



KNOWLEDGE,
POSSIBILITY,
AND CONSCIOUSNESS

J O H N P E R R Y

Knowledge, Possibility, and Consciousness

The Jean Nicod Lectures

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The 1999 Jean Nicod
Lectures

**Knowledge, Possibility,
and Consciousness**

John Perry

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To the memory of my brother
Tom Perry
1941–1998

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Series Foreword

The Jean Nicod Lectures are delivered annually in Paris by a leading philosopher of mind or philosophically oriented cognitive scientist. The 1993 inaugural lectures marked the centenary of the birth of the French philosopher and logician Jean Nicod (1893–1931). The lectures are sponsored by the Centre National de la Recherche Scientifique (CNRS) as part of its effort to develop the interdisciplinary field of cognitive science in France. The series hosts the texts of the lectures or the monographs they inspire.

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André Holley, Director of the Cognitive Science Program,
CNRS

François Recanati, Secretary of the Jean Nicod Committee
and Editor of the Series

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Preface

This book is based on the Nicod lectures given in Lyon and Paris in June 1999. I am very thankful to the Centre National de la Recherche Scientifique (CNRS) and the Nicod Lecture Committee for selecting me, and to Jacques Bouveresse, André Holley, Pierre Jacob, François Recanati, Daniel Andler, Joëlle Proust, Jerome Dokic, Jerome Pelletier, and other French philosophers and cognitive scientists for the hospitality they showed me. The Centre de Recherche en Epistémologie Appliquée (CREA) and Maison Suger were fine hosts.

The central ideas of this book were presented earlier at the Chapel Hill Philosophy Colloquium in 1998 and at colloquia at various universities. They have been shaped over many years, with many influences, for better or worse. I remember being interested in the problems discussed in this book while I was an undergraduate at Doane College. I had a job delivering appliances throughout a wide area of southeastern Nebraska, and as I drove the Wanek's Furniture truck across the countryside I tried to keep my mind on Wittgenstein's arguments about beetles and boxes. I had the feeling that if I was bright enough, and tried hard enough, the troublesome beetle in my box would be revealed as a bit of conceptual confusion and disappear. Thank goodness it never

did. Laurence Nemirow rekindled my interest in these problems when I had the good luck to work with him on his dissertation at Stanford in the late 1970s. Although in chapter 7 I disagree with part of Nemirow's analysis, his ideas and particularly the emphasis he put on the role of imagination in our concepts of sensory states greatly influenced me. Many years later, Güven Güzeldere came to Stanford and raised everyone's consciousness about consciousness. My Nicod lectures, like Fred Dretske's before them, owed a great deal to Güzeldere. In particular Güzeldere encouraged me to give a talk at an American Philosophical Association symposium on my first rather inchoate ideas about how work on indexicals and reflexivity might be relevant to the knowledge argument. We discussed all aspects of the argument and qualia at great length while he worked on his dissertation at Stanford. He was a superb student and a superb teacher. At about the same time Güven was at Stanford, Lydia Sanchez was working on her dissertation, which emphasized issues related to the subject matter doctrine and problems of unreflected identity. Talking these issues over with Lydia was very helpful.

After the first draft of this book was completed, I received helpful comments from a number of philosophers, including Güzeldere, Ned Block, Eros Corazza, Chuck Marks, John Fischer, Carlo Penco, David Barnett, Matthew Barrett, and Tim Schroeder. Robert C. Jones made a very clear and persuasive presentation of the draft to the Pat Suppes–Dagfinn Føllesdal seminar on consciousness at Stanford. I had the wonderful opportunity to attend the Ned Block–Tom Nagel seminar at New York University during a session on the draft of my book. Listening to Nagel and Block disagree about what I should have said or meant was particularly instructive. These comments and interactions led to a new version of the last chapter and a number of changes in ear-

lier chapters. Matthew Barrett's comments convinced me I ought to have more to say than I do about the problem of other minds, especially the minds Martians might have. But I haven't yet figured out what to say, except that I can't see that neo-dualism would help. Parts of the draft were used in my freshman seminars on consciousness; the students' reactions and comments were quite helpful. Rebecca Talbott kept me from making a serious error in chapter 5.

The Nicod lectures and the final rewrite of the book were both completed in Bonn, Germany, where I spent the spring quarters of 1999 and 2000. This was made possible by a prize from the Humboldt Foundation. These stays were rewarding and productive thanks to the hospitality of Ranier Stuhlmann-Laeisz and the other members of the Insitute für Logic und Grundlagenforschung at the University of Bonn; I especially thank Albert Newen for his support and friendship.

I owe a considerable debt to the philosophers I discuss in this book. Giving a seminar on David Chalmers' exciting and absorbing book, *The Conscious Mind*, was especially helpful; it is full of ideas and arguments that clarified a number of things for me, even while I continued to disagree with the central thesis. A number of authors whom I do not discuss—David Rosenthal, John Searle, Daniel Dennett, and Patricia Churchland, to mention just four who represent a broad spectrum of approaches—have also influenced my ideas a great deal, even though I don't fully understand at this point how all of the insights can be fit together.

I am dedicating this book to my late brother Tom. We loved to discuss and argue about all sorts of things, including philosophy. Tom was full of interesting ideas and was imaginative and passionate about all sorts of issues. He wrote and enjoyed science fiction, and I suspect he thought philosophy was basically a way of thinking about the same

issues without having nearly so much fun. Writing science fiction was a hobby on which he hoped to focus when he retired, but sadly cancer cut that dream short. He spent most of his career with IBM, first as a technical writer, then as a computer scientist, working on a variety of platforms from the 1960s into the 1990s. I'm sure that some of his ideas and inventions are at work inside my computer as I write this.

When we were both in our early teenage years Tom came up with the theory that there was only one soul in the universe, which traveled backward in time each time a person died and was recycled as some other person's soul. That was the first time I tried hard to think of reasons against a philosophical theory. I didn't come up with any objections that he couldn't shoot down. Finally he convinced me this was the most minimal and economical form of dualism, a perfect example of Occam's Razor. We had a lot of fun figuring out how this theory would work. So Tom was the first to bring up the challenge of dualism, not to mention personal identity. As I've mentioned elsewhere, Tom, who was a couple of years older, once told me he would "give me ten dollars tomorrow." This repeated promise amused him for a couple of days and gave rise to my interest in indexicality.

I don't suppose Tom stuck with his one-soul theory, but he certainly would have sided with Leibniz, Ewing, Chalmers, Jackson, and Kripke on the issues I discuss in this book. He thought physicalism was pretty dumb. As a computer scientist, he was particularly scornful of theories that held that the human mind was anything like a computer. It's somewhat odd to dedicate my defense of physicalism to him, but these are the only views I have to offer.

1

Experience and Neo-Dualism

. . . the terms “subjective” and “private” . . . in one of their commonly proper and serviceable usages are not to be considered as logically incompatible with “objective” or “public.” . . . Private states in this philosophically quite innocuous sense are then simply central states.

—Herbert Feigl, *The “Mental” and The “Physical”: The Essay and a Postscript*

One way to explain my goal in this little book is to say that I am trying to defend the philosophical coherence of the 1966 Academy Award winning movie *Fantastic Voyage* (Fleischer 1966). In this movie, a very important person has a brain clot, and since it would be a disaster if this person’s brain were damaged in any way, because he knows something very important, the government decides to shrink a team of neurosurgeons until they are extremely small, put them in a very tiny submarine, and inject them into the bloodstream of the very important person. They make their way to the blood clot, destroy it with their miniature laser guns, and, after many adventures, including the destruction of their submarine, wade their way to safety, leaving the body through a tear duct. It is not the philosophical coherence of the main

plot of the movie that I wish to defend. It is simply one remark that a member of the rescue team makes while they are mid-brain. A sort of beautiful blue vapor arises from a certain part of the brain, capturing the attention of the rescuers. Awestruck, Arthur Kennedy says to Raquel Welch, "Look, we are the first to actually see human thoughts," or words to that effect. No one in the boat finds this the least bit odd.

1.1 The Experience Gap Argument

The episode in *Fantastic Voyage* assumes that it is conceivable that one might observe, using one's physical senses, a thought or experience of another. This is a natural view to have, if one thinks, as I do, that our thoughts and experiences are events in our brains. A long and a quite distinguished philosophical tradition finds this view preposterous. Leibniz invited us to imagine that the brain was enlarged to the size of a flour mill, so we could walk inside and see all that was happening. It is obvious, he said, that we would not see anything like a thought or experience (Leibniz 1714). A couple of centuries later, British philosopher A. C. Ewing put the point like this:

Nineteenth-century materialists were . . . inclined to identify thinking, and mental events generally, with processes in the central nervous system or brain. In order to refute such views I shall suggest your trying an experiment. Heat a piece of iron red-hot, then put your hand on it, and note carefully what you feel. You will have no difficulty in observing that it is quite different from anything which a physiologist could observe, [when] he considered your . . . brain processes. The throb of pain experienced will not be . . . like anything described in textbooks of physiology as happening in the nervous system or brain. I do not say that it does not happen in the brain, but it is quite distinct from anything that other people could observe if they looked into your brain. . . . We know by experience

what feeling pain is like and we know by experience what the physiological reactions to it are, and the two are totally unlike . . . the difference is as plainly marked and as much an empirical matter as that between a sight and a sound. The physiological and the mental characteristics may conceivably belong to the same substance . . . but at least they are different in qualities, indeed as different in kind as any two sets of qualities. (Ewing 1962, 110)

In thinking about Ewing's point, I imagine talking to this distinguished philosopher, a fellow of the British Academy and a lecturer at Cambridge, in my backyard in California. "Grab a red-hot coal from your charcoal grill!" he challenges me. "Hold it in your hand and observe carefully the searing unendurable pain that arises in your consciousness. Does that seem anything like a brain state?" I am so sure that he has the empirical facts right that I grant his premises without even performing the experiment. Leibniz and Ewing draw forcefully to our attention the fact that *having* an experience is quite unlike what one supposes *perceiving* a brain state or process would be like; they conclude that experiences and thoughts are not brain states or processes. Can we grant the premise but avoid the conclusion?

If we imagine following Ewing's directions, it goes something like this. We are feeling an intense pain. We focus on that pain and on a certain aspect of it. Not on its cause, nor on the injury it might lead to, but on *what it is like to have it*. This aspect of the experience is sometimes called its "subjective character," and such aspects are sometimes called "qualia." We focus on this aspect of the pain, and as we focus on it we think, "This feeling is . . ." Then we imagine filling in the right-hand side of this identity with any way we can imagine apprehending a brain state. Perhaps we imagine seeing the inside of a brain, as in *Fantastic Voyage*: or we imagine having Herbert Feigl's imaginary instrument, the autocerebroscope,

which allows one to examine one's own brain while using it (Feigl 1967). We focus on a certain state presented to us in one of these ways and think of it as "that brain state." So we think, "This feeling is that brain state." And this strikes us, according to Ewing, as perfectly absurd. Or perhaps we imagine identifying the brain state in some less direct but more probable way, as for example as the state the onset of which corresponds to a sudden blip on the monitor of an instrument. Or perhaps we imagine a label or description of a brain state that we have read about in books or studied in classes: the brain state so-and-so. It will strike us as absurd, according to Ewing, that our thought or supposition, "This feeling is the brain state so-and-so," could be true.

The absurdity will derive from how much the properties we notice—the subjective characters of our experience—differ from the ones that we imagine seeing or reading about. To say that *this*, the feeling I am aware of when I, so to speak, look inward, is *that*, the thing I read about, just seems crazy. This feeling is what I will call the "Ewing intuition," and the argument based on it, the "experience gap argument": *this* could not be a *brain state*, because the gap between what it is like and what brain states are like is simply too large.

1.2 The Dialectic of Identity

A modern philosopher might pause before giving into the Ewing intuition and the experience gap argument, for at least three reasons. First, of course, is the wide acceptance of various forms of physicalism. If everything that goes on in the universe is physical, then my consciousness must be physical, and this feeling must be physical, however odd that may seem. And many smart people think that every-

thing that goes on in the universe is physical. One really ought to hesitate, just on general principles, before rejecting this doctrine.

In addition to this somewhat ideological doubt, two related technical problems about the argument will immediately strike a philosopher. The first is that the candidate thought is an identity, and Frege has taught us all that identity gives rise to difficult problems (Frege 1960). Frege was particularly interested in what it is that informative identity statements convey. If the statement "This sensation is that brain state" is true, it is just such an informative identity statement—not only informative, but at least according to Ewing and Leibniz, absolutely astounding. Philosophers know that the minority of their number who have thought long and hard about the difference between "Tully is Tully" and "Tully is Cicero" have yet to reach agreement on the right thing to say, and that the pages and passions devoted to this problem by analytical philosophers in the twentieth century compare to those devoted to the many problems one might have thought to be both more important and more difficult, like, for example, the existence of God, the basis of personal identity, or the nature of virtue. Philosophers naturally hesitate before accepting any argument, however strong its intuitive pull, that turns on rejecting an identity statement. And of course in this particular case at least one part of the informative identity statement involves a demonstrative, "*this* feeling." Demonstratives and indexicals provide additional puzzles.

Second, not only identity statements, but also the relation of identity itself, presents problems. Identity is simply that relation an object has to itself and to no other; it is the relation that holds between *a* and *b* when there is just one thing that is both *a* and *b*. If *a* and *b* are identical, then they must

share properties, for there is only one thing whose properties are at issue. It seems then that it is a small matter to prove nonidentity; one simply finds a property a has and b does not to show that a is not b . This is just the strategy a defense attorney might follow to show that the defendant was not the criminal. If the attorney can place the defendant in Toledo, say, at a time when the criminal had to be in Dubuque, she should win the case.

At first glance, this makes things look pretty good for the Ewing intuition. The properties that we find in the state of which we are subjectively aware, the feeling of pain, seem quite different than the ones associated with any brain states identified physically. The brain state will involve certain parts of the brain, for example, whereas my feeling of pain seems to be located in my hand insofar as it has a bodily location. The pain is quite intense and unpleasant. But what would make a brain state intense or unpleasant?

At second glance there is a problem, however. It is not enough to show that the properties we discover about a , thought about in one way, are quite different than those we associate with b , thought about in another way. We must show that a clearly lacks a property b has. Somewhat paradoxically, the more unlike a and b seem to be at first glance, the harder this may be to show. In particular, one has to keep in mind a fact that seems at first quite odd. Although the truth of the statement " $a = b$ " requires something pretty important of a and b , it doesn't require much of anything about " a " and " b ," other than that there is a single thing to which they both refer. " a " does not need to be definable in terms of " b ," or to have been introduced in terms of " b ," or to involve properties that supervene on those that " b " involves, or vice versa. In this sense, identity is a very *weak* relation.

Consider, for example, claims that one individual, existing at one time, is the reincarnation of what appears to be another individual, living at another time. The present Dalai Lama, for example, is claimed to be the reincarnation of the previous Dalai Lama, who died some years before the current one was born. Reincarnation is supposed to be a matter of being the same person, the same consciousness, surviving in a different body. Suppose one says, "Well, the fourteenth Dalai Lama is clearly not the thirteenth Dalai Lama, since the thirteenth had many properties the fourteenth does not have. The thirteenth is dead, was born in the nineteenth century, and lived in Tibet his whole life; the fourteenth is alive, was born in the twentieth century, and has lived in China and India as well as in Tibet." To this it can be easily replied, "The fourteenth was also born in the nineteenth century, born then in his previous incarnation. The thirteenth has also lived in India; he has been living there in his present incarnation." Once one accepts the possibility of reincarnation, then one naturally makes some logical distinctions and adds parameters to various empirical predicates. A person lives a certain time *in a certain body*; a person is born at a given time *in a given incarnation*; a person dies *in one incarnation* but is born *in another*, and so forth. Instead of a number of properties that the thirteenth Dalai Lama has and the fourteenth does not, we find more complicated conditions that both Dalai Lamas share, the apparent differences residing in the parameters associated with two different ways of thinking of the same object. "The fourteenth Dalai Lama" is a way of thinking of the Dalai Lama via his present reincarnation, "the thirteenth Dalai Lama" a way of thinking of him via his previous incarnation. We may doubt that looking at things in this way is right, but it is hard to argue that it is inconsistent. The fourteenth Dalai Lama, energetic, robust, and living in

India, strikes us as being quite different, in innumerable ways, from the thirteenth Dalai Lama, a lifelong resident of Tibet, long dead. But a simple appeal to the logic of identity and the properties the Dalai Lamas were observed to have will not suffice to dispose of a doctrine defended by subtle distinctions and explanations accumulated over the centuries of Tibetan Buddhism. One needs to argue the case on more substantive grounds involving the nature of personal identity, what would be required for reincarnation, and the physical basis of memory.

Ewing's statement that the conscious and the physical are as different as sight and sound suggests another more relevant example. Molyneux posed a famous problem to John Locke: if a blind man were suddenly able to see, could he tell, merely by looking, before any experience of correlation, that when he looked at a sphere, he was seeing the same shape with which he was familiar by touch? Locke agreed with Molyneux's conjecture that he could not. That is, the truth of the thought, "This (seen) shape is this (felt) shape," would be a surprising but true identity. What could be more unlike than vision and touch (Locke 1694: bk. I, chap. IX)?

But the analogy is imperfect in an important way. In the Molyneux case we have one property or state of a physical object: sphericity. And we have two sensations, quite unlike. The sensations are not one and the same; it is what they are sensations *of* that is one and the same. Suppose Arthur and Raquel are in my brain having visual sensations of the various things going on there. I have the sensation of pain. The question is not whether their visual sensations and my pain sensation are sensations *of* the same thing. It is rather whether my sensation itself, the pain, is that state, property, or process that their visual sensations are *of*. Is the pain I have the brain state they observe?

The Molyneux problem in fact seems to suggest a dualist view, similar to Ewing's, a double-aspect theory. One thing, a state or process in my brain, has two quite different aspects: its physical aspect, which explains what Arthur and Raquel see and what makes it fit the descriptions of neurophysiologists, and its mental aspect, the sensations that arise in the mind of the person whose brain state it is. As Ewing said, "The physiological and the mental characteristics may conceivably belong to the same substance . . . but at least they are different in qualities, indeed as different in kind as any two sets of qualities" (Ewing 1962, 110). In contemporary debates about dualism, this sort of *property* dualism is usually at issue, and that will be our topic in this book. Can the property of being in a certain brain state be the very same property as that of having a certain sensation? Can this (type of) feeling be identical with this (type of) brain state?

A simple appeal to the logic of identity and the Ewing intuition will not suffice to prove even property dualism. Nor will a simple appeal to the possibility of informative and even surprising but true identities refute it. The question still remains: can we really make sense of the thought that *this feeling*, this aspect of what goes on inside me that makes it a toothache or a headache or the smell of a gardenia or the taste of turnips, is an aspect of my brain that someone else, a miniature Raquel or Arthur, could, in principle, see?

I will argue that we can. The bulk of my argument will be directed against three arguments from contemporary analytical philosophers that I see as sophisticated developments of and variations on the experience gap argument: the zombie argument, the knowledge argument, and the modal argument. I call the position that these arguments support *neo-dualism*.

1.3 The Zombie Argument

The zombie argument, on which I focus in chapter 4, maintains that there is a possible world inhabited by beings that are physically indiscernible from us but are not conscious. It is a key argument of an important recent book by David Chalmers, *The Conscious Mind* (Chalmers 1996). What zombies lack and we have are the subjective characters of our experience, to which Ewing calls our attention. Chalmers uses the term “qualia” and conceives of qualia as a nonphysical, causally impotent layer of brainstate attributes. These attributes of our brain states are not *identical* with any physical attributes of our brain states. And there are no combinations of physical attributes of brain states from which it follows as a matter of logic that they have these nonphysical ones (i.e., qualia *do not logically supervene on physical states of the brain*). Chalmers acknowledges that as a matter of fact, the way the world works, if two brains are physically indiscernible, their states will have the same qualia. But this is a fact of nature, not of metaphysics or logic (i.e., qualia *do naturally supervene on the physical states of the brain*). These qualia are the “what-it-is-like properties.” For us, it is like something to be in pain. It hurts. For zombies in zombie-pain, it is not like anything. There is a state that zombies go into when they cut themselves or stub their toes. This state makes them do the things we do when we are in pain. They curse and jump up and down and hold the injured part. This state functions exactly like our state of pain, but they do not feel what we do; they do not have the conscious experience. Since the zombies are physically exactly like us but have no conscious experiences, having a conscious experience must not be a physical property.

The focus on the what-it-is-like properties in recent debates about physicalism dates from an article by Thomas Nagel, which was largely responsible for rescuing these “subjective characters” from marginalization at the hands of physicalists: “—the fact that an organism has conscious experiences AT ALL means, basically, that there is something it is like to be that organism. . . . We may call this the subjective character of experience” (Nagel 1974, 519; see also Farrell 1950; Feigl 1967, 139–140). Nagel was reacting to various versions of physicalism that seem to ignore subjective characters. This tradition has its roots in a sort of sophisticated logical behaviorism of the 1950s, different versions of which were inspired by the works of Ryle and Wittgenstein. On these views, mental states were something like dispositions to behave. In the 1960s and 1970s, influenced by the ideas of Feigl, Place, and Smart, David Lewis and David Armstrong independently developed an elegant version of the identity theory, which Armstrong dubbed “central-state materialism.” This was a really new proposal in the history of the mind-body problem. The main idea was to accept that mental states were internal states conceived in terms of the ways those who are in them are disposed to behave. Dispositions to behave are grounded by (or perhaps simply are) internal states. So mental states are not behavioral states; rather, they are internal states *known by* the behavior they are apt to cause, or, more generally, by their typical causal role. They are the occupants of causal roles postulated by “folk psychology.” These occupants are, as a matter of fact, brain states.

This theory developed a version of an important idea of Smart’s: that our concept of mental states is “topic-neutral.” That is, folk psychology, everything we need to know to use

our mental concepts to describe and explain our own mental life and that of others, is compatible with the view that mental states are physical or that they are nonphysical but entails neither. We know mental states as the typical effects of certain things and the typical causes of others. Pain is a typical effect of unusual pressures on the surface of the body and a typical cause of crying, complaining, limping, and so forth. It has turned out to be overwhelmingly plausible that this state is, in fact, a physical state of the brain and not, say, a state of some nonextended Cartesian mind or a nonphysical state of brains. The Lewis-Armstrong view explained how we could have topic-neutral concepts of straightforwardly physical states: the concepts were descriptive concepts of the occupants of causal roles. The essential property that makes the state a mental state is a neutral, relational property.

Many philosophers felt that such a causal/functional analysis of our concepts of mental states was basically correct but that something less dramatic than identity would be more plausible as the relation between mental states and brain states. If we suppose that beings with a quite different physical constitution than we—Martians evolved in basically different ways than we, terrestrial animals on a quite different evolutionary branch, robots built of silicon, metal, and plastic, for example—can have mental states, then we will not want to identify those states with the particular physical basis they find in us. The most widely accepted view, by the late 1970s and 1980s, was a weakened form of the identity theory: mental states are in some sense functional states that *supervene* on brain states; that is, any two brains in the same physical states were in the same mental states, but not necessarily vice versa.

Nagel's emphasis on subjective characters was a note of disagreement, or at least worried hesitation, in the midst

of an emerging physicalist consensus. It simply didn't seem credible that subjective characters, or qualia, could be given a functional analysis. And so, it seemed, there was no clear way to conceive of them as being brain states. Nagel's aim seemed less to provide an alternative account of mind than to observe that deep and important puzzles had not yet been solved.

Chalmers, following Block, provides a useful way of looking at this and introduces some terminology I will adopt:

[There are] two quite distinct concepts of mind. The first is the *phenomenal* concept of mind. This is the concept of mind as conscious experience, and of a mental state as a consciously experienced mental state. . . . The second is the *psychological* concept of mind. This is the concept of mind as the causal or explanatory basis for behavior. A state is mental in this sense if it plays the right sort of role in the explanation of behavior. According to the psychological concept, it matters little whether a mental state has a conscious quality or not. What matters is the role it plays in a cognitive economy.

On the phenomenal concept, mind is characterized by the way it *feels*; on the psychological concept, mind is characterized by what it *does*. There should be no question of competition between these two notions of mind. Neither of them is *the* correct analysis of mind. They cover different phenomena, both of which are quite real. (Chalmers 1996, 11; see also Block 1995a; Feigl 1967).

On Chalmers' view, then, the Wittgenstein-Ryle-Smart-Lewis-Armstrong-Fodor functionalist tradition has something right: it has provided increasingly sophisticated treatments of the *psychological* concept of mind. The error is in supposing that the same treatment could be extended to the phenomenal concept or supposing that, if it could not be extended, the phenomenal concept was simply confused. If we accept Chalmers' distinction, then it seems there could be beings who were psychologically like us but phenomenally different. They might have different experiences than we do,

or they might have no experiences at all (e.g., zombies). But the Chalmers zombie argument is supposed to show something further than this possibility. My zombie twin is not simply psychologically like me, in Chalmers' sense. It is also *physically indiscernible* from me. The possibility of such a being would show not only that my zombie twin and I can be psychologically alike while phenomenally different but also that we can be *physically alike* while phenomenally different. I'll argue in chapter 4 that we have no reason to take this extra step and that the zombie argument fails as an argument against physicalism.

As a backup, Chalmers uses a version of the inverted spectrum argument. This is a new use of an old philosophical thought experiment that involves asking oneself how one knows that when another person sees a red object, she has the same kind of sensation—the same thing going on in her mind—as one has in one's own mind when seeing a red object. Couldn't it be that you see what I would call green when you see red objects and associate the word "red" with that sensation?

The thought experiment was originally supposed to show that logical behaviorism was wrong, because there could be a mental difference without a behavioral difference. This use of the argument is neutral on the issue of physicalism and dualism, for a physicalist need not be a logical behaviorist.

Recently Ned Block and others have used basically the same hypothesis as a refutation of functionalism about qualia.¹ The argument is that inverted qualia are possible, with no difference in behavior and also no difference in functional organization. Functional properties cannot distinguish the different subjective characters; hence functionalism is wrong about phenomenal mental states. This is consistent with maintaining, as Block does, that it may be a good theory for intentional states.

Neither of these thought experiments requires that the two subjects whose qualia are inverted relative to one another be in exactly the same physical states, either in the same or in different possible worlds. Chalmers' new use requires that we add this to the thought experiment. We have twins in different possible worlds, physically indiscernible, but with spectra that are inverted relative to one another. He claims that this is clearly possible and that this possibility shows that there could be a mental difference with no physical difference whatsoever. If there can be such a mental difference without a physical difference, then subjective characters are nonphysical aspects of humans. I will argue, however, that the inverted spectrum argument fails for the same reasons that the zombie argument does.

1.4 The Knowledge Argument

In his original article, Nagel more or less formulates an argument that has come to be known as "the knowledge argument." Frank Jackson develops it in a series of articles. In "What Mary Didn't Know" (Jackson 1997), on which I will focus, he considers a person, Mary, who is trapped in a black and white room. There she learns "everything there is to know about the physical nature of the world . . . she knows all the physical facts. . . . It seems, however, that Mary does not know all there is to know. For when she is let out of the black and white room . . . she will learn what it is like to see something red" (Jackson 1997, 567). Since Mary knows all the physical facts and then learns something new, there are more facts than physical facts, and so physicalism is false. That's the knowledge argument.

I accept the premises of the argument but do not think the conclusion follows. Mary does learn something when she steps from the black and white room and sees a ripe tomato

or a fire hydrant. She does learn what it is like to see red, and this is not something she could pick up from the books she has read, even though they included all the physical facts about color and color vision and the related brain states.

The argument turns on the assumption that when we learn something about the world, we do so by coming to believe or know a fact we did not believe or know before. In chapter 5 I will argue that underlying this premise is a confused and oversimple conception of knowledge. And underlying this confusion, I will claim, is a distorted picture of the relation between knowledge and reality, between epistemology and metaphysics. When these issues are worked out, we can see that Mary's new knowledge is no threat to physicalism.

In chapter 6, I'll develop a contrasting picture of knowledge that will allow us to sort out some issues about objectivity and subjectivity. The perspective we gain will deepen our understanding not only of the knowledge argument but also of the zombie argument and ultimately of the experience gap argument of Leibniz and Ewing. Then, in chapter 7, I'll say what Mary learns.

1.5 The Modal Argument

The knowledge argument is an epistemic version of the experience gap argument: the idea of knowledge as a propositional attitude is used to bring out the intuition. We can think of the zombie and inverted spectrum arguments as modal versions of the experience gap argument. The Leibniz-Ewing intuition is bolstered by possible worlds and the concept of supervenience.

But if the contemplated relation between sensations and brain states is identity, as I will advocate, rather than supervenience, there is a simpler modal version of the argument,

due to Kripke, that doesn't involve a world full of zombies or a wholesale shift of qualia (Kripke 1997). It simply involves focusing on one sensation and the brain state that the physicalist claims is identical with it. Kripke argues that if, as the identity theorist claims, the sensation is identical with the brain state or process, then it must be necessarily identical, since if *A* and *B* are in fact one thing, there is no possible world in which they are two things. Kripke claims, however, that even the physicalist admits that the relation between the brain state and the sensation is contingent or at the very least *seems* to be contingent. We can call this "Kripke's contingency." The usual explanation for the sense that an identity is contingent is that we are thinking of the contingent fact that the object in question fits the particular identifying criteria associated with one or the other of the terms. Whereas it is necessary that Hesperus is Phosphorus, it is contingent that Hesperus is seen in the morning, a condition we associate with the name "Phosphorus." Whereas it is necessary that water is H₂O, it is contingent that H₂O is the wet, drinkable stuff that flows in our rivers and falls from the sky, the criteria we associate with "water."

But there is no room for such an explanation of apparent contingency in the case of sensations and brain states. As we might say, in the midst of the Ewing experiment, pain is not something that *happens* to feel like *this*, but does so only contingently and in a different possible world might feel quite different. The relation between being pain and feeling like *this* is not at all like the relation between being H₂O and filling our ponds and lakes. H₂O might not fill that role, and something else might. But having *this* feeling is what it is to be in pain.

Since we cannot explain away Kripke's contingency by appealing to a contingent connection between the sensation and its usual identifying criteria, the simplest explanation

for the feeling of contingency is contingency. But there is no contingent identity. So sensations are not brain states or processes.

In chapter 8 I will use the apparatus built up in the previous chapters to cope with Kripke's argument and a closely related argument used by Chalmers.

1.6 The Plan

My overall strategy will be to try to defend a version of physicalism that adopts our commonsense views about the reality and importance of the subjective character of experience. I call this "antecedent physicalism." I will then argue that the neo-dualist arguments foist upon physicalism doctrines that it need not and should not include. The zombie argument, I will claim, depends on denying the causal efficacy of experience, the commonsense view that our experiences have all sorts of important physical effects. This denial, the doctrine of epiphenomenalism, has no warrant in common sense, and the antecedent physicalist has no reason whatsoever to adopt it. The zombie argument also depends on supposing that subjective characters cannot be identified with physical states but at most *supervene* on them. The antecedent physicalist has no reason to adopt this view either.

With the knowledge argument and the modal arguments, it is helpful to put the debate in the context of Frege's problem about informative identities. It seems common sense that the reason a true thought of the form "*A is B*" might be informative, although "*A is A*" is not, is that the former involves two different ways of thinking of the same object; the information is simply that these *are* two ways of thinking of the same object. There can be two ways of thinking of

properties and states, not only of things. I can think of the color of blood as “the color of blood” or as “red” or, while attending to a red object, as “this color.”

When Mary leaves the Jackson room and sees a red tomato, she is in a position for the first time to think of the color red as “this color” and in a position for the first time to think of the sensation people have when they see red as “this sensation.” Surely, then, her new knowledge ought to be accounted for by this new way of thinking, not by a new object thought about. And similarly, the contingency that one has in mind when one supposes that, say, pain might not be stimulated C-fibers must be explained by the two ways of thinking involved. If the physicalist can explain the knowledge in the one case, and the possibility in the other, by appeal to two ways of thinking of a single state, he ought to be able to block the inference that there must two states, a brain state and a nonphysical state, to account for Mary’s knowledge, or Kripke’s contingency. I’ll call this the “two-ways” strategy.

There is an imposing obstacle to this simple and seemingly straightforward strategy. Mary is *not* thinking about her ways of thinking about color sensations but about the sensations themselves; they are what her new knowledge is about. To find the content of her new knowledge, we seem to require two things, not merely two ways of thinking about one thing, and the physicalist does not have two things to offer. Kripke doesn’t (simply) think that there is a contingent connection between his way of thinking about brain states and his ways of thinking about pain; they are parts of his thought, but not what that thought is about. To get at the contingency, we seem to require two states, not simply two ways of thinking about one state. And this the physicalist cannot provide.

This objection to the two-ways strategy is imposing, but I will claim it is mistaken. At the root of this objection, and at the roots of the knowledge argument and the modal argument, and ultimately at the root of the zombie argument too, is a mistake about the structure of knowledge and possibility, a mistake I call the “subject matter fallacy.” This is the fallacy of supposing that *the* content of a statement or a belief consists in the conditions that the truth of the statement or belief puts on the objects and properties the statement or belief is about. Consider my belief that Hillary Clinton is a resident of New York. The subject matter of this belief is the things and conditions (properties, relations) it is about: Hillary Clinton, the state of New York, and the relation of being a resident of. For the belief to be true, these objects have to meet certain conditions: the first two must bear the third to one another; that is, Hillary Clinton must be a resident of New York. It is quite natural, then, to take the proposition that Hillary Clinton is a resident of New York to be *the* content of the belief. And if my thought were not a belief but merely the entertaining of a possibility, then it would be natural to take the proposition that Hillary Clinton is a resident of New York as the possibility I entertain.

But for certain kinds of thoughts, this is a mistake. Suppose, for example, that Hillary Clinton has the thought that she would express with “I am a resident of New York.” The subject matter content of this thought is the very same proposition, that Hillary Clinton is a resident of New York, for when Hillary Clinton thinks “I” she thinks about herself, and when she says “I” she refers to herself. But that content of the statement or thought does not get at a very special aspect of it: the fact that it is the sort of thought one has about oneself. To get at that aspect, we need to bring in, in addition to the subject matter content, what I call the “reflexive

contents" of the thoughts or statements. These contents are *not* merely conditions on the subject matter but conditions on the utterances or thoughts *themselves*. Hillary's statement *S*, "I am a resident of New York," can be true only if *S itself* is spoken by a resident of New York. Hillary's thought *T*, which she expresses with this statement, can be true only if the thinker of *T itself* is a resident of New York.

Not only for thoughts about oneself or statements that use indexicals do we need to appeal to reflexive contents, however. We also need to appeal to reflexive contents whenever we want to understand how thoughts connect with perception and action. All three arguments depend on real and robust intuitions about what might be the case or what someone might know. A philosophy that is wedded to the subject matter assumption can find these possibilities only in a world with some extra subject matter, and that extra subject matter is what dualism provides. The subject matter assumption has vague connections with some varieties of objectivity. I shall argue, however, that it is not entailed by any kind of objectivity to which physicalists ought to be committed.

I will argue, then, that two of our three arguments derive what power they have from trying to make a subject matter content do the work of a reflexive content. I'll try simply to give the flavor of my argument here. Consider the knowledge argument. Mary has a thought that she would express with "This is what it is like to see red." This statement expresses new knowledge. Can a physicalist, someone who believes, let's say, that the subjective feel of Mary's brain state is a certain neurological property—let's call it " B_{52} "—account for this new knowledge?

The new knowledge should correspond to the content of the statement that expresses it. The subject matter content

of this statement, according to the physicalist, will simply be that B_{52} (the referent of "this sensation") is the subjective character of the state people are in when they see red. But this knowledge can't be what Mary learned. This knowledge does not require the experience of seeing red; in fact, it is something she should have already known from her studies in the Jackson room. The physicalist has a dilemma: either deny that Mary has new knowledge or accept that the new knowledge involves a new bit of subject matter, a nonphysical aspect of her brain state, about which she knew nothing in her black and white room.

The problem, as I diagnose it, is that Mary's new knowledge cannot be identified with the subject matter content of the statement with which she expresses it, nor with the subject matter content of the thought with which she thinks it. Mary's new epistemic state, the one she expresses with "This is what it is like to see red," is of a certain type. States of this type are true only if the aspect of brain states to which their possessors attend is the aspect of brain states that normal people have in normal conditions when they see red. That is the reflexive content of her thought, and that is her new knowledge.

I will argue that we cannot account for certain kinds of knowledge and certain kinds of conception if we confine ourselves to subject matter contents. The neo-dualists' arguments each use this fact as a motivation for countenancing a nonphysical property, which will allow us to identify the thing known or conceived. The key is not to confine ourselves to subject matter contents.

That, then, is a glimpse of my strategy. The strategy will, I hope, appear more promising to the reader as the argument unfolds than it may at this point. The plan, then, is this. In the next two chapters, I will explain antecedent physicalism.

First I'll say what I mean by physicalism. Then I'll develop what I take to be a (fairly) commonsense view about subjective characters and consciousness. I will end by listing some metaphysical and epistemological doctrines to avoid: epiphenomenalism, misplaced functionalism, and the doctrine of subject matter. These are not part of antecedent physicalism and are in fact not very plausible. Then I will argue in chapters that follow that the zombie argument, the knowledge argument, and the modal argument pose no threat to antecedent physicalism; the illusion that they do is based on the mistaken view that physicalism entails the discarded doctrines. This mistaken view is itself hidden by inadequate but widely accepted conceptions of the structure of knowledge and possibility.

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