalists and dualists. What is it, precisely, that physicalists assert, and

Consciousness and the Mind-Body Problem

A Reader

Torin Alter
The University of Alabama

Robert J. Howell
Southern Methodist University

New York Oxford
OXFORD UNIVERSITY PRESS

Oxford University Press, Inc., publishes works that further Oxford University's objective of excellence in research, scholarship, and education.

Oxford New York
Auckland Cape Town Dar es Salaam Hong Kong Karachi
Kuala Lumpur Madrid Melbourne Mexico City Nairobi
New Delhi Shanghai Taipei Toronto

With offices in
Argentina Austria Brazil Chile Czech Republic France Greece
Guatemala Hungary Italy Japan Poland Portugal Singapore
South Korea Switzerland Thailand Turkey Ukraine Vietnam

For titles covered by Section 112 of the US Higher Education Opportunity Act, please visit www.oup.com/us/he for the latest information about pricing and alternate formats.

Published by Oxford University Press, Inc.
198 Madison Avenue, New York, New York 10016
http://www.oup.com

Oxford is a registered trademark of Oxford University Press

Library of Congress Cataloging-in-Publication Data

Consciousness and the mind–body problem: a reader / [edited by] Torin Alter, Robert J. Howell.
p.cm.
ISBN 978–0–19–973924–0
1. Consciousness. 2. Mind and body. I. Alter, Torin Andrew, 1963–
II. Howell, Robert J.
B808.9.C663 2012
128′.2—dc23 2011030226

9 8 7 6 5 4 3 2 1

Printed in the United States of America
on acid-free paper