

Soul and Body

We humans each have a physical body. Do we each also have a non-physical soul? And why should we care? In this paper I'll examine answers to these questions. I'll set forth the main philosophical views on the relation between the soul and the body and sort through some of the main arguments for and against each view. I'll also explore some key theological dimensions of the soul-body issue.

I. What's at Stake?

Does it matter if we have non-physical souls? Many would claim that it does matter, for a variety of reasons. Here is a sample list:

- Having a non-physical soul distinguishes humans from nonhuman animals.
- Theologically speaking, to be created in the image of God is to be endowed with a non-physical soul.
- Having a non-physical soul gives human beings a special value, thus grounding their right to life.
- Having a non-physical soul makes life after death possible.
- Having a non-physical soul makes it possible for humans to have a relationship with God, who is a non-physical being.
- If humans were entirely physical beings, their behavior would be determined, in which case they would be neither free nor morally responsible.
- The Bible teaches that human beings have non-physical souls.
- Believing in a non-physical soul will force us to deny certain assumptions generally made in the sciences, e.g., that every physical event has a physical explanation.
- Advances in neuroscience have demonstrated a tight link between the physical and the mental--so tight that it is now reasonable to identify them.
- The belief in a non-physical soul is a relic of a pre-scientific view of the world (like the belief in witches) and we ought to avoid such superstitions.

As we shall see, it is a matter of debate whether *any* of the above claims are true. But surely it is important to try to find out if they are true.

II. Conscious Mental States

Almost everyone will agree that human persons have *conscious mental states*, i.e., people have thoughts, feelings, desires, beliefs, purposes, and so on.¹ But can we have conscious mental states if we are simply physical beings, lacking a (non-physical) soul? This is a key question we must try to answer. First, however, let's pause a moment to get clearer about what a conscious mental state is. Perhaps the best way to do this is to consider a range of examples:

1. *Sensations*. Sensations are direct awarenesses. For example, if you are normally sighted and are looking at an evergreen tree (under normal circumstances), you have a direct visual awareness of a certain green shape. The awareness is direct in the sense that its content (the green shape) is not *inferred*.² And—once again assuming normal conditions--if you dive into water cooled to 35 degrees

Fahrenheit, you'll have a direct awareness of severe coldness. The felt experience of pain, as when you stub your toe on a hard object, is another example of a sensation (as the term is here employed).

2. *Thoughts and beliefs.* Thoughts and beliefs are mental states that can be expressed as statements. For example, you might entertain the proposition that *unicorns exist* without believing it, in which case you are merely having the thought that unicorns exist. By contrast, when you believe something, e.g., that *trees exist*, you are confident that it is so. (Since confidence comes in degrees, you may believe a proposition without being *very* confident of it.)

3. *Desires.* A desire is a felt inclination to act or to have an experience of some sort. For example, you might have a desire to phone a friend, or a desire to experience the taste of chocolate.

4. *Intentions.* An intention is one's purpose in performing an action, one's goal or aim. For example, you may form an intention to drive to the supermarket. When an intention is effective, it results in behavior. Sometimes, however, we intend to do things but ineffectually, e.g., "I intended to wash the dishes but instead I got absorbed in watching a film."

On the face of it, mental states are strikingly different from physical states. For example, a neuroscientist can identify portions of the brain that are active at a given time, providing us with precise locations and measurements. But we cannot *in the same way* measure thoughts, feelings, desires, beliefs, hopes, and so on.

Or again, most if not all mental states seem to be *about* something, e.g., a thought *about* triangles, the fear *of* snakes, or a desire *for* coffee. But physical states don't seem to be *about* anything--a ball rolls down an inclined plane, a helium-filled balloon rises when released, molecules move in set patterns, a neuron emits an electrical charge, etc.

Furthermore, we have a kind of direct access to many of our mental states—you can know via introspection when you are sad, when you are worrying about something, when you are thinking about philosophy, and so on. But introspection does not tell you anything about which of your neurons are firing—it doesn't even tell you that you have neurons.

Finally, some mental states have phenomenal qualities. Consider, for example, what it feels like to be in pain or what it is like to experience the taste of salt; physical states apparently have no such phenomenal qualities. Physical entities have properties such as location, size, shape, solidity, weight, electrical charge, and motion, and a physical state or event consists in a physical entity having such properties, or changing with respect to such properties over time.

III. Three Main Views

Philosophers have proposed numerous views of the relation between the soul (or mind) and body. (Philosophers generally treat "soul" and "mind" as synonyms.) We shall here focus on three main views.

1. *Substance Dualism.* According to substance dualists, such as Rene Descartes, each human being has both a physical body and a non-physical soul. Moreover, there is *causal interaction* between the soul and the body.³ For example, your *decision* to raise your arm (a

mental state or event) causes your arm to rise (a physical state or event). Stubbing your toe (a physical state or event) may cause you to experience a sharp *pain* (a mental state or event). And your *desire* to go downtown combined with your *belief* that the number 13 bus is the fastest way to get there (mental states or events) may cause you to get on the bus (a physical state or event).

To understand substance dualism, we need to understand the technical philosophical meaning of the word “substance.” The technical use of this term—or rather, the use of its Greek and Latin equivalents—has a long history in philosophy going all the way back to the Greek philosopher, Aristotle. The “basic idea is that an individual substance is that which has properties and stands in relations, rather than being itself a property or a relation of something(s) else.”⁴ For Aristotle, an individual horse or dog would be a good example of a substance. An individual dog, such as Lassie, has properties, such as *being brown*, *being a collie*, *weighing sixty pounds*, and *being alive*. But Lassie is not herself a property of some object. Aristotle employed the distinction between substances and properties partly as a way of clarifying the phenomena of identity and change. A substance may lose some properties and gain others over time, while remaining one and the same individual. For example, Lassie (a substance) can remain herself over time while changing with respect to some of her properties, e.g., she gets older, her hair may become gray, and she may lose weight or become ill.

Could we say simply that a substance is an entity that bears properties? No, that won't work because properties can have properties. For example, the property of *being red* has the property of *being a color*. But a *substance* has properties without itself being a property.

In modern English use, “substance” sometimes means something like “stuff”—as in, “Can you identify the gray substance in the test tube?” But a closer (albeit rough) modern equivalent to “substance” *in the technical philosophical sense* would be “individual thing.”

For Descartes, there are just two basic kinds of substances, physical substances and mental ones. Each kind of substance possesses a distinctive property or attribute. Physical substances possess *extension*, i.e., they are extended in space or have volume. By contrast, souls or minds are *thinking things*, according to Descartes, but “thinking” is here used very broadly: Descartes meant that souls (or minds) have conscious mental states—*that* is their distinctive property or attribute. And each human being is composed of two substances—a non-physical mental substance (i.e., a soul) and a physical substance (i.e., a body).

The Greek philosopher Plato was a substance dualist, but unlike Descartes, Plato believed that the soul exists *prior* to the body. Plato also believed that the body is inferior to the soul and that the soul is better off when liberated from the body, as it will be at death.⁵ In what follows, I shall not regard these specifically Platonic claims as part of substance dualism. Thus, I shall assume that the substance dualist claims that the soul comes into being at some point during the development of the fetus. And I shall assume that the substance dualist does not denigrate or devalue the body. (After all, there is no apparent *logical* connection between “The soul is non-physical” and “The body is inferior to the soul.”) Traditional Christians who are substance dualists believe in the resurrection of the body; accordingly, they would deny that unembodied existence is better than embodied existence.⁶

2. Reductive Physicalism. Reductive physicalists claim that there is no non-physical soul. Furthermore, in spite of the apparent differences between mental and physical states (as noted in section II), reductive physicalists claim that mental states are wholly *reducible* to physical states. This means that mental states are (in the final analysis) nothing over and above physical states. These philosophers may claim, for example, that mental states are identical to brain states.

Compare: For thousands of years humans did not know that water is H₂O, but now they do; water is nothing over and above H₂O.

Here it should be noted that substance dualists fully accept that there are *correlations* between mental states and physical states. A neuroscientist might establish many such correlations by observing a series of your brain states, B1, B2, B3, and so on, and asking you what mental state you are in in each case. For example, when you are in brain state B1 (such and such neurons are firing), perhaps you are thinking that $1 + 1 = 2$; when you are in brain state B2, you are experiencing a desire for chocolate, and when in B3, you have a feeling of joy. However, the substance dualist would insist that correlations are no proof of identity. To take a simple example, we might find a perfect correlation between the movements of the hands of your wristwatch and the movements of the hands of a grandfather clock. But the two time-keeping devices (and their hands) nevertheless remain distinct.

The reductive physicalist, then, is not merely claiming that there is a correlation between mental states and physical (brain) states. A much stronger claim is being made, namely, that mental states are nothing over and above physical states. As we've just seen, the reductive physicalist may claim that mental states are identical with brain states. This view is called the *mind-brain identity theory*.⁷ But many reductive physicalists make more subtle claims. Currently, perhaps the leading form of reductive physicalism is a version of *functionalism*.⁸ According to functionalists, a given mental state can be defined as *whatever internal state* of the person serves as the causal link between certain inputs and correlative outputs. For example, pain can be defined as an internal state that serves as the causal link between tissue damage (e.g., a dog bite) and certain behaviors (e.g., screaming, running away). Functionalists who are reductive physicalists would of course insist that the relevant internal states turn out to be physical states, such as brain states.⁹

To see the difference between the mind-brain identity theory and reductive functionalism, consider the possibility that doctors may some day be able to replace parts of the brain with artificial components, say, silicon components. Such artificial components might play the same causal role as the brain-parts they replace, in which case, according to functionalism, the person would be able to have the same mental states, without having the same brain states as before. This possibility is ruled out by the mind-brain identity theory, since it claims that mental states just are brain states; from this perspective, a mental state that is not a brain state is no more possible than is a unit of water that is not a unit of H₂O.

3. *Nonreductive Physicalism*.¹⁰ Nonreductive Physicalism involves four theses: (a) Like reductive physicalists, nonreductive physicalists insist that humans are entirely physical entities. Humans do *not* have non-physical souls.

(b) But mental states (beliefs, desires, sensations, etc.) are not wholly reducible to physical states. Mental states are not identical with physical states; nor are they states that can be wholly reduced to physical states via functionalist analyses of mental states (i.e., as whatever internal states of the person play certain causal roles).

(c) Mental states *strongly depend* on physical states. Nonreductive physicalists do not all agree on the precise nature of this dependence, but perhaps the most common position is that mental states *supervene* on physical states. That is, if one is in a mental state M, one is in that state by virtue of the fact that one is in a certain physical state P, and "anything that has P at any time necessarily has M at the same time."¹¹

(d) Mental states (or events) are causes; they can cause both physical states (or events) and mental states (or events). For example, a decision (mental event) can cause my arm to rise (physical event). And the desire for food (a mental event) can cause the thought, “I’d better go to the supermarket” (another mental event).

Note that theses (b) and (d) are shared with substance dualists. Thesis (b) merits further comment. It says that mental states are unique states, not wholly reducible to physical states. Thus, nonreductive physicalists hold a kind of dualism, a dualism of states or events: there are physical states (or events) and there are mental states (or events); and neither type of state (or event) is wholly reducible to the other. It’s important not to confuse this dualism of states (or events) with substance dualism, for nonreductive physicalists reject substance dualism--they emphatically deny the existence of non-physical souls.

Thesis (c) emphasizes the dependence of the mental on the physical. Many nonreductive physicalists hold that if two worlds were exact physical duplicates (including exactly duplicate brain states), then the two worlds would also be mental (or psychological) duplicates, containing precisely the same mental states.

To clarify the concept of supervenience, it may help to consider the example of a beautiful painting. The beauty of the painting supervenes on the shapes and colors the painter has brushed onto the canvas. Given the shapes and colors, the aesthetic properties of the painting must be as they are. If you want to change the aesthetic properties, you must change the shapes and/or the colors. Similarly, if mental states supervene on physical states (e.g., brain states), then there can be no change in mental states apart from a change in physical states.

Naturalists are philosophers who deny the existence of God and who affirm that physical reality is the ultimate reality. Most naturalists are either reductive physicalists or nonreductive physicalists. (A few naturalists take neither position, but deny the very existence of mental states.) Perhaps surprisingly, many contemporary Christian thinkers are nonreductive physicalists. So, while substance dualism has traditionally been the dominant Christian view, many Christian thinkers nowadays reject substance dualism.¹²

Let us now turn to arguments for and against the three views we’ve just summarized.

IV. Arguments in Favor of Physicalism

Problems for substance dualism provide partial support for physicalist views. Let’s begin by considering an argument that has convinced many philosophers that substance dualism is false.

A. The Causation Argument

The Causation Argument may be summarized as follows:

1. There is no conceivable way non-physical souls and physical bodies can interact causally.
2. So, they do not interact causally.
3. Therefore, Descartes’ dualism (by implication) forces us to deny common sense; specifically, it forces us to deny that there is causal interaction between the soul and the body.

Premise 1 seems to be true. A non-physical soul has no shape, no size, no weight, no electrical charge, and so on. Indeed, according to Descartes, the soul lacks even a location in space. So, how could the soul possibly cause anything to happen in the body or brain? How could the soul

make a neuron fire, stimulate a nerve, or cause a muscle to move? Here it might help to try a rather bizarre thought experiment: Try to conceive of a cowboy who uses a non-physical “rope” to lasso a horse. Since the “rope” is non-physical, it has no length or thickness. The cowboy can’t even get hold of it, can he? And if we try to conceive of a non-physical “rope” being pulled tight around the neck of a horse, what happens? Wouldn’t such a “rope” pass right through the horse’s neck? There just doesn’t seem to be any way for a non-physical thing to causally interact with a physical thing.

But is the inference from 1 to 2 a good one? There are at least two reasons to question this inference. First, is it safe to assume that what we humans cannot conceive cannot occur or exist? Prior to the rise of science, could humans *conceive* of the causal relation between a magnet and small bits of iron? It seems not. Of course, prior to the rise of science, humans were *familiar* with the phenomenon of magnetism, but they had no understanding of the underlying mechanisms. Magnets were utterly mysterious. Nevertheless, this fact clearly would *not* have provided a good reason to deny that magnets attract iron filings.

Second, in general, we learn about causal connections from experience. We know that if we roll billiard ball A into billiard ball B, B will roll away at a certain speed and direction. Why doesn’t B explode, vanish, or shoot 500 miles into the air? Well, we’ve learned over time that these things just don’t happen. It seems we can conceive of worlds in which such things do happen, worlds with laws of nature very different from our own. The point is that the behavior of billiard balls (and of physical objects in general) is not something we can predict just by examining the relevant concepts. To learn “what causes what,” we have to *observe* things carefully over time.

Now, suppose, just for the sake of the argument, that Descartes was right—the soul is not physical. Nevertheless, it seems apparent that a decision (a mental event) can cause a bodily movement, such as standing up. And it seems obvious that damage to one’s body (a physical event) can cause pain (a mental event). So, Descartes might claim that we have plenty of evidence, based on introspection (which tells us what’s going on in our souls) and empirical observation (which tells us what bodily movements occur), of causal interactions between nonphysical souls and physical bodies.

One more point about the Causation Argument is of theological interest. If the argument is a good one, a very similar argument will show that a non-physical God cannot create a physical world, sustain a physical world, or work miracles such as healing a person who is physically ill. In short, if the Causation Argument is sound, traditional theism is false. On the other hand, if traditional theism is true, then there must be something wrong with the Causation Argument.¹³

B. The Evolution Argument

The Evolution Argument may be outlined as follows:

1. Some animals, such as dogs, cats, and chimps, have conscious mental states (e.g., they feel pain).
2. Animals are entirely physical entities. (They do not have non-physical souls).
3. Humans, like animals, are products of an entirely physical evolutionary process.
4. So, humans are probably entirely physical entities.

Premise 1 of this argument is hard to deny, but some have denied it, among them Descartes. Since Descartes was confident that animals lack (non-physical) souls, he concluded that, in spite

of appearances, animals have no conscious mental states. But this view has exceedingly implausible implications, e.g., dogs can't be tortured if they can't feel pain.

Probably most people accept Premise 2 of the Evolution Argument. Historically, many religious people would insist on premise 2, since they are convinced that having a non-physical soul is what distinguishes humans from nonhuman animals.

Some people reject Premise 3, because they reject the theory of evolution. For example, Creationists would deny 3 on the grounds that God created humans miraculously, not through the long, gradual processes of evolution. But this way out of the argument is problematic for at least two reasons. First, since the vast majority of scientists accept the theory of evolution, this way out of the argument apparently pits the objector against science. And historically, theologies that conflict with science eventually wind up discredited in the eyes of most people—religious as well as non-religious. Second, this objection relies on questionable theological assumptions that even many theists would deny, for many theists see no conflict between their theology and the scientific theory of evolution. These theists merely insist that evolutionary processes are created, sustained, and guided by God.¹⁴

The Evolution Argument raises questions that traditional dualists have not adequately dealt with, but substance dualists can raise interesting questions about the argument. (A) Consider premise 2. Substance dualists might ask, "How is it known that animals in general lack non-physical souls?" Since souls cannot be seen or touched, science can offer no proof that animals lack souls. Notice that the dualist need not claim that all animals have souls—only those having conscious mental states. Which animals have conscious mental states? No one knows for sure. But one might well doubt that many animals (e.g., jellyfish, gnats, and earthworms) have conscious mental states, while affirming that many others (e.g., dogs, cats, and chimps) do have such states. Furthermore, a dualist can suggest that animal souls have different (and lesser) capacities than human souls. Thus, there is no need to move from "Some nonhuman animals have souls" to "Some nonhuman animals have the same sort of souls humans have."

(B) With regard to the inference from the premises to the conclusion, objectors might again stress that humans have very different capacities from those of animals. Perhaps most importantly, humans have capacities that ground moral responsibility. And this may raise questions about the inference. For example, if human agents are entirely physical entities, are their so-called "choices" fully governed by laws of nature over which humans have no control? In short, does physicalism lead to the denial of freedom (and hence, to the denial of moral responsibility)? We'll return to this question in section V.

C. The Appeal to Simplicity

The appeal to simplicity may be outlined as follows:

1. Due to advances in neuroscience, whatever was assumed in the past to be due to the activity of non-physical souls can nowadays be explained in terms of brain states.
2. So, the existence of a non-physical soul is an unnecessary hypothesis.
3. Unnecessary hypotheses are probably false and should be rejected.
4. So, the hypothesis that humans have non-physical souls is probably false and should be rejected.

Undoubtedly, this argument has been very influential in recent years. To understand the appeal to simplicity, consider an illustration. Suppose we ask a watchmaker to explain how a wristwatch

works. He explains the operation of the springs and gears at length. We nod in approval at the detail and clarity of his explanation. But then he adds, “Of course, like any watch, this one is inhabited by a watch-angel, who ensures its accuracy over time.” No doubt we all would consider the “watch-angel hypothesis” superfluous. It is completely unnecessary, it is surely false, and it should be rejected.

Moreover, neuroscience has made dramatic advances in recent years. While there is much about the brain that remains unknown, it seems extremely likely that neuroscience will continue to make advances. For any mental state, neuroscientists are apt to discover some corresponding brain state. This being so, if the workings of the brain are understood, won’t the idea of a non-physical soul be completely unnecessary? How could “There is a non-physical soul” possibly add anything useful to a neuroscientific explanation? A non-physical soul is as bogus as a watch-angel.

Substance dualists might try to reply by offering a proof of the existence of the soul, but few philosophers think they can succeed at this. Alternatively, substance dualists might argue that the soul-hypothesis can help to explain some things that cannot be explained scientifically. We’ll consider an argument of this type in section VI.

V. Problems for Physicalist Views

Physicalist views face a number of philosophical problems. We’ll start with a problem that allegedly applies to all physicalist positions. Next we’ll consider problems specific to reductive physicalism. Finally, we’ll consider a problem specific to nonreductive physicalism.

A. Free Will: A Problem for All Physicalists?

The following argument poses a problem for both reductive and nonreductive physicalists.¹⁵

1. We do not control the laws of nature; nor do we control the events of the remote past.
2. So, we do not control the *consequences* of the laws of nature and events of the remote past.
3. Physical states in general are consequences of the laws of nature and events of the remote past.
4. Brain states are physical states.
5. So, we do not control our brain states.
6. Given physicalism (whether reductive or nonreductive), our mental states are strongly dependent on our brain states.
7. So, we do not control our mental states, including our intentions and choices.
8. So, free will is an illusion (and hence, moral responsibility is an illusion).

Premise 1 seems undeniable. We do not control the law of gravity, the law that gases expand when heated, that law that water freezes at 32 degrees Fahrenheit, or the electrochemical laws that govern the function of neurons. Nor can we somehow change events that occurred long ago, before we were born. Indeed, it seems that we cannot even change the events that occurred ten minutes ago.

Properly understood, the inference to step 2 seems logically correct. Keep in mind that we are not here talking about occurrences that are only *partly* consequences of the laws of nature and events of the remote past. Rather, we are talking about occurrences that involve *no causal factors operating independently* of the laws of nature and the events of the remote past. For

example, suppose that a thunderstorm today is the consequence of the laws of nature and physical conditions (atmospheric, oceanic, geological, etc.) that were present prior to my birth. In that case, I surely have no control over whether the thunderstorm occurs.

Scientifically-minded physicalists generally accept the third premise.¹⁶ Physicists, chemists, and biologists normally assume that physical states can be fully explained in terms of past conditions and whatever laws of nature apply. The physical realm appears to be a vast chain of causes reaching into the remote past, operating in accordance with the laws of nature.

Premise 4 is denied by no one. And given steps 1 through 4, it is hard to see how step 5 can be avoided.

Premise 6 is affirmed by both reductive and nonreductive physicalists, though for different reasons. Reductive physicalists accept premise 6 because they hold that mental states are nothing over and above brain states. Nonreductive physicalists characterize the relation of dependence in various ways, such as supervenience, but all agree that mental states are strongly dependent on brain states.¹⁷ And given steps 5 and 6, the inference to 7 seems unavoidable: *On any physicalist position, there would seem to be no way to control mental states (or events) without controlling the physical states (or events) upon which the mental states strongly depend.*

Many physicalists would question the inference to step 8, because they take the so-called compatibilist view of free will, according to which an act is free provided that one performs the act because one wants to (or intends to). But an obvious question arises: “Am I significantly free if my ‘wantings’ (or intentions) are not in my control?” And, as the argument indicates, our desires and intentions do not seem to be in our control if they strongly depend on physical states, which are in turn the consequence of laws of nature and past events.¹⁸

B. Problems for Reductive Physicalism

1. *Two Problems for the Mind-Brain Identity Theory?* (a) One perennial objection to identity theories is that they fail to account for subjective conscious experiences (qualia), such as the feeling of a sharp pain or the experience of smelling ammonia. No amount of information about the brain, neurons, dendrites, axons, and so on, tells us *what it is like* to feel a sharp pain or to smell ammonia. We might put the point this way: Suppose we could provide an extraterrestrial visitor with a complete set of biological facts about the human body, including all the neurobiological details about the workings of the human brain. If we confine ourselves to these physical facts, we leave out something important, namely, such subjective conscious experiences as the feeling of pain or the experience of smelling ammonia.

A common reply is that the complete physical description does not leave out these subjective conscious experiences, it merely refers to them under a different (i.e., neurobiological) description. But here it seems to me that John Searle has it right: A description of the world under third-person physical terms, such as scientists provide, is not a complete description of the world. What is left out is precisely the subjective, first-person, conscious phenomena, e.g., *what it is like* for a person to experience pain or the smell of ammonia.¹⁹ And Thomas Nagel is making the same point with his famous question, “What is it like to be a bat?” Imagine a researcher who can fully describe, in neurobiological terms, the workings of a bat’s brain. Her account leaves out what it is like to experience the world in the way a bat does. And thus an interesting and important *feature of reality* has been omitted.²⁰ *Facts about first-person, conscious experiences are not metaphysically reducible to facts about neurobiology.*

(b) Identity theories explain mental causation by reducing it to physical causation. But does this provide us with a satisfying explanation of mental causation? Consider that one mental

state can apparently be causally linked to another mental state partly by virtue of their informational contents. For example, think of undergoing a sequence of thought such as the following:

Some pasta would certainly taste good tonight → I think I'll go to an Italian restaurant

In such cases, one thought plausibly gives rise to (i.e., causes) the next. But the causal links surely somehow involve the *informational content* of the mental states. For example, no one with a minimal knowledge of ethnic cuisines is apt to move from “Some pasta would taste good tonight” to “I think I'll go to a Japanese restaurant.” Brain states, however, are linked by neurobiological factors; the account is given in terms of axons, dendrites, chemical synapses, electrical synapses, neurotransmitters, ion channels, and so on. So, we *seem* to have two very different causal chains here: one that involves the informational content of the mental states and one that involves the purely neurobiological factors.

An analogy may be helpful at this point. Suppose you pop a CD into your computer to listen to some music. The lyrics are classic: “My baby left me. I'm so sad. And life is bad.” Now, there are two sequences here. First, the CD contains a long spiral track of data, consisting of miniscule reflective and non-reflective segments which can be detected via a laser (and transformed into sounds by the CD player). Second, the lyrics of the song form a sequence of thoughts involving informational content, one thought leading to the next. The two different kinds of sequences coincide perfectly because the spiral track on the CD was specifically *designed* to produce sounds which correspond to the lyrics of the song. But plainly there are two distinct kinds of sequences here and it seems to me that the CD analogy strongly suggests that a thought-sequence is a very different thing than any sort of causal sequence that can be spelled out in terms of the mechanisms of chemistry, physics, biology, and/or neurobiology.

Moreover, since the identity theorist insists that there are not two distinct causal chains, but just one, it seems to me that instead of providing a satisfying explanation of mental causation, the identity theory in fact changes the subject. The causal story becomes an entirely physical, neurobiological story. But in my estimation this leaves us with a very unsatisfying account of mental causation—at least in cases in which mental states are apparently causally linked (in part) by way of their informational contents. It is a bit like trying to explain the lyrical sequence “My baby left me → I'm so sad” by producing a detailed description of the sequence of microscopic “data bumps” on the spiral track of the CD. The informational aspect of the causal linkage is not illuminated.

3. *Two Problems for Functionalism?* (a) Recall that functionalism is the view that mental states are simply internal states of the person that serve as a causal link between certain inputs and correlative outputs. John Heil makes the following observation about functionalism:

Consider . . . the experience of a throbbing pain in my toe. Is this simply a matter of my being in a certain functional state (one that results in my believing that I have a pain in my toe, for instance, and disposes me to rub my toe)? If that were so, it would seem a simple matter to program a computing machine to be in a similar functional state. Yet it is odd to imagine that such a device might, solely because of the way we have programmed it, *feel pain*. What seems missing from the functionalist account is the

feeling of pain. [. . .] And feelings, whatever they are, seem not to be functionally characterizable.²¹

Here the point is that the functionalist approach seems unable to capture “what it is like” to be in certain types of mental states. In short, functionalist analyses of certain mental states are deficient; this seems especially clear in the case of *qualia* (i.e., subjective conscious experiences such as the *feeling* of pain, the *taste* of lemons, or the *smell* of roses).

(b) A more far-reaching objection to functionalism is pressed by John Searle, via his famous Chinese Room Argument.²² Suppose a computer is programmed to simulate the understanding of Chinese. If the computer is given a question in Chinese, it provides answers in Chinese. And suppose the computer’s answers are indistinguishable from those of a fluent speaker of Chinese. The computer’s internal states could play the same causal role as the internal (brain) states of a fluent speaker of Chinese. Does the computer literally understand Chinese?

Well, imagine that you are locked in a room, and in this room are several baskets full of Chinese symbols. Imagine that you (like me) do not understand a word of Chinese, but that you are given a rule book in English for manipulating these Chinese symbols. The rules specify the manipulations of the symbols purely formally, in terms of their syntax [roughly, spelling and grammar], not their semantics [meaning or informational content]. So the rule might say, ‘Take a squiggle-squiggle sign out of basket number one and put it next to a squoggle-squoggle sign from basket number two.’ Now suppose that some other Chinese symbols are passed into the room, and that you are given further rules for passing back Chinese symbols out of the room. Suppose that unknown to you the symbols passed into the room are called ‘questions’ by the people outside the room, and the symbols you pass back out of the room are called ‘answers to the questions.’ Suppose, furthermore, that the programmers are so good at designing the programs and that you are so good at manipulating the symbols, that very soon your answers are indistinguishable from those of a native Chinese speaker. There you are locked in your room shuffling your Chinese symbols and passing out Chinese symbols in response to incoming Chinese symbols. On the basis of the situation I have described, there is no way you could learn any Chinese simply by manipulating these symbols.²³

The point is this: the “internal states” of the Chinese room might well play the same *causal* roles as internal (brain) states of a fluent speaker of Chinese. But neither you nor the room itself understands a word of Chinese. *Thus, there seems to be a big difference between sharing similar internal causal states and literally understanding something.* Hence, functionalism seems unable to provide a credible analysis of the crucial mental state of *understanding*.²⁴

C. A Problem for Nonreductive Physicalism? Kim’s Exclusion Argument

Jaegwon Kim has offered an important argument against nonreductive physicalism, called the Exclusion Argument.²⁵ To understand the argument, keep in mind that nonreductive physicalists insist that mental states are unique states, distinct from (and not wholly reducible to) physical states. Also bear in mind that, from the standpoint of common sense, mental states (or events) can cause physical states (or events). For example, a decision (mental event) can cause one’s arm to rise (a physical event). And presumably, a mental event can have such an effect only if it can bring about an event in the brain, e.g., the firing of a neuron. Given these preliminaries, Kim’s argument can be outlined as follows:

1. If a physical event has a cause, then it has a sufficient *physical* cause.
2. So, each brain-event (that has a cause) has a sufficient physical cause.
3. If a given brain event has a sufficient physical cause, it does not also have a mental cause.
4. So, mental events never cause brain events (and hence they never cause physical events, including bodily movements).

Premise 1 is called the Causal Closure of the Physical Domain. This principle is granted by the majority of physicalists. Note that it does not say that every physical event has a cause. It thus allows for the possibility that some events are uncaused flukes or random occurrences. But what premise 1 does say is that if a physical event has a cause, it has a *physical* cause. This of course is something that scientists (including neuroscientists) routinely assume in all their researches.

Step 2 merely applies the Causal Closure principle to brain events. The inference is valid assuming that brain events are physical events—which no one denies. At this point it may be useful to construct a sort of picture to help us think about Kim’s argument. (Admittedly the picture involves some oversimplification.)



Suppose B1, B2, and B3 are brain states and that M1, M2, and M3 are mental states. The vertical lines tell us that the mental states supervene on the brain states. For example, M1 supervenes on B1—if a person is in B1, then he or she must be in M1. (Similarly, if a person is in B2, he or she must be in M2; and if a person is in B3, he or she must be in M3.) The arrow tells us that B1 is a sufficient cause for B2, and that B2 is a sufficient cause for B3. (This is just a simplified way of picturing the point that brain states have *physical* causes.) The question, in essence, is this: If B1 fully causes B2, and B2 fully causes B3, what causal role do the mental states M1, M2, and M3 play, if any?

Step 3 gives Kim’s answer: the mental states do not cause any brain states at all. How does Kim arrive at this answer? It is of course *logically possible* for an event to have two sufficient causes. For example, two assassins might strike a lethal blow at the same person and at the same moment. That said, it is not at all plausible to suggest that each brain state has two distinct sufficient causes, one physical and one mental. Given that brain events have sufficient physical causes, brain events are fully accounted for. There is no need to suppose that mental states ever cause brain states (or any other physical states). Furthermore, if we postulate a system of mental causes in addition to (or “on top of”) the system of physical causes, what would explain why the two systems are coordinated with each other? (For example, why do B1 and M1 both have the same effect, namely B2?) We do not get an illuminating answer simply by being told that mental states supervene on physical states. Thus, physical causes seem to exclude mental causes. (This is where the Exclusion Argument gets its name.) Hence, nonreductive physicalism seems, by implication, to force us to deny that there are mental causes of physical events (including actions).²⁶

If the Exclusion Argument is correct, it is very bad news for nonreductive physicalists, for they hold that irreducibly mental events often cause physical events. But given the Causal Closure principle, such mental-to-physical causation does not seem credible.²⁷

VI. Arguments for Substance Dualism

Substance dualists have offered a variety of arguments for their position. We will consider just two arguments here.²⁸

A. The Possibility of Life After Death

Many people think they can clearly conceive of the possibility of an unembodied existence after death. They think it is at least logically possible that they will have a conscious existence when their bodies have ceased to function (and have thoroughly decayed). If it is indeed logically possible for you to have conscious mental states when your body has been destroyed, then clearly you are not identical with your body.

But physicalists are in general unimpressed with this sort of argument. Prior to the discovery that water is H₂O, people might well have thought that water could exist even if there was no H₂O. But we now know that this apparent possibility isn't really a possibility at all. In the same way, if mental states are identical with physical states, as mind-brain identity theorists claim, there can be no conscious mental states apart from functioning brains. Furthermore, if mental states *strongly depend* on physical states, as nonreductive physicalists claim, then unembodied consciousness is not possible.

Here it should be noted that Christian theologians who are physicalists stress that the Bible teaches the resurrection of the body--God will raise the dead on the Day of Judgment. In other words, life after death will be an *embodied* life.

To sum up, the "Possibility of Life After Death" argument relies heavily on metaphysical intuitions that are very much open to question.

B. A Best Explanation Argument

Think back to the Simplicity Argument for physicalism. The crucial claim of that argument was that the "soul hypothesis" is unnecessary--all mental phenomena can be explained in terms of physical states. But our discussion of physicalist views indicates that they falter at a number of important points. If the "soul hypothesis" can fill any of these explanatory gaps, substance dualists can argue that their position is probably true on the grounds that it provides the best explanation of the relevant phenomena. (Compare: Although physicists cannot see tiny subatomic particles such as electrons and quarks, they think that electrons and quarks probably exist because theories that postulate such entities can explain phenomena that other theories cannot explain.)

What might the "soul hypothesis" explain? It might help to explain free will. We saw that, on physicalist views, human action seems to be the consequence of laws of nature and events of the remote past. And there seems to be no room for incompatibilist free will in this picture--the kind of free will many think is required for moral responsibility. But suppose we postulate the existence of a non-physical soul having the power to form intentions and by forming those intentions to effect changes of some sort in the brain. Since a non-physical entity would not be subject to physical laws (e.g., the laws of physics, chemistry, and biology), the states of a non-physical soul would not be consequences of the laws of nature and past events. These considerations suggest the following argument for substance dualism:

1. Humans have the sort of free will that is needed for moral responsibility.
2. Physicalism implicitly denies premise (1). (See section V, part A.)

3. If humans have a non-physical soul with the power to form intentions (and by forming those intentions to effect changes in the brain), then it is not surprising that humans have free will.
4. So, free will is not surprising given substance dualism, but it is *very* surprising (apparently impossible) given physicalism.
5. In general, if a phenomenon is not surprising given hypothesis H1 but *very* surprising given H2, then we have a reason to accept H1 over H2.
6. So, the presence of free will gives us a reason to accept substance dualism over physicalism.

Of course, physicalists are not likely to warm up to the “soul hypothesis.” First, they may point out that the appeal to free will is not scientific. But the substance dualist might well reply that, in theorizing about human persons, we need to take into account the full range of evidence, not merely the sort of evidence appropriate to scientific research. And our experience of the moral life seems to indicate that we humans are sometimes morally responsible. Furthermore, it is hard to see how we can be morally responsible on a given occasion if, in the last analysis, *our actions are fully under the control of factors we don’t control*—namely, the past and the laws of nature.

Second, physicalists may claim that if the soul were to effect changes in the brain, this would violate the scientific principle of conservation of energy, i.e., the principle that the energy in an isolated (or “closed”) physical system remains constant. Daniel Dennett, for example, asks us to think about signals supposedly coming from a non-physical soul to the brain:

These [signals] . . . are not physical; they are not light waves or sound waves or cosmic rays or streams of subatomic particles. No physical energy or mass is associated with them. How, then, do they get to make a difference to what happens in the brain cells they must affect, if the mind [soul] is to have any influence over the body? A fundamental principle of physics is that any change in the trajectory of any physical entity is an acceleration requiring the expenditure of energy, and where is this energy to come from? It is this principle of the conservation of energy that accounts for the physical impossibility of “perpetual motion machines”, and the same principle is apparently violated by dualism. This confrontation between quite standard physics and dualism has been endlessly discussed since Descartes’ own day, and is widely regarded as the inescapable and fatal flaw of dualism.²⁹

As Alvin Plantinga points out, in this passage Dennett conflates two different objections to dualism. First, he’s alleging that a non-physical entity cannot have causal effect in the physical world. But—as we saw in our discussion of the Causation Argument—dualists are not without a plausible response to this charge. Second, Dennett claims that the principle of conservation of energy somehow prevents a non-physical entity from having an effect in the physical world. But this latter point also seems to miss the mark. *If the soul causes any sort of change in the brain, then the brain is not an isolated (or “closed”) system (and hence the principle of conservation of energy is not violated)*. Moreover, the principle of conservation of energy in no way states or implies that the brain is a closed system. (In fact, even on the purely physical level, energy flows *into* the brain from other systems in the body and *from* the brain to other systems in the body.)

One further observation may help to clarify the problem with Dennett’s claim about the principle of conservation of energy. If Dennett’s claim were correct, it would prove that God cannot work miracles. But in fact, if God works a miracle (e.g., stills a storm), this would simply

show that the physical system in question is not closed: the principle of conservation of energy would not be violated.³⁰

VII. Theological Issues

The soul-body issue is linked with some important theological issues. Let us briefly explore two of them here.

A. Does the Bible teach (or presuppose) that humans have souls?

The Hebrew and Greek words often translated by the English word “soul” do not have “nonphysical” built into their meaning. For example, the Hebrew word *nephesh* can mean “living being” or “self.” Similarly, the Greek word *psyche* may mean “life” or “self.” Where the word “soul” appears in English translations of the Bible, the meaning is often something like, “center of one’s inner life.” Thus, it would be an error to assume that a Bible verse such as, “Praise the Lord, O my soul!” (Psalm 146:1), is clearly referring to non-physical soul. Here the Psalmist is merely exhorting *himself* to praise God. Most Bible scholars would agree that there is no clear teaching about a non-physical soul in the Old Testament. There are references to a shadowy existence after death in Sheol (the grave), but these references do not amount to a clear assertion of substance dualism.³¹

Some New Testament passages seem rather more promising. Consider the following:

- Matthew 10: 28. Do not fear those who kill the body but cannot kill the soul; rather fear him who can destroy both body and soul in hell.
- Luke 23: 43. Today you will be with me in Paradise.
- II Corinthians 5: 6, 8, 10. [Here I am condensing the text.] While we are at home in the body we are away from the Lord. We would rather be away from the body and at home with the Lord. We must all appear before the judgment seat of Christ, so that each may receive good or evil, according to what he has done in the body.
- I Peter 3: 18-20. For Christ also died for sins once for all . . . being put to death in the flesh but made alive in the spirit; in which he went and preached to the spirits in prison, who formerly did not obey, when God waited in the days of Noah . . .

The first two passages are attributed to Jesus. Neither passage occurs in a context in which the main point is to teach something about the relation between the soul and body. The main point of the Matthew passage, for example, seems to be that God—as opposed to human beings—holds the power to punish after death. A human can kill you, but a human cannot destroy the “real you,” only God can do that. And while the language may suggest that the soul is not physical, some theologians warn that the “soul and body” language could be just a customary way of speaking, upon which we should not rely too heavily. Consider an analogy: Some Old Testament passages speak of the four corners of the earth, but we know better than to read those passages too literally (or to take their literal meaning as divine teaching). Furthermore, Bible scholars emphasize that life after death is in some sense embodied, according to the Scriptures—more on this momentarily.

The passage from Luke purportedly records the words of Jesus to one of the thieves crucified along with him. Since the body of Jesus was entombed later the same day, and the thief was presumably buried in a common grave, their *bodies* were not in Paradise (the abode of the blessed) on that day. So, this passage has a dualistic tone. But many interpreters would warn

against an excessively literal interpretation of Jesus' words: Wasn't his main point just that the thief would somehow be saved?

The passage from Corinthians also has a dualistic ring to it. However, we must remember that the Bible teaches the resurrection of the body. For example, "The hour is coming when all who are in the tombs will hear his [the Son of God's] voice, and come forth, those who have done good, to the resurrection of life, and those who have done evil, to the resurrection of judgment" (John 5:28-29). And I Corinthians 15 discusses the resurrection of the body at length: "Christ has been raised from the dead, the first fruits of those who have fallen asleep. For as by a man came death, by a man has come also the resurrection of the dead. For as in Adam all die, so also in Christ shall all be made alive" (I Corinthians 15:20-22). Thus, when Paul speaks of being "away from the body," he may only mean being away from one's *earthly* (non-resurrection) body. And some Christian theologians who take a physicalist view of the human person claim that we cease to exist from death till the Day of Judgment--the resurrection of the body is in effect God's re-creation of the person.

The passage from I Peter seems to be saying that during the time Jesus' body was in the tomb, he preached to those who perished in Noah's flood. And since the Day of Judgment is yet to come, these "spirits" were presumably not yet resurrected, so they would appear to be unembodied. This passage has been used to support the thesis that between death and the Day of Judgment, we will exist in an unembodied state, the so-called *intermediate state*, i.e., intermediate between death and resurrection. While a belief in the intermediate state has been common among Christians down through the ages, many contemporary theologians find the Scriptural basis for it rather fragmentary and uncertain.³²

To sum up, while some biblical passages have a dualistic tone, there is a continuing debate among Christian theologians and Bible scholars concerning what the Bible, taken as a whole, teaches about the nature of the human person.³³

B. Created in the Image of God

"So God created man in his own image, in the image of God he created him; male and female he created them" (Genesis 1:27). Few Bible passages have spawned more reflection than this one. Theologians have put forward a variety of theories regarding what it means to be in God's image. And theological ethicists have often regarded being in God's image as an important moral category, grounding the special worth of humans, and so indicating that all human beings must be treated with great respect.

The natural interpretation of the "the image of God" language is that we humans *resemble* God in some important way. Various candidates suggest themselves. Perhaps we resemble God in being rational agents, in being able to love, in having a leadership role with respect to the creation order, or in being free moral agents. Given that God is a non-physical spirit, if we humans have non-physical souls, we would be like God in having such a non-physical aspect.³⁴

In this connection, some religious people have an intuition that, in order to relate to a non-physical God, humans *must* have a non-physical soul. But this intuition doesn't hold up well under scrutiny. Christians think of their relationship with God as a personal relationship. From this perspective, knowing God is rather like knowing a human person. Christians speak to God in prayer, they praise God in worship, they meditate on the Bible, which they take to be God's word, and look for guidance from God through the events of their lives. Sometimes they think God speaks to them via thoughts that occur during prayer, meditation, or worship. And so on.

But none of this seems to require that humans have a non-physical soul, since an almighty God is surely capable of relating to physical creatures.

Some substance dualists note that not all humans are rational. Think of fetuses, newborn infants, the mentally impaired, and the comatose. Similarly, not all humans are able to love, and not all are free moral agents. In what way, then, do *all* humans resemble God? “In the possession of a non-physical soul” seems the only possible answer. But critics are apt to reply that it is a virtual certainty that ancient Hebrew authors were not asserting (or presupposing) substance dualism in claiming that humans are created in God’s image. The ancient Hebrews simply didn’t engage in such carefully drawn metaphysical theorizing.³⁵

Clearly, the phrase “image of God” is a metaphor subject to multiple interpretations. All things considered, the Biblical use of this phrase does not provide solid support for substance dualism.

In closing, let us reflect briefly on some connections between the “soul-body” issue and the debate over theism and naturalism. (Roughly speaking, naturalism is the view that there is no God and that everything is physical.) Naturalists of course take a physicalist view of the human person. And this arguably leads to problems for naturalism. (As I shall explain shortly, theists who take physicalist views of the human person may have ways of coping with these problems—ways that are not available to naturalists.)

Naturalists often emphasize that theists have difficulty explaining the presence of evil in the world. But naturalism, with its physicalist views of the human person, also seems to falter in explaining the presence of evil. Of course, “evil” here includes both moral evil and natural evil. Moral evil is the wrongdoing for which humans are responsible and the suffering which results from it. Natural evil is the suffering that results from non-human causes. Let’s consider how well naturalists, with their physicalist views of the human person, can explain each of these kinds of evil.

Both kinds of evil involve mental states. For example, in order for moral evil to be present, there must be human agents who *freely choose* to act on morally wrong *intentions*. But we have seen that physicalist views arguably falter in accounting for the sort of free will required for moral responsibility. They apparently place all human acts *fully* under the control of factors humans don’t control—namely, the past and the laws of nature. Moreover, a plausible account of moral evil must surely allow that a person’s *desires* and *intentions* can causally influence her behavior. (“I knew it was wrong to cheat him but I did it anyway *because I wanted the money.*”) As Kim’s Exclusion Argument indicates, however, nonreductive physicalists seem forced to deny that mental states (such as desires and intentions) can causally affect a person’s actions. And reductive physicalists also run into difficulties in explaining moral evil, e.g., as we’ve seen, functionalists seem unable to account for the *felt experience* of pain; this being so, they cannot account for the *suffering* that results from morally wrong acts.

In regard to natural evil, keep in mind that it’s the *suffering* that counts as evil. (Suppose a hurricane occurs in the middle of the Atlantic Ocean where it causes no suffering: *this* is not an example of natural evil.) So, in order for natural evil to be present, there must be beings that suffer. And a full description of the suffering in the world alludes to many mental states. For example, people may experience extreme *fear* because they *believe* they are in danger of dying from a disease. They may be very *sad* or *depressed* because they *know* a loved one was killed in a flood (or by a tornado). They may *feel miserable* because they are *experiencing unpleasantly*

hot or cold temperatures. And so on. In short, if a view has difficulty accounting for conscious mental states, it will have difficulty accounting for natural evil.

But, as we've seen, physicalist explanations of conscious mental states are far from problem-free. Mind-brain identity theorists implausibly equate mental states with physical states, in spite of the intuitively vast differences between them. Functionalists falter in accounting for conscious subjective states, such as pain--or any other unpleasant feeling. Of course, a view that cannot account for *unpleasant feelings* is ill-equipped to explain natural evil! And nonreductive physicalism seems unable to provide a plausible account of many natural evils, since they involve a causal role for mental states that nonreductive physicalism rules out, according to Kim's Exclusion Argument. For example, "Joe slept outdoors and got terribly frostbitten because he *feared* another earthquake would cause his house to fall down," "Jill's deep sadness was caused by the *belief* that her baby died of measles," or "Sam ate the mushrooms and became violently ill because he mistakenly *thought* they were edible."

Very well, physicalists who are naturalists seem to run into difficulties in their attempts to explain moral and natural evil. Do physicalists who are theists run into the same difficulties (on top of the difficulties theists in general have in explaining evil)? Perhaps not. Suppose a theist adopts a modified version of nonreductive physicalism. In this version, mental states can cause brain states, because God sets in place laws of nature that connect irreducibly mental states (such as beliefs, desires, and intentions) with brain states. These laws also allow certain mental states—namely, those that constitute free choices, to operate somewhat independently of physical states. If this version of nonreductive physicalism is coherent, it escapes Kim's Exclusion Argument for two reasons. (1) It can account for a system of mental causes that is *coordinated* with the system of physical causes. The coordination is guaranteed by an almighty, all-knowing, and good Creator, whose purposes include the creation of free moral agents, and who sets up laws of nature that accord with this purpose. (2) Consistent with traditional theism, this theistic version of nonreductive physicalism denies the causal closure of the physical domain. At least two kinds of physical events are not caused (or not *fully* caused) by physical factors: (a) physical events caused directly by God (such as miracles) and (b) any physical event (e.g., a brain event) that is at least partly caused by a mental event and not *fully* caused by any physical factors.³⁶

Endnotes

1. The so-called *eliminative materialists* deny that humans have conscious mental states. See Paul M. Churchland, "Eliminative Materialism and the Propositional Attitudes" *Journal of Philosophy* 78 (1981), 67-90 and Daniel Dennett, "Quining Qualia" in: A. Marcel and E. Bisiach, eds., *Consciousness in Contemporary Science* (New York: Oxford University Press, 1988), 42-77.
2. Some things we claim to see are not things we're *directly* aware of. For example, you might claim to "see" that a person is rich because she's wearing a diamond necklace. In this type of case, you are actually inferring that she's rich.
3. Rene Descartes, *Meditations on First Philosophy*, in *The Philosophical Works of Descartes*, vol. I, trans. Elizabeth S. Haldane and C.R.T. Ross (London: Cambridge University Press, 1977), 131-199. Some substance dualists have denied that there is causal interaction between the soul and the body, but such denials fly in the face of common sense. Accordingly, I shall ignore these versions of substance dualism.

4. William Alston, "Substance and the Trinity," in Davis, Kendall, and O'Collins, eds., *op. cit.*, 181. This definition isn't quite right, but it will serve for present purposes. It isn't quite right for at least two reasons: (1) Consider a specific event, such as John Wilkes Booth's shooting of Abraham Lincoln on April 14, 1865. Such an event has properties (e.g., *being tragic*) but is not itself a property. Yet, philosophers don't count events as substances. (2) Consider numbers, such as the number thirteen. They also seem to have properties (e.g., *being odd*) and yet they don't seem to be properties. Many philosophers regard numbers as abstract entities. (A key feature of abstract entities is their lack of causal powers.) So, events and certain abstract entities complicate our effort to define "substance," but we can proceed simply by noting that events and abstract entities don't count as substances in the relevant sense.
5. Plato, "Phaedo," *Five Dialogues*, trans. G. M. A. Grube (Indianapolis, IN: Hackett, 1981), 93-155.
6. Traditionally, Christians have believed that the soul exists in an unembodied state from death until the Day of Judgment, when it is united with a resurrected body. But they have not held that the soul would be better off to stay in this unembodied state for all eternity.
7. J. J. C. Smart, "Sensations and Brain Processes," *Philosophical Review*, LXVIII (1959), 141-56.
8. Hilary Putnam, "Psychological Predicates," in W.H. Capitan and D.D. Merrill, eds., *Art, Mind, and Religion* (Pittsburgh: University of Pittsburgh Press, 1967), 37-48. While Putnam formulated early versions of functionalism, he has since produced important criticisms of it.
9. In theory, a substance dualist could accept the functionalist analyses of mental states, but conclude that the relevant internal states are non-physical. As far as I know, however, no substance dualist has ever taken this position. In fact, substance dualists typically emphasize problems with functionalist analyses of mental states.
10. My characterization of nonreductive physicalism is substantially borrowed from Jaegwon Kim, *Philosophy of Mind*, second edition, (Cambridge, MA: Westview Press, 2006), 290-291. My characterization differs at point (c), however, in that Kim assigns the supervenience thesis to all nonreductive physicalists. But some nonreductive physicalists characterize the relation of strong dependence in alternate ways. For example, some say that mental states are *constituted* by physical states, and others say that mental states *emerge* from physical states. And the relation of supervenience is itself understood in different ways. For some discussion of these issues, see Nancey Murphy, "Nonreductive Physicalism: Philosophical Issues," in Warren S. Brown, Nancey Murphy, and H. Newton Maloney, eds., *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature* (Minneapolis, MN: Fortress Press, 1998), 127-148.
11. Kim, *op. cit.*, 198.
12. See, for example, the essays by biologists, neuroscientists, psychologists, philosophers, biblical scholars, and theologians in Brown, Murphy, and Maloney, eds., *op. cit.* and also in Malcolm Jeeves, ed., *From Cells to Souls—and Beyond: Changing Portraits of Human Nature* (Grand Rapids, MI: Eerdmans, 2004).
13. In a celebrated correspondence with Princess Elizabeth of Bohemia, Descartes discussed the causal relationship between the soul and the body. See Elizabeth Anscombe and Peter Thomas Geach, trans., *Descartes: Philosophical Writings* (Indianapolis, IN: Bobbs-Merrill, 1971), 274-286.
14. For an informative discussion of evolution as it relates to issues in the philosophy of mind, see Francisco J. Ayala, "Human Nature: One Evolutionist's View" in Brown, Murphy, and Maloney, *op. cit.*, 31-48. For insightful philosophical reflections on evolution and Christian theology, see Peter van Inwagen, "Genesis and Evolution" in *God, Knowledge, and Mystery: Essays in Philosophical Theology* (Ithaca, NY: Cornell University Press, 1995), 128-162.
15. My argument is inspired by an argument Peter van Inwagen developed to show that determinism rules out free will. See Peter van Inwagen, *An Essay on Free Will* (Oxford, The

- Clarendon Press, 1983), v. But since I am altering this argument for my own purposes, I am responsible for any mistakes in it.
16. Some physicalists might want to allow for occasional, completely random events that are uncaused. But since we would not control any such uncaused events, we can safely set this possibility aside, for present purposes. Also, if the laws of nature are statistical (or probabilistic), they allow for random occurrences. For example, the laws of radioactivity tell us that half of the atoms in a unit of radium 226 will decay over a period of 1602 years, but these laws do not tell us which of the atoms will decay during that period or the precise moment when any one of them will decay. *Notice, however, that even if the laws of nature are statistical (or probabilistic), we humans do not control them.*
 17. Some physicalists tell a more complex story about which physical states mental states supervene on—i.e., more than just *brain* states are involved. But such views are easily accommodated simply by plugging in a name for the more complex physical state wherever “brain state” occurs in the argument.
 18. I find the following thought experiment, borrowed from Peter van Inwagen, especially helpful in revealing the inadequacy of the compatibilist view of free will. To paraphrase, suppose Martians implant a tiny brain monitor into every human at birth. The monitor is undetectable to us, given the current state of our science, and it is programmed to take control of human decision-making. Whenever a human has to make a choice, the brain monitor causes the person to choose in accordance with its program. But we humans never feel interfered with because the monitor causes us to form *beliefs, desires, and intentions* appropriate to our actions. We perform the actions because we want to (and intend to), but our “wantings” and intentions are themselves under the control of the Martian computers, and so our acts aren’t free. (Now, if our physical environment, operating in accord with laws of nature, plays a role similar to that of the Martian computers in this thought experiment, can we act freely?) See van Inwagen, *An Essay on Free Will*, *op. cit.*, 109.
 19. John Searle, *Mind: A Brief Introduction* (Oxford: Oxford University Press, 2004), 97-98.
 20. Thomas Nagel, “What Is It Like to be a Bat?,” *Philosophical Review*, vol. 83 (1974): 435-450.
 21. John Heil, “Philosophy of Mind,” in Leemon McHenry and Frederick Adams, eds., *Reflections on Philosophy: Introductory Essays* (New York: St. Martin’s Press, 1993), 177.
 22. John Searle, *Minds, Brains, and Science* (Cambridge, MA: Harvard University Press, 1984), 31-33.
 23. *ibid.*, 32.
 24. For a discussion of the Chinese Room argument, see Kim, *op. cit.*, 145-149.
 25. Kim, *op. cit.*, 194-197.
 26. Reductive physicalists can deny step 3 of Kim’s argument. For example, mind-brain identity theorists will point out that, from their point of view, mental events are identical with brain events, so a given brain event may well be caused by a brain event *that is also a mental event*.
 27. Can nonreductive physicalists simply give up the Causal Closure principle? Not without cost. One of the major motivations for holding a physicalist view is the assumption that physical events have *physical* causes (if any). It would be hard for a neuroscientist to give up on the idea that each brain event has a physical cause, for this would mean that there cannot be a complete physics, chemistry and/or biology. (There would be exceptions to the laws of one or more of these sciences in the operation of the brain.) Also, if a physicalist grants that mental states operate independently of physical states, then the physicalist is accepting a very mysterious picture of mental causation. How do these mental states, operating independently of physical states, cause events in the brain? Such mental causes would seem to be as mysterious as a non-physical soul.
 28. For a short, up-to-date defense of substance dualism, see Frank B. Dilley, “Taking Consciousness Seriously: A Defense of Cartesian Dualism,” *International Journal for Philosophy of Religion* 55 (2004) 135–153. See also Alvin Plantinga, “Materialism and

- Christian Belief’ in Peter van Inwagen and Dean Zimmerman, eds., *Persons: Human and Divine* (Oxford: The Clarendon Press, 2007), 99-141.
29. Daniel C. Dennett, *Consciousness Explained* (Boston: Little, Brown, 1991), 35, as quoted in Plantinga, *op. cit.*, 125.
 30. All of the responses to Dennett are borrowed from Plantinga, *op. cit.*, 125-127.
 31. For example, in I Samuel 28 King Saul visits a medium who conjures up the dead prophet Samuel. The medium, however, says, “An old man is coming up; and he is wrapped in a robe” (verse 14). Whatever we make of this passage, the visual imagery hardly supports the claim that Samuel is represented as an *unembodied* soul.
 32. Christian physicalists have also suggested that there may be an *embodied* intermediate state, in which the body is not glorified as it will be at the time of the resurrection. See Kevin J. Corcoran, *Rethinking Human Nature: A Christian Materialist Alternative to the Soul* (Grand Rapids, MI: Baker Academic, 2006), 143-44.
 33. For brief but informative discussions of the biblical materials relevant to the soul-body issue, see Joel B. Green, “‘Bodies—That Is, Human Lives’: A Re-Examination of Human Nature in the Bible,” in Brown, Murphy, and Malone, eds., *op. cit.*, 149-173 and Corcoran, *op. cit.*, 135-147. For a book-length treatment of the biblical materials, see John W. Cooper, *Body, Soul, and Life Everlasting: Biblical Anthropology and the Monism-Dualism Debate* (Grand Rapids, MI: Eerdmans, 1989).
 34. Why do Christians hold that God is non-physical? Many Christians interpret certain scriptures as indicating this, e.g., “God is spirit, and those who worship him must worship in spirit and in truth” (John 4:24). Beyond this, there are theological and philosophical reasons for regarding God as a non-physical entity. (1) Christians regard God as the creator of the physical universe. But if God is a physical entity, then God is not, in a radical sense, the creator of physical reality, but only the creator of that part of physical reality outside of himself. (2) Most Christian theologians regard God as a necessary being, i.e., God cannot fail to exist. But physical entities can be created and destroyed and so exist only contingently. (3) Christians regard God as omnipotent, but physical entities are subject to laws of nature, and hence limited. (It makes no sense to speak of physical things that are not subject to laws of nature.) So, if God is omnipotent, God is not physical.
 35. It is also doubtful that, in using the phrase “the image of God,” the ancient Hebrew author meant to be setting forth a morally significant category into which *every* human being falls. Perhaps the author was merely employing a brilliant metaphor for the exalted (god-like) capacities that are characteristic of human beings, but not strictly universal. For a brief reflection on the meaning of “the image of God,” see Corcoran, *op. cit.*, 81-82
 36. I wish to thank Rebekah Rice and Patrick McDonald for insightful comments on previous drafts of this paper—comments which enabled me to make a number of corrections and improvements. I must of course take responsibility for any problems that remain.