

# The Blackwell Guide to Philosophy of Mind

*Edited by*

*Stephen P. Stich and Ted A. Warfield*



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Philosophy of Mind

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# Introduction

This volume is another in the series of Blackwell Philosophy Guides.<sup>1</sup> It contains 16 new essays covering a wide range of issues in contemporary philosophy of mind. Authors were invited to provide opinionated overviews of their topic and to cover the topic in any way they saw fit. This allowed them the freedom to make individual scholarly contributions to the issues under discussion, while simultaneously introducing their assigned topic. I hope that the finished product proves suitable for use in philosophy of mind courses at various levels. The volume should be a good resource for specialists and non-specialists seeking overviews of central issues in contemporary philosophy of mind. In this brief introduction I will try to explain some of the reasons why philosophy of mind seems to be such an important sub-field of philosophy. I will also explain my view of the source of the great diversity one finds within philosophy of mind. This discussion will lead to some commentary on methodological issues facing philosophers of mind and philosophers generally.<sup>2</sup>

Few philosophers would disagree with the claim that philosophy of mind is one of the most active and important sub-fields in contemporary philosophy. Philosophy of mind seems to have held this status since at least the late 1970s. Many would make and defend the stronger claim that philosophy of mind is unequivocally *the* most important sub-field in contemporary philosophy. Its status can be attributed to at least two related factors: the importance of the subject matter and the diversity of the field.

Mental phenomena are certainly of great importance in most, if not all, human activities. Our hopes, dreams, fears, thoughts, and desires, to give just some examples, all figure in the most important parts of our lives. Some maintain that mentality is essential to human nature: that at least some sort of mental life is necessary for being human or for being fully human. Others maintain that specific features of human mentality (perhaps human rationality) distinguish humans from other creatures with minds. Whether or not these ambitious claims are correct, the mental is at least of great importance to our lives. Who would deny that

thoughts, emotions, and other mental phenomena are centrally involved in almost everything important about us? This obvious truth only partly explains the importance of philosophy of mind. The size and diversity of the field also deserve some credit for this standing.<sup>3</sup>

A quick glance at this volume's table of contents will give some indication of the breadth of the field.<sup>4</sup> In addition to essays on topics central to contemporary philosophy of mind, such as mental content, mental causation, and consciousness, we find essays connecting the philosophy of mind with broadly empirical work of various kinds. This empirically oriented work covers areas in which philosophers make contact with broad empirical psychological work on, for example, the emotions and concepts. The intersections of philosophy with both neuroscience and artificial intelligence are also topics of serious contemporary interest. In contrast to this empirically oriented work, we also see essays on traditional philosophical topics such as the mind-body problem, personal identity, and freedom of the will. These topics (especially the latter two) are often classified as a part of contemporary metaphysics but they are, traditionally, a part of philosophy of mind and so they are included in this volume.

Despite these initial classifications of work as either "traditional" or "empirically oriented," one should not assume that this distinction marks a sharp divide. It is possible to work on traditional topics while being sensitive to relevant empirical work; and making use of traditional philosophical tools, such as some kind of conceptual analysis, is probably *necessary* when doing empirically oriented philosophy of mind. What one finds in the field are not perfectly precise methodological divisions. Rather, one finds differences in the degree to which various philosophers believe empirical work is relevant to philosophy of mind and differences in the degree to which philosophers try to avoid traditional philosophical analysis.<sup>5</sup>

The breadth and diversity of philosophy of mind is not fully captured in a survey of topics arising in the field and in highlighting different approaches that are taken to those projects. In addition to a wide range of topics and different approaches to these topics, we also find a somewhat surprising list of different explanatory targets within this field. A philosopher doing philosophy of mind might be primarily interested in understanding or explaining the *human* mind or, more modestly, some features of the human mind. Alternatively, one might be interested in examining the broader abstract nature of "mentality" or "mindedness" (human or otherwise). One might also focus on *our concept* of the human mind, or *our concept* of minds generally, with or without any particular view of how our concept of these things relates to the reality of the subject matter.<sup>6</sup> These different possible targets of inquiry at least appear to lead to very different kinds of questions. Despite the apparent differences, however, this large variety of project falls quite comfortably under the umbrella heading of "philosophy of mind."

The diversity of philosophy of mind becomes even clearer when one realizes that one can mix and match the various targets of inquiry and the different methodologies. One might be interested in a largely empirical inquiry into our concept of the human mind. Alternatively, one might be interested in a broadly

conceptual inquiry into the exact same subject matter. The different methodologies (and again, recall that these differences are best thought of as differences of degree not kind) can also be applied in investigations of the nature of the human mind or the nature of mentality.

We might expect methodological disputes to break out as philosophers take different approaches to different topics within philosophy of mind. For example, those favoring traditional a priori methodology might challenge empirically oriented philosophers who claim to reach conclusions about the nature of the human mind primarily through empirical work to explain how they bridge the apparent gap between the way human minds are and the way they must be. Similarly, empirically oriented philosophers of mind might challenge those favoring a priori methods to explain why they think such methods can reach conclusions about anything other than the concepts of those doing the analysis. Why, for example, should we think that an analysis of our concept of the mind is going to reveal anything about the mind? Perhaps, the criticism might continue, our concept of mind does not accurately reflect the nature of the mind. Unfortunately and surprisingly, however, discussions of these methodological issues are not common.<sup>7</sup> Fortunately these and related methodological issues also arise in other areas of philosophy, and there seems to be a growing interest in understanding and commenting upon various approaches to philosophical inquiry inside and outside of philosophy of mind.<sup>8</sup>

Contributors to this volume were not asked to comment on methodological issues in philosophy of mind. They were simply invited to introduce and discuss their assigned topic in whatever way they saw fit, using whatever methodology they chose to bring to the task. In addition to thinking about the first-order philosophical issues under discussion in these outstanding essays, readers are invited to reflect on the methodological and metaphilosophical issues relevant to the discussions. Perhaps such reflection will help us better understand some or all of the topics we encounter in the philosophy of mind.

Ted A. Warfield

### Notes

- 1 A volume of this sort does not come together easily. I thank the contributors for their varying degrees of patience and support as we confronted difficulties at various stages of this project. I especially thank my co-editor for his unwavering support and guidance. For helpful discussion of some of the issues arising in this brief introduction, I thank my colleagues Leopold Stubenberg and William Ramsey. I do not thank my employer, the University of Notre Dame, though it did kindly allow me the use of a computer and printer while at work on this project.
- 2 The volume contains two distinct opening essays on the mind–body problem. In introducing the volume, I resist the temptation to write a third such essay and instead focus on a few organizational and methodological issues.

- 3 These partial explanations together still do not fully explain the status of philosophy of mind within contemporary philosophy. Ethics, for example, is tremendously important and is also a large and diverse field. I am unable to fully explain the status of philosophy of mind. Though now a bit dated, Tyler Burge's important essay "Philosophy of Language and Mind: 1950–1990" (*Philosophical Review*, 101 (1992), pp. 3–51) contains some helpful ideas about this matter.
- 4 But no one volume could really cover this entire field. One helpful additional resource, a good supplemental resource to this volume, is *The Blackwell Companion to Philosophy of Mind*, edited by Samuel Guttenplan (Blackwell, 1994).
- 5 The same philosopher might even take different general methodological approaches to different problems or even to the same problem at different times.
- 6 One can easily imagine how one might conclude, for example, that our concept of mind is in some sense a "dualistic" concept, but not think it follows from this that dualism is the correct position on the mind–body problem.
- 7 Some recent debates about consciousness have included, at a very high level of sophistication, some methodological discussion along these lines (see, for example, David J. Chalmers and Frank Jackson's "Conceptual Analysis and Reductive Explanation," *Philosophical Review*, 110 (2001), 315–60).
- 8 Anyone wishing to explore these issues could profitably begin with Michael R. DePaul and William Ramsey (eds.), *Rethinking Intuition* (Rowman and Littlefield, 1998).

# The Mind–Body Problem: An Overview

*Kirk Ludwig*

*I have said that the soul is not more than the body,  
And I have said that the body is not more than the soul,  
And nothing, not God, is greater to one than one's self is.*  
Walt Whitman

## 1.1 Introduction

Understanding the place of thought and feeling in the natural world is central to that general comprehension of nature, as well as that special self-understanding, which are the primary goals of science and philosophy. The general form of the project, which has exercised scientists and philosophers since the ancient world, is given by the question, ‘What is the relation, in general, between mental and physical phenomena?’ There is no settled agreement on the correct answer. This is the single most important gap in our understanding of the natural world. The trouble is that the question presents us with a problem: each *possible* answer to it has consequences that appear unacceptable. This problem has traditionally gone under the heading ‘The Mind–Body Problem.’<sup>1</sup> My primary aim in this chapter is to explain in what this traditional mind–body problem consists, what its possible solutions are, and what obstacles lie in the way of a resolution.

The discussion will develop in two phases. The first phase, sections 1.2–1.4, will be concerned to get clearer about the import of our initial question as a precondition of developing an account of possible responses to it. The second phase, sections 1.5–1.6, explains how a problem arises in our attempts to answer the question we have characterized, and surveys the various solutions that can be and have been offered.

More specifically, sections 1.2–1.4 are concerned with how to understand the basic elements of our initial question – how we should identify the mental, on the

one hand, and the physical, on the other – and with what sorts of relations between them we are concerned. Section 1.2 identifies and explains the two traditional marks of the mental, consciousness and intentionality, and discusses how they are related. Section 1.3 gives an account of how we should understand ‘physical’ in our initial question so as not to foreclose any of the traditional positions on the mind–body problem. Section 1.4 then addresses the third element in our initial question, mapping out the basic sorts of relations that may hold between mental and physical phenomena, and identifying some for special attention.

Sections 1.5–1.6 are concerned with explaining the source of the difficulty in answering our initial question, and the kinds of solutions that have been offered to it. Section 1.5 explains why our initial question gives rise to a problem, and gives a precise form to the mind–body problem, which is presented as a set of four propositions, each of which, when presented independently, seems compelling, but which are jointly inconsistent. Section 1.6 classifies responses to the mind–body problem on the basis of which of the propositions in our inconsistent set they reject, and provides a brief overview of the main varieties in each category, together with some of the difficulties that arise for each. Section 1.7 is a brief conclusion about the source of our difficulties in understanding the place of mind in the natural world.<sup>2</sup>

## 1.2 Marks of the Mental

The suggestion that consciousness is a mark of the mental traces back at least to Descartes.<sup>3</sup> Consciousness is the most salient feature of our mental lives. As William James put it, “The first and foremost concrete fact which every one will affirm to belong to his inner experience is the fact that *consciousness of some sort goes on*” (James 1910: 71). A state or event (a change of state of an object<sup>4</sup>) is mental, on this view, if it is *conscious*. States, in turn, are individuated by the properties the having of which by objects constitutes their being in them.

Identifying consciousness as a mark of the mental only pushes our question one step back. We must now say what it is for something to be conscious. This is not easy to do. There are two immediate difficulties. First, in G. E. Moore’s words, “the moment we try to fix our attention upon consciousness and to see *what*, distinctly, it is, it seems to vanish: it seems as if we had before us a mere emptiness . . . as if it were diaphanous” (1903: 25). Second, it is not clear that consciousness, even if we get a fix on it, is understandable in other terms. To say something substantive about it is to say something contentious as well. For present purposes, however, it will be enough to indicate what we are interested in in a way that everyone will be able to agree upon. What I say now then is not intended to provide an analysis of consciousness, but rather to draw attention to, and to describe, the phenomenon, in much the same way a naturalist would draw attention to a certain species of insect or plant by pointing one out, or describing



conditions under which it is observed, and describing its features, features which anyone in an appropriate position can himself confirm to be features of it.

First, then, *we* are conscious when we are awake rather than in dreamless sleep, and, in sleep, *when* we dream. When we are conscious, we have conscious states, which we can discriminate, and remember as well as forget. Each conscious mental state is a mode, or way, of being conscious. Knowledge of our conscious mental states, even when connected in perceptual experiences with knowledge of the world, is yet distinct from it, as is shown by the possibility of indistinguishable yet non-veridical perceptual experiences. Conscious mental states include paradigmatically perceptual experiences, somatic sensations, proprioception, pains and itches, feeling sad or angry, or hunger or thirst, and occurrent thoughts and desires. In Thomas Nagel’s evocative phrase, an organism has conscious mental states if and only if “there is something it is like to be that organism” (1979b: 166). There is, in contrast, nothing it is like in the relevant sense, it is usually thought, to be a toenail, or a chair, or a blade of grass.

In trying to capture the kinds of discrimination we make between modes of consciousness (or ways of being conscious), it is said that conscious states have a phenomenal or qualitative character; the phenomenal qualities of conscious mental states are often called ‘qualia’. Sometimes qualia are reified and treated as if they were objects of awareness in the way tables and chairs are objects of perception. But this is a mistake. When one is aware of one’s own conscious mental states or their phenomenal qualities, the only object in question is oneself: what one is aware of is a particular modification of that object, a way it is conscious. Similarly, when we see a red apple, we see just the apple, and not the redness as another thing alongside it: rather, we represent the apple we see *as* red.

A striking feature of our conscious mental states is that we have non-inferential knowledge of them. When we are conscious, we know that we are, and we know *how* we are conscious, that is, our modes of consciousness, but we do not infer, when we are conscious, that we are, or how we are, from anything of which we are more directly aware, or know independently.<sup>5</sup> It is notoriously difficult to say what this kind of non-inferential knowledge comes to. It is difficult to see how to separate it from what we think of as the qualitative character of conscious mental states.<sup>6</sup> Arguably this “first-person” knowledge is *sui generis*. There is a related *asymmetry* in our relation to our own and others’ conscious mental states. We do not have to *infer* that we are conscious, but others must do so, typically from our behavior, and cannot know non-inferentially. Others have, at best, “third-person” knowledge of our mental states. These special features of conscious states are connected with some of the puzzles that arise from the attempt to answer our opening question. Consciousness has often been seen as the central mystery in the mind–body problem, and the primary obstacle to an adequate physicalist understanding of the mental.<sup>7</sup>

The other traditional mark of the mental, first articulated clearly by Franz Brentano (1955 [1874], bk 2, ch. 1), is called ‘intentionality’.<sup>8</sup> The adjectival form is ‘intentional’. But this is a technical term, and does not just involve those

states that in English are called ‘intentions’ (such as my intention to have another cup of coffee). Intentionality, rather, is the feature of a state or event that makes it *about* or *directed at* something. The best way to make this clearer is to give some examples. Unlike the chair that I am sitting in as I write, I have various beliefs *about* myself, my surroundings, and my past and future. I believe that I will have another cup of coffee before the day is out. My chair has no corresponding belief, nor any other. Beliefs are paradigmatically intentional states. They represent the world as being a certain way. They can be true or false. This is their particular form of *satisfaction* condition. In John Searle’s apt phrase, they have mind-to-world direction of fit (1983: ch. 1). They are supposed to fit the world. Any state with mind-to-world direction of fit, any representational state, or attitude, is an intentional state (in the technical sense). False beliefs are just as much intentional states as true ones, even if there is nothing in the world for them to be about of the sort they represent. I can think *about* unicorns, though there are none. The representation can exist without what it represents. It is this sense of ‘aboutness’ or ‘directedness’ that is at issue in thinking about intentionality.

There are intentional states with mind-to-world direction of fit in addition to beliefs, such as expectations, suppositions, convictions, opinions, doubts, and so on. Not all intentional states have mind-to-world direction of fit, however. Another important class is exemplified by desires or wants. I believe I will, but also want to have another cup of coffee soon. This desire is also directed at or about the world, and even more obviously than in the case of belief, there need not be anything in the world corresponding. But in contrast to belief, its aim is not to get its content (that I have another cup of coffee soon) to match the world, but *to get the world to match its content*. It has world-to-mind direction of fit. A desire may be satisfied or fail to be satisfied, just as a belief can be true or false. This is its particular form of satisfaction condition. Any state with world-to-mind direction of fit is likewise an intentional state.

Clearly there can be something in common between beliefs and desires. I believe that *I will have another cup of coffee soon*, and I desire that *I will have another cup of coffee soon*. These have in common their content, and it is in virtue of their content that each is an intentional state. (Elements in common between contents, which would be expressed using a general term, are typically called ‘concepts’; thus, the concept of *coffee* is said to be a constituent of the content of the belief *that coffee is a beverage* and of the belief *that coffee contains caffeine*.) The content in each matches or fails to match the world. The difference between beliefs and desires lies in their role in our mental economy: whether their purpose is to change so that their content matches the world (beliefs) or to get the world to change to match their content (desires). States like these with contents that we can express using sentences are called ‘propositional attitudes’ (a term introduced by Bertrand Russell, after the supposed objects of the attitudes, propositions, named or denoted by phrases of the form ‘that *p*’, where ‘*p*’ is replaced by a sentence). Propositional attitudes are individuated by their psychological mode (belief, supposition, doubt, desire, aspiration, etc.) and content. States with world-to-mind direction of fit are

*pro* or, if negative, *con attitudes*. There are many varieties besides desires and wants, such as hopes, fears, likes, dislikes, and so on.

It is not clear that all representational content is fully propositional. Our perceptual experiences, e.g., our visual, auditory, and tactile experiences, represent our environments as being a certain way. They can be *veridical* (correctly represent) or *non-veridical* (incorrectly represent), as beliefs can be true or false. They have mind-to-world direction of fit, hence, representational contents, and intentionality. But it is not clear that all that they represent could be captured propositionally. Attitudes and perceptual experiences might be said to be different currencies for which there is no precise standard of exchange.

Can there be states directed at or about something which do not have full contents? Someone could have a fear of spiders without having any desires directed at particular spiders, though the fear is in a sense directed at or about spiders. Yet a fear of spiders does entail a desire to avoid contact with, or proximity to, spiders: and it is this together with a particular emotional aura which thinking of or perceiving spiders evokes which we think of as the fear of spiders. In any case, we will call this class of states intentional states as well, though their intentionality seems to be grounded in the intentionality of representational, or *pro* or *con* attitudes, which underlie them, or, as we can say, on which they depend.

We may, then, say that an intentional state is a state with a content (in the sense we've characterized) or which depends (in the sense just indicated) on such a state.<sup>9</sup>

A state then is a mental state (or event) if and only if (iff) it is either a conscious or an intentional state (or event). An object is a thinking thing iff it has mental states.

What is the relation between conscious states and intentional states? If the two sorts are independent, then our initial question breaks down into two subquestions, one about the relation of consciousness, and one about that of intentionality, to the physical. If the two sorts are not independent of one another, any answer to the general question must tackle both subquestions at once.

Some intentional states are clearly not conscious states. Your belief that Australia lies in the Antipodes was not a conscious belief (or an *occurrent* belief) just a moment ago. You were not *thinking* that, though you believed it. It was a *dispositional*, as opposed to an *occurrent*, belief. The distinction generalizes to all attitude types. A desire can be *occurrent*, my present desire for a cup of coffee, for example, or *dispositional*, my desire to buy a certain book when I am not thinking about it.<sup>10</sup> This does not, however, settle the question whether intentional and conscious mental states are independent. It may be a necessary condition on our conceiving of dispositional mental states as intentional attitudes that among their manifestation properties are *occurrent* attitudes with the same mode and content. In this case, the strategy of *divide and conquer* will be unavailable: we will not be able to separate the projects of understanding the intentional and the conscious, and proceed to tackle each independently.<sup>11</sup>

Some conscious mental states seem to lack intentionality, for example, certain episodes of euphoria or anxiety. Though typically caused by our beliefs and

desires, it is not clear that they are themselves about anything. Likewise, somatic sensations such as itches and pains seem to have non-representational elements. Typically somatic sensations represent something's occurring in one's body. A headache is represented as in the head, a toe ache as in the toe. But the quality of pain itself, though it be taken to be a biological indicator of, say, damage to the body, in the way that smoke indicates combustion, seems not to have any associated representational content. Pain does not *represent* (as opposed to indicate) damage. And, though we usually wish pain we experience to cease, the desire that one's pain cease, which has representational content, is not the pain itself, any more than a desire for a larger house is itself a house.<sup>12</sup>

### 1.3 The Physical

Characterizing physical phenomena in a way that captures the intention of our initial question is not as easy as it may appear. We cannot say that physical phenomena consist in what our current physics talks about. Physical theory changes constantly; current physical theory may undergo radical revision, as past physical theory has. The mind-body problem doesn't change with passing physical theory. There are at least three other options.

The first is to characterize physical phenomena as what the ultimately correct physical theory talks about, where we think of physical theory as the theory that tells us about the basic constituents of things and their properties. The second is to treat physical phenomena as by definition non-mental. There are reasons to think that neither of these captures the sense of our initial question.

One response to the mind-body problem is that the basic constituents of things have irreducible mental properties. On the first interpretation, such a position would be classified as a version of physicalism (we will give a precise characterization of this at the end of section 1.4), since it holds that mental properties are, in the relevant sense, physical properties. But this position, that the basic constituents of things have irreducible mental properties, is usually thought to be incompatible with physicalism.

The second interpretation in its turn does not leave open the option of seeing mental phenomena as conceptually reducible to physical phenomena. If the physical is non-mental *per se*, then showing that mental properties are really properties that fall in category *F* would just show that a subcategory of properties in category *F* were not physical properties. But we want the terms in which our initial question is stated to leave it open whether mental properties are conceptually reducible to physical properties. (We will return to what this could come to below.)

A third option is to take physical phenomena to be of a general type exemplified by our current physics. Here we would aim to characterize a class of properties that subsumes those appealed to by past and current physical theories, from the scientific revolution to the present, but which is broad enough to cover properties appealed

to in any extension of our current approach to explaining the dynamics of material objects. This interpretation leaves open the options foreclosed by our first two interpretations, and comports well with the development of concerns about the relation of mental to physical phenomena from the early modern period to the present. It is not easy to say how to characterize the intended class of properties. The core conception of them is given by those qualities classed as *primary qualities* in the seventeenth and eighteenth centuries: size, shape, motion, number, solidity, texture, logical constructions of these, and properties characterized essentially in terms of their *effects* on these (mass and charge, e.g., arguably fall in the last category).<sup>13</sup> It is not clear that this is adequate to cover everything we might wish to include. But it is fair to say that, typically, philosophers have in mind this conception of the physical in posing the question we began with, without having a detailed conception of how to delineate the relevant class of properties.<sup>14</sup>

## 1.4 Mind–Body Relations

The question of the relation between the mental and the physical can be posed equivalently as about mental and physical properties, concepts, or predicates. A property is a feature of an object, such as being round, or being three feet from the earth’s surface. A concept, as we have said, is a common element in different thought contents expressed by a general term. We deploy concepts in thinking about a thing’s properties. So, corresponding to the property of being round is the concept of being round, or of roundness. When I think that this ball is round, and so think of it as having the property of being round, I have a thought that involves the concept of being round. I am said to bring the ball under the concept of roundness. Predicates express concepts, and are used to attribute properties to objects.<sup>15</sup> Thus, ‘is round’ expresses (in English) the concept of roundness, and is used to attribute the property of being round. We may say it picks out that property. For every property there is a unique concept that is about it, and vice versa. More than one predicate can express the same concept, and pick out the same property, but then they must be synonymous.<sup>16</sup> Corresponding to each property category (mental or physical, e.g.) is a category of concepts and predicates. Thus, any question we ask about the relation of mental and physical properties can be recast as about concepts or predicates, and vice versa.

The basic options in thinking about the relation of mental and physical properties can be explained in terms of the following three sentence forms, where ‘is *M*’ represents a mental predicate, and ‘is *P*’ represents a physical predicate (this is generalizable straightforwardly to relational terms).

- [A] For all  $x$ , if  $x$  is  $P$ , then  $x$  is  $M$
- [B] For all  $x$ , if  $x$  is  $M$ , then  $x$  is  $P$
- [C] For all  $x$ ,  $x$  is  $M$  if and only if (iff)  $x$  is  $P$

Though [C] is equivalent to the conjunction of [A] and [B], it will be useful to state it separately. The relation of the mental to the physical is determined by which instances of [A]–[C] are true or false, and on what grounds. One could hold each to be necessarily true or necessarily false, in one of three senses of “necessity”: conceptual, metaphysical (*so-called*), and nomological.

Two notions that figure prominently in discussions of the mind–body problem can be characterized in this framework. The first is that of reduction, and the second that of supervenience. Each can be conceptual, metaphysical, or nomological. I begin with conceptual reduction and supervenience.

Conceptual necessities are truths grounded in the concepts used to express them. This is the strongest sort of necessity. What is conceptually necessary is so in every metaphysically and nomologically possible world, though not vice versa. Knowledge of conceptual truths can be obtained from reflection on the concepts involved, and need not rest on experience (traditionally, knowledge of one’s own conscious mental states is counted as experiential knowledge). They are thus said to be knowable a priori. Knowledge obtained in this way is a priori knowledge. A proposition known on the basis of experience is known a posteriori, or empirically. Knowledge so based is a posteriori or empirical knowledge. Conceptual truths are not refutable by the contents of any experiences. A sentence expressing (in a language *L*) a conceptual truth is *analytically true (in L)*, or, equivalently, *analytic (in L)* (henceforth I omit the relativization). A sentence is analytic iff its truth is entailed by true meaning-statements about its constituents.<sup>17</sup> For example, ‘None of the inhabitants of Dublin resides elsewhere’, or ‘There is no greatest prime number’ would typically be regarded as analytic.<sup>18</sup>

Conceptual reduction of mental to physical properties, or vice versa, is the strongest connection that can obtain between them. (We say equivalently, in this case, that mental concepts/predicates can be analyzed in terms of physical concepts/predicates, or vice versa.) If a mental property is conceptually reducible to a physical property, then two conditions are met: (a) the instance of [C], in which ‘is *M*’ is replaced by a predicate that picks out the mental property, and ‘is *P*’ by a (possibly complex) predicate that picks out the physical property, is conceptually necessary, and (b) the concepts expressed by ‘is *P*’ are conceptually prior to those expressed by ‘is *M*’, which is to say that we have to have the concepts expressed by ‘is *P*’ in order to understand those expressed by ‘is *M*’, but not vice versa (think of the order in which we construct geometrical concepts as an example). The second clause gives content to the idea that we have effected a reduction, for it requires the physical concepts to be more basic than the mental concepts. A conceptual reduction of a mental property to a physical property shows the mental property to be a species of physical property. This amounts to the identification of a mental property with a physical property. Similarly for the reduction of a physical property to a mental property.

One could hold that instances of [C] were conceptually necessary without holding that either the mental or the physical was conceptually reducible to the other. In this case, their necessary correlation would be explained by appeal to another set

of concepts neither physical nor mental, in terms of which each could be understood. For example, it is conceptually necessary that every triangle is a trilateral, but neither of these notions provides a conceptual reduction of the other.

‘Supervenience’ is a term of art used in much current philosophical literature on the mind–body problem. It may be doubted that it is needed in order to discuss the mind–body problem, but given its current widespread use, no contemporary survey of the mind–body problem should omit its mention. A variety of related notions has been expressed using it. Though varying in strength among themselves, they are generally intended to express theses weaker than reductionism, invoking only sufficiency conditions, rather than conditions that are both necessary and sufficient.<sup>19</sup> Supervenience claims are not supposed to provide explanations, but rather to place constraints on the *form* of an explanation of one sort of properties in terms of another. I introduce here a definition of one family of properties supervening on another, which will be useful for formulating a position we will call ‘physicalism’, and which will be useful later in our discussion of a position on the relation of mental to physical properties known as ‘functionalism’. I begin with ‘conceptual supervenience’.

*F*-properties *conceptually supervene* on *G*-properties iff for any *x*, if *x* has a property *f* from *F*, then there is a property *g* from *G*, such that *x* has *g* and it is *conceptually necessary* that if *x* has *g*, then *x* has *f*.<sup>20</sup>

Conceptual reduction of one family of properties to another implies mutual conceptual supervenience. But the supervenience of one family of properties on another does not imply their reducibility to them.

I will characterize ‘physicalism’ as the position according to which, *whatever mental properties objects have, they conceptually supervene on the physical properties objects have, and whatever psychological laws there are, the physical laws entail them*.<sup>21</sup> This allows someone who thinks that nothing has mental properties, and that there are no mental laws, to count as a physicalist, whatever his view about the conceptual relations between mental and physical properties.<sup>22</sup> The definition here is stipulative, though it is intended to track a widespread (though not universal) usage in the philosophical literature on the mind–body problem.<sup>23</sup> The question whether physicalism is true, so understood, marks a fundamental divide in positions on the mind–body problem.

Nomological necessity we can explain in terms of conceptual necessity and the notion of a natural law. A statement that *p* is nomologically necessary iff it is conceptually necessary that if *L*, it is the case that *p*, where “*L*” stands in for a sentence expressing all the laws of nature, whether physical or not (adding “boundary conditions” to “*L*” yields more restrictive notions). I offer only a negative characterization of metaphysical necessity, which has received considerable attention in contemporary discussion of the mind–body problem. I will argue in section 1.6 that no concept corresponds to the expression “metaphysical necessity” in these contexts, despite its widespread use. For now, we can say that metaphysical



necessity is supposed to be of a sort that cannot be discovered a priori, but which is stronger than nomological necessity, and weaker than conceptual necessity. To obtain corresponding notions of *metaphysical* and *nomological* supervenience, we substitute ‘metaphysically’ or ‘nomologically’ for ‘conceptually’ in our characterization above.

Metaphysical and nomological reduction require that biconditionals of the form [C] are metaphysically or nomologically necessary (but nothing stronger), respectively. But reduction is asymmetric. So we must also give a sense to the idea that one side of the biconditional expresses properties that are more basic. In practice, the question is how to make sense of the asymmetry for metaphysical or nomological reduction of the mental to the physical. There is nothing in the case of metaphysical or nomological necessity that corresponds to conceptual priority. It looks as if the best we can do is to ground the desired asymmetry in physical properties being basic in our general explanatory scheme. This is usually understood to mean that the physical constitutes an explanatorily closed system, while the mental does not. This means that every event can be explained by invoking physical antecedents, but not by invoking mental antecedents.

## 1.5 The Mind–Body Problem

A philosophical problem is a knot in our thinking about some fundamental matter that we have difficulty unraveling. Usually, this involves conceptual issues that are particularly difficult to sort through. Because philosophical problems involve foundational issues, how we resolve them has significant import for our understanding of an entire field of inquiry. Often, a philosophical problem can be presented as a set of propositions all of which seem true on an initial survey, or for all of which there are powerful reasons, but which are jointly inconsistent. This is the form in which the problem of freedom of the will and skepticism about the external world present themselves. It is a significant advance if we can put a problem in this way. For the ways in which consistency can be restored to our views determines the logical space of solutions to it. The mind–body problem can be posed in this way. Historical and contemporary positions on the relation of the mental to the physical can then be classified in terms of which of the propositions they choose to reject to restore consistency.

The problem arises from the appeal of the following four theses.

- 1 *Realism*. Some things have mental properties.
- 2 *Conceptual autonomy*. Mental properties are not conceptually reducible to non-mental properties, and, consequently, no non-mental proposition entails any mental proposition.<sup>24</sup>
- 3 *Constituent explanatory sufficiency*. A complete description of a thing in terms of its basic constituents, their non-relational properties,<sup>25</sup> and relations to



one another<sup>26</sup> and to other basic constituents of things, similarly described (the constituent description) entails a complete description of it, i.e., an account of all of a thing's properties follows from its constituent description.

- 4 *Constituent non-mentalism.* The basic constituents of things do not have mental properties as such.<sup>27</sup>

The logical difficulty can now be precisely stated. Theses (2)–(4) entail the negation of (1). For if the correct fundamental physics invokes no mental properties, (4), and every natural phenomenon (i.e., every phenomenon) is deducible from a description of a thing in terms of its basic constituents and their arrangements, (3), then given that no non-mental propositions entail any mental propositions, (2), we can deduce that *there are no things with mental properties*, which is the negation of (1).

The logical difficulty would be easy to resolve were it not for the fact that each of (1)–(4) has a powerful appeal for us.

Thesis (1) seems *obviously* true. We seem to have direct, non-inferential knowledge of our own conscious mental states. We attribute to one another mental states in explaining what we do, and base our predictions on what others will do in part on our beliefs about what attitudes they have and what their conscious states are. Relinquishing (1) seems unimaginable.

Proposition (2) is strongly supported by the *prima facie* intelligibility of a body whose behavior is like that of a thinking being but which has no mental life of the sort we are aware of from our own point of view. We imagine that our mental states cause our behavior. It seems conceivable that such behavior results from other causes. Indeed, it seems conceivable that it be caused from exactly the physical states of our bodies that we have independent reasons to think animate them without the accompanying choir of consciousness. It is likewise supported by the *prima facie* intelligibility of non-material thinking beings (such as God and His angels, whom even atheists have typically taken to be conceivable). Thus, it seems, *prima facie*, that having a material body is neither conceptually necessary nor sufficient for having the sorts of mental lives we do.

Thought experiments ask us to imagine a possibly contrary to fact situation and ask ourselves whether it appears barely to make sense (not just whether it is compatible with natural law) that a certain state of affairs could then obtain. We typically test conceptual connections in this way. For example, we can ask ourselves whether we can conceive of an object that is red but not extended. The answer is 'no'. We can likewise ask whether we can conceive of an object that is red and shaped like a penguin. The answer is 'yes'. This provides evidence that the first is conceptually impossible – ruled out by the concepts involved in its description – and that the second is conceptually possible – not ruled out by the concepts involved. No one is likely to dispute the results here.<sup>28</sup> But we can be misled. For example, it may seem easy to conceive of a set that contains all and only sets which do not contain themselves (the Russell set). For it is easy to conceive a set which contains no sets, and a set which contains sets only, and so

it can seem easy to conceive of a special set of sets whose members are just those sets not containing themselves. But it is possible to show that this leads to a contradiction. Call the set of all sets that do not contain themselves ‘*R*’. If *R* is a member of *R*, it fails to meet the membership condition for *R*, and so is not a member of itself. But if it is not a member of itself, then it meets the membership condition and so is a member of itself. So, it is a member of itself iff it is *not*, which is a contradiction, and necessarily false. There cannot be such a set.<sup>29</sup> Thus, something can seem conceivable to us even when it is not. In light of this, it is open for someone to object that despite the apparent intelligibility of the thought experiments that support (2), we have made some mistake in thinking them through.<sup>30</sup>

Proposition (3) is supported by the success of science in explaining the behavior of complex systems in terms of laws governing their constituents. While there are still many things we do not understand about the relation of micro to macro phenomena, it looks as if the techniques so far applied with success can be extended to those features of complex systems we don’t yet understand fully in terms of their constituents’ properties – with the possible exception of psychological phenomena. Proposition (3) expresses a thought that has had a powerful ideological hold on our the scientific worldview, that nature is ultimately intelligible as a kind of vast machine, a complex system a complete understanding of which can be obtained by analyzing its structure and the laws governing the properties of its parts. “It has been,” in E. O. Wilson’s words, “tested in acid baths of experiment and logic and enjoyed repeated vindication” (1998: 5). This thought motivates much scientific research, and to give it up even with respect to a part of the natural world would be to give up a central methodological tenet of our current scientific worldview. It would be to admit that nature contains some basic element of arbitrariness, in the sense that there would be features of objects that were not explicable as arising from their manner of construction.

Finally, proposition (4) is supported also by the success of physics (so far) in accounting for the phenomena that fall in its domain without appeal to any mental properties. In the catalog of properties of particle physics, we find mass, charge, velocity, position, size, spin, and the like, but nothing that bears the least hint of the mental, and nothing of that sort looks to be required to explain the interaction and dynamics of the smallest bits of matter.<sup>31</sup> It can seem difficult even to understand what it would be to attribute mental properties to the smallest constituents of matter, which are incapable of any of the outward signs of mental activity.

This then is the mind–body problem. Propositions (1)–(4) all seem to be true. But they cannot all be, for they are jointly inconsistent. That is why our initial question, “What is the relation, in general, between mental and physical phenomena?” gives rise to a philosophical problem. Each answer we might like to give will involve rejecting one of our propositions (1)–(4); yet, considered independently, each of these propositions seems to be one we have good reasons to accept.

## 1.6 The Logical Space of Solutions

Proposed solutions to the mind–body problem can be classified according to which of (1)–(4) they reject to restore consistency. There are only four basic positions, since we seek a minimal revision. To reject (1) is to adopt *irrealism* or *eliminativism* about the mental. To reject (2) is to adopt *conceptual reductionism* for the mental. This includes neutral monism, psychophysical identity theories, functionalism, and functionalism-cum-externalism. To reject (3) is to adopt *conceptual anti-reductionism*, but not ontological anti-reductionism. Neutral emergentism and emergent materialism fall into this category. To reject (4) is to adopt *ontological anti-reductionism* in addition to conceptual anti-reductionism. This subsumes varieties of what might be called ‘mental particle theories’, and includes substance dualism, idealism, panpsychism, double (or dual) aspect theories (on a certain conception), and what I will call ‘special particle theories’.

We take up each in reverse order, since this represents their historical development. I primarily discuss views on the mind–body problem from the beginning of the modern period to the present, though in fact all the basic positions except eliminativism were anticipated in antiquity.<sup>32</sup>

### 1.6.1 *Ontological anti-reductionism*

Rejecting proposition (4), the non-mental character of the basic constituents of things, has been historically the most popular position. The generic view, according to which some *basic* constituents of things *as such* have mental properties, may be called ‘the mental particle theory’. These may be further divided into *pure* and *mixed* mental particle theories, according to whether the mental particles are thought to have only mental, or to have mental and physical properties, and then, divided again according to whether all or only some things have mental properties (*universal* vs. *restricted*).

The most prominent, and historically important, view of this sort is substance dualism, which traces back to the ancient view of the soul as a simple substance.<sup>33</sup> Substance dualism holds that there are both material substances and mental substances: the former have only physical properties, and none mental, the latter only mental properties, and none physical. This is a restricted pure mental particle theory. Descartes (1985 [1641]) is the most prominent of the early modern defenders of dualism. The appeal of dualism lies in part in its ability to find a place for irreducible mental properties in a world that seems largely to be explainable as a mechanical system reducible to parts which themselves are exhaustively characterized in terms of their primary qualities. Descartes wrote at the beginning of the scientific revolution, and was himself a major proponent of the new ‘mechanical philosophy’, whose fundamental assumptions provide those for modern physics.

Dualism was Descartes's answer to the problem the mechanical philosophy presents for finding a place for mind in the natural world.

Descartes has had such an enormous influence on the development of the western tradition in philosophy that it will be useful to review briefly his official arguments for dualism. This sets the stage for subsequent discussions of the mind–body problem. To explain Descartes's arguments, however, we must first get clearer about the notion of a substance. This notion, central to philosophical discussion in the seventeenth and eighteenth centuries,<sup>34</sup> traces back to Aristotle's characterization of it as “that which is neither said of a subject nor in a subject” (*Categories (Cat)* 1b2–5; in 1984: 4). This is the conception of a substance as a property bearer, something that undergoes and persists through change: “A substance . . . numerically one and the same, is able to receive contraries . . . pale at one time and dark at another” (*Cat* 4a19–21; in 1984: 7). This gave rise in medieval philosophy (in scholasticism, the tradition to which the recovery of Aristotle's works gave rise) to the view of substances as independent existents, because of the contrast with properties, which were thought to exist only in a subject, not independently. Descartes gives two characterizations of substance. One is as that which is absolutely independent of everything else. This generalizes the scholastic notion. Descartes held that, on this conception, God is the only substance, since everything depends on God for its existence. But Descartes admits substances as property bearers in a subsidiary sense, and allows two fundamentally different kinds in addition to God: thinking and corporeal substances (*Princ.* 1644, I.51–2; in 1985, vol. I: 210). Henceforth I restrict attention to the latter sort. A central feature of Descartes's theory of substance kinds is that each different substance kind has a principal individuating attribute, of which every other property of a substance of the kind is a modification: *extension*, for corporeal substances, and *thought*, for thinking substances (*Princ.* 1644, I.53–4; in 1985, vol. I: 210–11). This feature of the theory, often overlooked in introductory discussions, is essential for a correct understanding of the force of Descartes's arguments for substance dualism.

The doctrine that each substance has a principal attribute forces the individuating and essential property of a substance kind to be a fundamental way of being something, or a categorical property. A categorical property is a determinable but not a determinate. A determinable is a property an object can have in different ways, and must have in some particular way, as, e.g., being colored. Something can be colored by being blue, or green, or red, and so on, and if colored must be colored in some determinate way (hence the terminology, ‘determinable’, ‘determinate’). Extension and thought Descartes conceived as determinables, and they are not themselves apparently determinates of any other determinable property.<sup>35</sup>

With this theory in place, there is an easy argument to mind–body dualism. If there are two most general ways of being, and things that have them, it follows immediately that there are two kinds of substance. Descartes argued that he had a clear and distinct conception of himself as a thinking thing, a thing that at least can exist independently of his body, and likewise a clear and distinct conception

of a corporeal object as a solely extended thing, a thing that can at least exist without thinking, and, moreover, that these conceptions are complete and not in need of appeal to any more general conception of a kind.<sup>36</sup> From this, it follows that thinking and extension are categorical properties. From the theory of substances, it follows that thinking and extended substances are necessarily distinct.

The argument is unquestionably valid: necessarily, if its premises are true, so is its conclusion. Whether we should accept its premises (and so whether it is sound, i.e., has true premises in addition to being valid) is less clear. Its weakest premise is the assumption that distinct kinds of substance must have only one categorical attribute. It is unclear why Descartes held this. The thought that substances are property bearers provides insufficient support. Even Spinoza, who was heavily influenced by Descartes, objected that precisely because mental and corporeal properties are conceptually independent, there can be no barrier to one substance possessing both attributes (*Ethics* IP10 Scholium; in Spinoza 1994: 90). And, as P. F. Strawson (1958) has observed, we routinely attribute to the very same thing, persons, both material and mental properties: I walk, and sleep, as well as think and feel.

Descartes endorsed causal interactionism between mental and material substance to explain why our limbs move in accordance with what we want to do, and how we are able to correctly perceive things in our bodies' physical surroundings. Some philosophers, including many of Descartes's contemporaries, have objected that we cannot conceive of causal interaction between such fundamentally different kinds of substance as mind and body, the latter in space, the former not. (Though it is hard to see this as a *conceptual* difficulty; see Bedau 1986.) This gives rise to a version of epiphenomenalism, according to which the mental is not causally relevant to the physical. The rejection of causal interactionism together with the obvious correlations between mental and physical events gave rise to parallelism, according to which mental and physical events evolve independently but in a way that gives rise to non-causal correlations, as the hands of two clocks, set independently a minute apart, may appear to be causally interacting because of the correlations in their positions, though they are not.<sup>37</sup> Parallelism is usually explained by reference to God's arranging things originally so that the mental and the physical develop in parallel (pre-established harmony), or through His constant intervention in bringing about what events, both physical and mental, give rise to the appearance of interaction (occasionalism).

Barring a reason to think that a property bearer cannot possess both irreducibly mental and physical properties, at most Descartes's arguments establish that there *could* be things which have only mental properties, as well as things which have only physical properties, not that there are or must be. If we can establish a priori at most that dualism could be true, whether it is true is to be determined, insofar as it can be, by empirical investigation. So far, there seems to be no very good empirical reason to suppose dualism is true.<sup>38</sup>

Idealism is the historical successor to dualism. It is dualism without material substance. Thus, it is a universal, pure mental particle theory. The classical position

is laid out in George Berkeley's *A Treatise Concerning the Principles of Human Knowledge* (1710). More sophisticated modern versions are called 'phenomenalism'.<sup>39</sup> Idealism is often motivated by a concern to understand the possibility of knowledge of objects of ordinary perception: forests and meadows, mountains and rain, stars and windowpanes. The Cartesian view of the relation of mind to world leaves it mysterious how we can have knowledge of it: if we know in the first instance only our conscious mental states, and whatever we can know by reason alone, yet the mental and material are conceptually independent, it looks as if we have no reason to believe that there is a material world causing our conscious experiences. Berkeley solved the problem by denying that objects of perception were material, and identifying them instead with collections of ideas (hence *idealism*). More recent treatments identify ordinary objects of common-sense knowledge with logical constructions out of phenomenal states. Berkeley denied also that we could even make sense of material substance. Leibniz (1714) likewise held that the basic constituents of things, monads (*unit*, from the Greek *monos*), were a sort of mind – though he did not hold that all were conscious – and that talk of ordinary things was to be understood in terms of monads and their states (as David Armstrong has put it, on Leibniz's view, "material objects are colonies of rudimentary souls" (1968, p. 5)). Kant (1781) is sometimes also interpreted as a phenomenalist. This view is not now widely embraced. It seems to be part of our conception of the world of which we think we have knowledge that it is independent of the existence of thinking beings, who are contingent players on the world stage.

Panpsychism holds that everything is a primary bearer of mental properties (not simply by being related to a primary bearer – as my chair has the property of being occupied by someone thinking about the mind–body problem). Panpsychism comes in reductive and non-reductive varieties. Its root can be traced back to antiquity (Annas 1992: 43–7). Panpsychists are represented among the Renaissance philosophers, and among prominent nineteenth-century philosophers, including Schopenhauer, W. K. Clifford, William James (at one time), and C. S. Peirce.<sup>40</sup> Panpsychism is associated often with (what seems to be) a revisionary metaphysics, with special motivations, as in the case of idealism, which is a reductive version of panpsychism. However, non-reductive panpsychism, which accepts a basic materialist ontology, is motivated by the thought that otherwise it would be inexplicable (a species of magic) that complex objects have mental properties. William James, in his monumental *Principles of Psychology* (1890), lays out this argument explicitly in chapter VI, "Evolutionary Psychology demands a Mind-dust." Thomas Nagel (1979a) has more recently revived the argument (see also Menzies 1988).<sup>41</sup> Panpsychism is a universal mental particle theory, and may be pure or mixed.

The double aspect theory should be thought of as a family of theories, rather than a single doctrine. What unifies the family is their affinity for being expressed with the slogan that the mental and the physical are different aspects by which we comprehend one and the same thing, though the slogan may be understood differently on different "versions" of the theory. Spinoza's doctrine of the parallelism