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Chapter 2

. . . What is it that sets apart processes, such as sensation, emotion, thought, and desire, from other processes occurring in us, such as respiration, circulation, digestion, and growth? Or more generally, what is this thing we call “the mind”?

Our minds are our constant companions. Our mental lives begin in the womb and pause (or at least slow down significantly) only during dreamless sleep or coma. When we think, desire, feel, emote, or believe, we are using our minds. We know that the workings of the mind are intimately connected to the workings of the brain. We know, for example, that damage to the primary visual areas of the occipital lobe in the brain causes blindness, and that damage to the boundary of the temporal and parietal lobe can render individuals unable to comprehend spoken language. But how are the workings of gray matter relevant to my visual experience of the radiant array of colors I see before my eyes? How could electrical impulses in certain areas of my brain account for my understanding of a line of poetry or to flowing conscious experience? The mystery of how this happens seems, as the English biologist Julian Huxley put it, just as perplexing as the mystery of how the Djinn emanates from Aladdin’s lamp. To solve this mystery is to solve the venerable mind-body problem, a problem philosophers have been struggling with for thousands of years.

Although philosophers may not have come up with the solution to the mind-body problem over these thousands of years, they have made great strides in understanding and clarifying the panoply of possible solutions to it. These potential solutions tell how the mind and body could be aligned. For example, one possible solution to the problem is to say that mental processes are nothing more than certain neural processes: Visual experience is nothing more than properly functioning neural activity in the primary visual areas of the occipital lobe, understanding spoken language is just neural activity at the boundary of the temporal and parietal lobes, and so on.

Another line of reasoning leads to the view that there is a causal relation between mind and brain. On this view, for example, activity in the visual cortex *causes* sight. And still another view is that the mind and brain have no causal interaction at all, for example, that neural processes and visual experience merely run along parallel tracks, each perfectly correlated with the other yet proceeding in complete causal isolation from the other. Some even hold that experience itself doesn’t exist and that somehow all our mental life is an elaborate mental illusion. Although each of these views has its champion, there is no agreement about which view is best, or most likely to be correct. Our minds are our most precious commodities, yet we know so little about how they fit into the physical world.

But do we even know that the mind *does* fit into the physical world? Sometimes the mind-body problem is thought of as the problem of specifying how the mind fits into the physical world. To put it this way assumes, however, that it *does* fit in and problem is just to specify *how* it fits in. But as there are those who think that the mind is not physical (because, for example, it is your soul), the formulations of the mind-body problem should really be stated more neutrally. And a good neutral formulation is this:

The mind-body problem: the problem of specifying the relationship between mind and body.

Chapter 3

Imagine that you are a mad scientist capable of creating a human being in your underground laboratory. How do you go about your task? Wanting to create something as much like a human being as possible, you consult your anatomy book and get to work. . . . Eventually torso, limbs, internal organs, face, brain, bodily fluids and so forth are meticulously inserted, pumped in, and sutured up. After you turn the power switch on, the creature starts walking, breathing, even talking. All the physical parts are in perfect working order. But is your job done? Have you actually created a human being? Or have you left out something extremely important? The answer depends on whether the mind is an extra ingredient distinct from all the physical parts. . . .

The primary divide among philosophers working on the mind-body problem is between dualists, or more generally, nonphysicalists, who think that the mind is an ingredient additional to all the physical ingredients in a person, and physicalists who think that it is not. Let us begin creating human beings in the dualist manner. We will need two sets of raw ingredients: physical body parts, and nonphysical minds or souls. Now, how are we to proceed? One way to combine mind and body can capture a common view about the mind-body relationship, that there is casual commerce between the two. For example, certain kinds of brain damage affect our minds, and our moods affect our brains and bodies. This is the classic dualist position, typically referred to as “Cartesian dualism” or “interactive dualism”.

According to interactive dualism, when I think about a sad event, this thought is not something going on in my brain, but is entirely nonphysical. Nonetheless, this thought can cause certain reactions in my body, such as the production of tears in my tear ducts. Similarly, thinking about something funny, which on this view is a purely mental, nonphysical process, may cause my body to fall into a fit of laughter. The interaction goes in the other direction as well. Damage to the brain, for example, causes damage in the mind even though the mind is distinct from the brain. Stepping on a nail causes changes in one’s body – a puncture would, pain signals being sent to the brain, and so on – which in turn cause the feeling of pain in one’s mind, a feeling that is something other than anything going on in the brain. If interactive dualism is the correct view about how mind and body are related, a mad scientist, if she wants to create a creature with a mind, need to have not only a physical body but also a nonphysical mind, and needs to set them up so that they affect one another.

A prominent objection to interactive dualism is that it is unclear how anything nonphysical could interact with anything physical: How could anything as ephemeral as a mind affect something as substantial as a brain? . . .

Chapter 4

Understanding Dualism of Mind and Body

We talk about having a brain and body as we talk about having a hat and blue shoes: They are important accessories, but not who we really are. And when we say “he has lost his mind,” it may seem as if the mind is some free-floating entity capable of wandering away from its body. However, just because we speak as if mind and body are distinct does not prove that they are, since there are many things we often speak of that are simply ways of speaking and nothing more. We say “the sun sets,” yet the sun doesn’t literally lower in the sky. We say, “I’m beside

myself,” though obviously we are never literally beside ourselves. We say, “I have butterflies in my stomach,” but not even the most nervous of individuals has had even one butterfly in the stomach . . . So just because we speak of the mind as distinct from the body does not mean that the mind actually is distinct from the body. The important question is whether we are correct when we speak as if the mind is distinct from the brain.

The question of whether the mind is distinct in a robust sense from the brain is essentially the question of whether dualism is true. But before we ask whether it is true, let us try to better understand the view. What could it mean for the mind to be distinct from the brain? To understand the mind-body problem and to ensure that dualists and physicalists are not talking past one another, we need to make sure that what the dualists are asserting when they make this claim is the same thing that the physicalists are denying.

One idea of what it means for the mind to be distinct from the brain is for there to be no causal commerce between the mind and the brain, that is, for mind to have no effect on the brain. This, however, cannot be what dualists mean when they say that mind and brain are distinct, since dualists often hold that although mind and brain are distinct, they causally affect one another. Or at least “Cartesian dualists” hold this view. According to the Cartesian dualist, the brain can cause certain things to happen in the mind – for example, a brain injury might cause depression – and the mind can cause certain things to happen in the brain – for example, fear might cause the brain to signal to release of certain hormones.

So, to say that the mind and brain are causally distinct is not to say that mind and brain have no causal interaction. Distinct things can be causally related: a thrown rock may cause a window to shatter, but the rock is something other than the window and the window something other than the rock. Similarly, for the Cartesian or interactive dualist, although a chemical imbalance may cause depression, the chemical imbalance in the brain is something other than the depression and the depression is something other than the chemical imbalance. . . .

Chapter 5

Motivations for Dualism

Throughout history, the view that the mind is distinct from the body, what we call “dualism”, has been very influential. For example, Plato, Descartes, Leibniz, and Kant were all dualists of one form or another. And today many people are dualists. From what I gather based on surveying my students, sixty to seventy percent accept mind-body dualism. Of course, students who take philosophy may not be representative of the population at large, but I think that, if anything, they tend to be less favorably disposed to dualism.

What are the reasons for the popularity of dualism? Certainly some of its popularity is derived from religion, since nearly all the major religions advocate dualism of body and soul. While religious beliefs tend to be supported by faith, philosophers typically want arguments for a view. What then are some arguments for the view that the mind is distinct from the brain?

The best argument for dualism would be based on scientific evidence of immaterial minds. If the theory of mind-body dualism were backed up by scientific evidence, there would be very few

philosophers still arguing over its truth. But what sort of scientific evidence could there be for dualism? . . .

Of course, clear scientific evidence for the mind being distinct from the brain could arrive in the form of a neuroscientific discovery of a pure mental soul. Imagine the headlines: **SOUL DISCOVERED BY MIT NEUROSCIENTISTS DURING MRI SCAN!** But while we may be able to imagine this headline, it is very difficult to understand what it could mean. How could a soul be discovered, especially during an MRI scan? Science has discovered some pretty outlandish things before, so even discovering souls in human brains is not completely beyond the realm of possibility. Nonetheless, we currently have no idea how such a discovery would be possible.

What does this current lack of evidence for dualism, as well as our inability even to see what could count as future evidence, imply about the truth of dualism? One thing it shows is that currently there is no scientific reason to accept dualism. However, this does not mean that there is no reason at all to accept dualism. Rather, many hold that there are good philosophical reasons to accept dualism despite the current lack of scientific evidence. . . .

Chapter 6

Descartes' Argument for Dualism

Perhaps the most famous argument for dualism of mind and body is that of the French mathematician, philosopher, and physiologist René Descartes (1596-1650). Descartes argued as follows:

I know that everything which I clearly and distinctly understand is capable of being created by God so as to correspond exactly with my understanding of it. Hence the fact that I can clearly and distinctly understand one thing apart from another is enough to make me certain that the two things are distinct, since they are capable of being separated, at least by God . . . I have a clear and distinct idea of myself, in so far as I am simply a thinking, unextended thing; and on the other hand, I have a clear and distinct idea of body, in so far as this is simply an extended nonthinking thing. And accordingly it is certain that I am really distinct from my body and can exist without it. (*Sixth Meditation*)

In this passage, Descartes tells us that if he can understand how the world could be different from how it actually is, then God could have made the world that way. For example, if he has a clear conception of the Pyrenees Mountains as being a bit taller than they actually are, then God could have created slightly taller Pyrenees Mountains. If he has a clear conception of having woken up three minutes later than he actually did, then God could have created a world in which Descartes woke up three minutes later.

As Descartes sees it, if you can conceive something very clearly, this shows that whatever it is you are conceiving is possible. Clearly conceiving taller Pyrenees mountains shows that these mountains could have been taller than they actually are. Descartes' concern, of course, is not with mountains or minutes of sleep, but rather with himself. He wants to know whether it is

possible that he could exist without a body. And he thinks that it is possible because he has a clear understanding of how this could be so.

To get a feel for Descartes' method, try to see what it is about yourself that you can imagine being different. For example, can you imagine yourself with different hair color? What about being left-handed rather than right-handed [or vice-versa]? . . . Or what about imagining yourself having ears that stick out more than they do now? I would guess that all of this is rather easy to do. And so, according to Descartes, this means that it is possible for you to have different hair color, or to be left-handed, or so forth. That is, you still could be you, but with blond hair, for example, rather than brown. But can you imagine yourself as being radically different? For example, can you imagine yourself not having any arms at all? I suppose this is not so difficult, as there are some individuals who have no arms.

But let us take this line of thought further: Can you imagine being just an unattached head? Or, perhaps even worse, can you imagine just having a headless body, capable of moving and touching things but not seeing, speaking, tasting, or hearing? This, you may be thinking, is certainly impossible: One simply cannot exist without a head. But perhaps we shouldn't reach this conclusion too quickly. Although Descartes does not say that he can *imagine* himself without a head, since imagination, for Descartes, always involves creating a picture in one's mind of something, he does say that he has a clear and distinct idea of himself as a thinking, unextended thing, taking up no space (It's rather difficult to picture something that does not take up space.) And if he has a clear understanding of this, then, as he sees it, God could have created the world to match this. In other words, God could have created a world in which Descartes has neither head nor body.

Apart from arguing that mind could exist without a body, he also argues that his body could exist without a mind. His reasoning is parallel: He can perfectly understand his body as a pure extended nonthinking thing, and it is possible that his body could function without his mind. And since both of these are possible, Descartes concludes that he really is something other than his body.

How does Descartes' conclusion that he is distinct from his body follow from his argument about what he understands? Let us look at his starting point: that everything he clearly and distinctly understands is capable of being created by God so that it corresponds exactly with his understanding. How does he know God can do this? If God is omnipotent, God can do anything. But how does Descartes know that God is omnipotent? Moreover, even if God is omnipotent, God still cannot perform the impossible. And how does Descartes know that it is possible to have mind without body and body without mind? Furthermore, how does Descartes know that God exists at all? Although these questions are all well worth thinking about, to explain why Descartes is confident that God exists would require us to go through his proof of the existence of God, which would probably lead us too far afield. Fortunately, one can state his argument without assuming the existence of God. So let's look at how this might be done.

Rather than arguing that mind can exist as a pure thinking thing because God is capable of creating anything that you can understand, we can simply cut to the chase and state that anything that you understand completely can exist just as you understand it. Or in other words, when you really understand how something could be possible, then it is possible. Is this a

plausible principle? I understand how humans could have evolved differently, say, to have better vision or longer toes. I understand how a could have missed the bus this morning. And both of these things seem possible. Moreover, try as I may, I cannot understand how there could be a round square. So this I judge to be impossible. Does this show that whatever we can understand is possible?

Much of this answer to the question depends on what is meant by “understanding something” or having a “clear and distinct idea of something.” Often we say that a person does not understand something unless what he or she is purportedly understanding is true. For example, we say that the second-century Greek astronomer Ptolemy did not really understand the cosmos, since he believed that the earth stood at its center. If this is how we are to understand *anything*, then if you understand how something is possible, it is true that it is possible. In this sense, if Descartes understands how his mind could be just a thinking thing without any extension in space, then it is true that it is possible that his mind could be pure thought without extension in space. And if he can understand how his body could exist without any thought occurring in it, then it is possible for his body to exist without any thought occurring in it.

But there is another sense of *understanding* that doesn't imply that whatever is understood is true. For example, someone tells you about the theory that the first living creatures on earth were brought to earth via a meteor. You might respond that you understand the view but do not believe it. Understanding something here means finding no contradiction in it. This is probably what Descartes means when he says that he can understand how his mind could be an unextended thinking thing: Although the idea of a round square is contradictory, he finds no contradiction in the idea that the mind is simply a thinking thing without any extension and that body is simply an extended thing without any thought.

Is this a good guide to what is possible? To be sure, sometimes we might think that something is not contradictory, but it actually is. For example, in considering prime numbers, Jill might think that there is no contradiction in the idea that there is a largest prime number, but since Euclid proved there are infinitely many prime numbers, a largest prime number is impossible. (If there were only finitely many, then you could multiply them together and add one, which would produce a number having a prime factor not already on the original list.) But did Jill really understand the idea of there being a largest prime number?

It seems that in relatively simple situations, not finding a contradiction, or an impossibility, in what you are considering is enough to show beyond reasonable doubt that what you are considering is possible. For example, you consider the amount of leftovers on the serving plate and the size of the plastic container into which you are considering placing them. Here, if it seems to you that they will fit, it is reasonable to conclude that they will fit and pour them in. However, when it comes to more abstruse situations, our ability to detect whether there is a contradiction in what we are conceiving is much more volatile. And existing without a body is a rather abstruse situation. It might seem to Descartes that he can, but perhaps he is mistaken.

For the sake of argument, however, let us assume that what seems to be so about the mind, really is so. That is, let us assume that it is possible for the mind to exist without the body. But what does this possibility show? Descartes' conclusion is not just that it is possible that the mind is not a material entity, but that he (or his mind – for Descartes, he and his mind are one and the same)

actually is distinct from his body. How does he arrive at this conclusion? How does the possibility of mind and body being distinct show that they really are distinct? It seems as if a bit of magic is needed in order to move from a possibility to an actuality. How does Descartes do it? The principle that contains the magic is Descartes' claim that if it is possible that two things can be separated, then they really are distinct. In other words, if two things are not really distinct, then it is not possible to separate them. Should we accept this?

Think about a true identity, expressed by two different names for the same thing, such as the identity of George Elliot and Mary Anne Evans. Here we have one and the same thing, and not two distinct things. Given this, it is not possible to have George Elliot without Mary Anne Evans or Mary Ann Evans without George Elliot: Wherever George Elliot goes, Mary Anne Evans goes, and wherever Mary Anne Evans does, George Elliot goes. Of course, Mary Anne Evans didn't adopt the pen name "George Elliot" until she started writing novels. But this doesn't mean that before Mary Anne Evans started writing novels, the person referred to as "George Elliot" did not exist. The name "George Elliot" may not have existed prior to that time (or if it did, it referred to someone else), but the person that name identifies did exist. And if the name "George Elliot" identifies the very same person as "Mary Anne Evans," it really is impossible to have one person without the other.

According to Descartes, the relationship between mind and brain is the same: If mind is identical to brain, you can't have mind without brain, and you can't have brain without mind. However, according to Descartes, we can have a mind without a brain and a brain without a mind, so mind and brain are not identical.

Is this magic? Or is it good, sound philosophy? Whether you agree with the principle that allows us to move from the possibility of a separation to a real distinction, there are a number of other questions you should ask about Descartes' argument. One is whether a thinking thing, or even thought itself, can take up no space. From what I can tell via introspection, Descartes is correct in saying that thoughts do not fill up space. I am thinking about the beach ball that I lost this summer at the beach. The beach ball itself takes up space, but the thought doesn't seem to. And certainly a room full of Nobel Prize winners has never gotten overcrowded because of all the deep thinking going on.

But then again, when I'm thinking, my thoughts take up time, and contemporary physics tells us that time also takes up space. So mustn't Descartes be confused in thinking that the mind fails to take up space? This depends in part on whether Descartes thinking that the mind merely fails to take up space or fails to exist in space entirely. Contemporary physics posits point particles, which are thought to exist in space but have no extension. But must we reject the view that mind does not exist in space? The answer to this question depends on whether you think that science, or in this case contemporary physics, should be given the final word about what the world is like. Some philosophers, called "naturalists," think that it should, while others think that it should not. The "non-naturalists" would say that philosophical investigation might be able to tell more about certain things that can science and that, in this case, it reveals that mind is extended in time but not in space.

We should also ask whether Descartes' conception of thought as unextended is really as clear and perspicuous as he seems to think it is. Although Descartes claims to arrive at the clear and distinct

idea of thought as unextended, it may be that thought only appears to be unextended. Perhaps if we were to fully understand thought, we would find that it is extended and even that it must be extended. Perhaps when Descartes conceives of thought as unextended, he is like someone who imagines a right-angled triangle in the plane without imagining that when you add together the lengths of the legs squared, you get the length of the hypotenuse squared. Someone who doesn't understand geometry might think that he can imagine this, yet it is impossible for there to be a right triangle that does not have this feature. Could it be similarly that someone who does not understand thought might think that it is unextended even though it necessarily is extended?

Descartes' reply to this line of questioning is that everything about thought is present to his mind. Thought, as he sees it, has no hidden features. Is this correct? Are thoughts, unlike other things in the world, entirely present to us? To be sure, it does seem that we are aware of our thoughts in a special way, and that the way we are aware of our thoughts differs from the way we are aware of external things or other aspects of our bodies, such as the circulatory system. To discover what my circulatory system is doing right now would likely involve a trip to the hospital where I would need to undergo numerous tests. But to find out what I am thinking right now requires only a bit of introspection.

Nonetheless, it is not at all clear that *everything* about thought is present to the person who is thinking. For example, it seems that sometimes when I am not thinking about a problem, the solution to it can just pop into my head. In this situation, it seems that my mind must have been diligently hammering away at the problem without my being aware of it. If this is correct, it seems there are aspects of thought of which we are unaware. But perhaps it is wrong for me to say that the problem solving was occurring in my mind. We could preserve Descartes' view that everything about the mind is present to the subject if we thought that in this situation, the problem solving occurs in the brain rather than the mind even though the solution becomes present to the mind.

My final question for Descartes is: How are we supposed to make sense of an immaterial mind? A mind that takes up no space but nonetheless exists in space would not obviously contradict contemporary physics. It is still difficult to imagine what such a mind is like. Where would it be? When I think about a mind floating freely from its body, I tend to imagine some sort of translucent ghostly entity moving about. However, this is not the picture of mind Descartes relies on, since the ghost I am thinking about is extended in space, while Descartes thinks that the mind is not. . . .