

CHAPTER

13

RENÉ DESCARTES

Doubting Our Way to Certainty

When he is just twenty-three years old, René Descartes (1596–1650) experiences a vision in a dream. He writes down,

10, November 1619; I discovered the foundations of a marvellous science.¹

This discovery decisively shapes the intellectual life of the young man. Before we focus on the philosophy of his *Meditations*, we need to understand something about that discovery and its importance for his method of approaching problems.

Descartes had received a good education, as he himself acknowledges. But he is dissatisfied. He had expected to obtain “a clear and certain knowledge . . . of all that is useful in life.” Instead, he tells us,

I found myself beset by so many doubts and errors that I came to think I had gained nothing from my attempts to become educated but increasing recognition of my ignorance. (*DM* 1.4, p. 113)²

Mathematics delights him “because of the certainty of its demonstrations and the evidence of its

reasoning,” though he is surprised that more has not been done with it. As for philosophy, he says,

Seeing that it has been cultivated for many centuries by the most excellent minds, and yet there is still no point in it which is not disputed and hence doubtful, I was not so presumptuous as to hope to achieve any more in it than others had done. (*DM* 1.8, pp. 114–115)

What is a serious young man, who has always had “an earnest desire to learn to distinguish the true from the false” to do? (*DM* 1.10, p. 115).

I entirely abandoned the study of letters. Resolving to seek no knowledge other than that which could be found in myself or else in the great book of the world, I spent the rest of my youth travelling, visiting courts and armies, mixing with people of diverse temperaments and ranks, gathering various experiences, testing myself in the situations which fortune offered me, and at all times reflecting upon whatever came my way so as to derive some profit from it. (*DM* 1.9, p. 115)

A striking move! He does not give up learning, but he does give up “letters”—learning what

other men had written. In this, Descartes is both a reflection of the age and an immense influence furthering the individualism we earlier remarked on. Where would he seek truth? Not in the writings of the ancients, but in *himself* and in *the great book of the world*. Because he concludes—echoing Socrates—that hardly anyone knows anything worth learning, he would have to *discover* the truth.* If he is going to “learn to distinguish the true from the false,” he would have to look to himself.

He joins an army (a traditional way to “see the world”) and in his travels meets a Dutchman interested in mathematics and the new physics. Descartes’ interest is sparked, and he begins to think about using mathematics to solve problems in physics. While working on these problems, he has his dream.

What is this “marvellous science” that forms the content of his “vision”? Apparently it is analytic geometry.[†] Descartes sees in a flash of insight that there is an isomorphism between algebraic symbols and geometry. He sees, moreover, that this opens the door to a mathematical treatment of everything that can be geometrically represented. But nature seems to be something that can be geometrically represented, natural things having size, figure, volume, and geometrical relations to each other. Suppose that the things in the world were just objects having such geometrical properties; suppose that whatever other properties they have can in one way or another be reduced to purely geometrical properties; then the stunning prospect opens up of a science of nature—a physics—that is wholly mathematical. Mathematics, the only discipline that impressed him in his college days as clear and certain, would be the key to unlock the secrets of nature. Surely this is a vision fit to motivate a research program! And that is exactly what it does.

For the rest of his life Descartes works on this program, in constant communication with the best

minds at work on similar problems. In 1633 he is about to publish a *Treatise on the World*, when he learns of the Catholic Church’s condemnation of Galileo and the burning of his books. He holds the treatise back, for in it he has endorsed the Copernican view of the moving earth. Four years later, however, he ventures to publish several works on light, on meteors, and on geometry. These are accompanied by a *Discourse on Method*, which we will examine in more detail shortly.

He writes on a wide variety of topics: on the sun, moon, and the stars; on comets; on metals; on fire; on glass; on the magnet; on the human body, particularly on the heart and the nervous system (for which he gathers observations from animal bodies at a local slaughterhouse). He formulates several “laws of nature.” Here are two influential ones:

that each thing as far as in it lies, continues always in the same state; and that which is once moved always continues to move.

. . . that all motion is of itself in a straight line; and thus things which move in a circle always tend to recede from the centre of the circle that they describe. (PP 2.37–39, p. 267)³

Newton will later adopt both of them, and so they pass into the foundations of classical physics; but they were revolutionary in Descartes’ day. Both laws contradict Aristotelian assumptions built into the worldview of medieval science. It had been thought that rest (at or near the center of the universe) is the natural state of terrestrial things, while the heavenly spheres revolve naturally in perfect circles. To say that rest is not more “natural” than motion and that motion is “naturally” in a straight line is radical indeed. It could make sense only in a world of infinite space, where there is no such thing as a natural center. And it fits only with a moving earth.

Descartes applies these principles to a world that he takes to be geometrical in essence. He tries to do without concepts of weight and gravity, for these seem to be “occult” qualities like those in the nonmathematical science of Aristotle. To say that a body falls because it has weight or because it is naturally attracted to another body seems to him no explanation at all; it is just attaching a name to a phenomenon and supposing that we thereby learn something.

*Do you find it surprising that two thousand years after Socrates someone should still echo the same complaint? Could we say the same today? If not, why not?

[†]So-called Cartesian coordinates are, of course, named for Descartes.

For Descartes, bodies are sheer extended volumes. They interact according to mechanical principles that can be mathematically formulated. Given that a single body in motion would continue in that motion unless interfered with, and given the laws of interaction, the paths and positions of interacting bodies can be plotted and predicted. Since extension is the very essence of body, there can be no vacuum or void. (You can see that if bodies are just extended volumes, the idea of such a volume containing *no body* is self-contradictory.) So the universe is full, and motion takes place by a continual recirculation of bodies, each displacing another as it is itself displaced. The fall of bodies near the earth is due to the action on them of other bodies in the air, which in turn are being pressed down by others out to the edges of the solar system. This system forms a huge vortex tightly bound in by the vortices of other systems, which force the moving bodies in it to deviate from otherwise straight paths into the roughly circular paths traced by the planets.*

The key idea, as you can see, is that everything in the material world can be treated in a purely geometrical and mathematical fashion. Descartes is one of the most vigorous promoters of that "corpuscularism" noted earlier.† Although he criticizes Democritus and the ancient atomists (for thinking that atoms are indivisible, for positing a void, for believing in gravity, and for not specifying the laws of interaction precisely), it is clear that the general outlines of Descartes' universe bear a striking resemblance to that earlier theory.‡ In particular, the *mechanistic* quality of the picture is identical. He states explicitly that "the laws of mechanics . . . are identical with the laws of Nature" (DM 5.54, p. 139).

The radical nature of this conception can be appreciated by noting a thought experiment Descartes recommends. Imagine, he says, that God

creates a space with matter to fill it and shakes it up until there is thorough chaos. All that God then adds is a decree that this matter should behave according to the laws of Nature. What would be the result?

I showed how, in consequence of these laws, the greater part of the matter of this chaos had to become disposed and arranged in a certain way, which made it resemble our heavens; and how, at the same time, some of its parts had to form an earth, some planets and comets, and others a sun and fixed stars. Here I dwelt upon the subject of light, explaining at some length the nature of the light that had to be present in the sun and the stars. . . . From that I went on to speak of the earth in particular: how, although I had expressly supposed that God had put no gravity into the matter of which it was formed, still all its parts tended exactly towards its centre; . . . how mountains, seas, springs and rivers could be formed naturally there, and how metals could appear in mines, plants grow in fields, and generally how all the bodies we call "mixed" or "composite" could come into being there. (DM 5.43–44, p. 132)

Of course, Descartes does not actually succeed in demonstrating all that. No one yet has solved all these problems, and they are in fact insoluble with the limited resources that Descartes allows himself. But it is the conception and the daring it expresses that counts. This vision of a universe evolving itself in purely mechanistic ways has been enormously influential; and we haven't yet finished exploring its ramifications.

Descartes is quick to add that he does not infer from this thought experiment that the world was actually formed in that way, only that it could have been. Careful still about charges of heresy, he says it is "much more probable" that God made it just as it now is. But in either case, it is pretty clear that God is excluded from the day-to-day operations of the universe, which in Descartes' view proceeds as it must according to purely mathematical and mechanistic laws.

The Method

While working on these physical problems, and feeling certain that progress is being made virtually every day, Descartes asks himself why more

*The notion of a cosmic vortex, a huge, swirling mass of matter, is already found in the speculations of Anaximander; see pp. 13–14. Compare also Parmenides' arguments against the existence of a void, pp. 27–28.

†See p. 309.

‡For the views of the atomists, see Chapter 4. Descartes' criticisms may be found in Part IV, CCII, of *The Principles of Philosophy*.

progress hadn't been made in the past. It is surely not, he thinks, that he is more clever or intelligent than earlier thinkers. No, the problem is that they lacked something. And it gradually becomes clear to him that what they lacked is a *method*. They did not proceed in as careful and principled a way as they might have. Acceptance of obscurity, the drawing of hasty conclusions, avoidable disagreements, and general intellectual chaos are the results.

Descartes sets himself to draw up some rules for the direction of the intellect. It is of some importance to recognize that these **rules of method** formulate what Descartes takes himself to be doing in his scientific work. In particular, they are indebted to his experience as a mathematician. They are not picked arbitrarily, then, but are an expression of procedures that actually seem to be producing results. If only other thinkers could be persuaded to follow these four rules, he thinks, what progress might be made!

The first was never to accept anything as true if I did not have evident knowledge of its truth: that is, carefully to avoid precipitate conclusions and preconceptions, and to include nothing more in my judgments than what presented itself to my mind so clearly and distinctly that I had no occasion to doubt it.

The second, to divide each of the difficulties I examined into as many parts as possible and as may be required in order to resolve them better.

The third, to direct my thoughts in an orderly manner, by beginning with the simplest and most easily known objects in order to ascend little by little, step by step, to knowledge of the most complex, and by supposing some order even among objects that have no natural order of precedence.

And the last, throughout to make enumerations so complete, and reviews so comprehensive, that I could be sure of leaving nothing out. (*DM* 2.18–19, p. 120)

He says of these four rules that he thought they would be "sufficient, provided that I made a strong and unswerving resolution never to fail to observe them" (*DM* 2.18, p. 120). They are difficult to follow, as any attempt to do so will convince you immediately. But let us explore their content more carefully.

The first one has to do with a condition for accepting something as true. It is pretty stringent. You want to avoid two things: "precipitate conclusions" (hastiness) and "preconceptions" (categorizing something before you have good warrant to do so). How do you do this? By accepting only those things that are so **clear and distinct** that you have no occasion to doubt them. Descartes obviously has in mind such propositions as " $3 + 5 = 8$ " and "the interior angles of a triangle are equal to two right angles." Once you understand these, you really cannot bring yourself to doubt that they are true. Can you?

What do the key words "clear" and "distinct" mean? In *The Principles of Philosophy* (PP 1.45, p. 237) he explains them as follows. Something is "clear" when it is "present and apparent to an attentive mind, in the same way as we assert that we see objects clearly when, being present to the regarding eye, they operate upon it with sufficient strength." Seeing an apple in your hand in good light would be an example. We are not to accept any belief unless it is as clear as that. Nothing obscure, fuzzy, dim, indefinite, indistinct, vague—only what is *clear*!

By "distinct" he means "so precise and different from all other objects that it contains within itself nothing but what is clear." An idea not only must be clear in itself but also impossible to confuse with any other idea. There must be no ambiguity in its meaning. Ideas must be as distinct as the idea of a triangle is from the idea of a square.

Ask yourself how many of *your* beliefs are clear and distinct in this way. Descartes is under no illusions about the high standard he sets. "There are even a number of people who throughout all their lives perceive nothing so correctly as to be capable of judging it properly." But the first rule of the method is to *accept nothing as true* that does not meet that high standard. In the first of the *Meditations* we shall see how much that excludes.

The second rule recommends **analysis**. Problems are typically complex, and an essential step in their solution is to break them into smaller problems. Anyone who has tried to write a computer program to solve a problem will have an excellent feel for this rule. Often more than half the battle is



"It is much easier to have some vague notion about any subject, no matter what, than to arrive at the real truth about a single question."

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to discover smaller problems we already have the resources to solve, so that by combining the solutions to these more elementary problems we can solve the big problem. We move, by analysis, not only from the complex to the simple, but also from the obscure to the clear and distinct, and so we follow the first rule as well.

The third rule recognizes that items for consideration may be more or less simple. It recommends beginning with the simpler ones and proceeding to the more complex. Here is a mathematical example. If we compare a straight line to a curve, we can see that there is a clear sense in which the straight line is simple and the curve is not; no straight line is more or less straight than another, but curves come in all degrees. If we know a line is straight, we know something perfectly definite about it; if we know it is curved, we do not. And it is in fact possible to analyze a curve into a series of straight lines at various angles to each other, thus

"constructing" the more complex curve from the simple straights.

For Descartes, this serves as a model of all good intellectual work. There are two basic procedures: a kind of **insight** or *intuition* of simple natures (which must be clear and distinct), and then **deduction** of complex phenomena from perceived relations among the simples. A deduction, too, is in fact just an insight: insight into the connections holding among simples. Geometry, again, provides many examples. Theorems are proved by deduction from the axioms and postulates. The latter are simply "seen" to be true; for example, through two points in a plane, one and only one straight line can be drawn. The same kind of "seeing" is required to recognize that each step in a proof is correct.

Deductions, of course, can be very long and complex, even though each of the steps is clear and distinct. That is the reason for the fourth rule: to set out all the steps completely (we all know how easily mistakes creep in when we take something for granted) and to make comprehensive reviews.

Descartes is extremely optimistic about the results we can obtain if we follow this method:

These long chains composed of very simple and easy reasonings, which geometers customarily use to arrive at their most difficult demonstrations, had given me occasion to suppose that all the things that can fall under human knowledge are interconnected in the same way. And I thought that, provided that we refrain from accepting anything as true which is not, and always keep to the order required for deducing one thing from another, there can be nothing too remote to be reached in the end or too well hidden to be discovered. (*DM* 2.19, p. 120)

We will see this optimism at work when Descartes tackles knotty problems such as the existence of God and the relation between soul and body. But first we need to ask, Why does Descartes feel a need to address these *philosophical* problems at all? Why doesn't he just stick to mathematical physics?

For one thing, he is confident that his method will allow him to succeed where so many have failed. But a deeper reason is that he needs to show that his physics correctly describes the world, that it is more than just a likely story. In short, he needs

to demonstrate that his physics is *true*. He is quite aware of the skeptical doubts of the Pyrrhonists, of the way they undermine the testimony of the senses and cast doubt on our reasoning. In particular, he is aware of the problem of the criterion.* Unless this can be solved, no certainty is possible.

Descartes thinks he has found a way to solve this problem of problems. He will outdo the Pyrrhonists at their own game; when it comes to doubting, he will be the champion doubter of all time. The first rule of his method already gives him the means to wipe the slate clean—unless, perhaps, there remains something that is *so clear and distinct that it cannot possibly be doubted*. If there were something like that (and, as we shall see, Descartes thinks that there is), the rest of the method could gain a foothold, deductions could lead us to further truths, and perhaps, from the depths of doubting despair, we could be raised to the bliss of certainty.

This is Descartes' strategy. And it is this attempt to justify his physics that makes Descartes not just a great scientist, but a great philosopher as well. We are now ready to turn to this philosophy as expressed in the *Meditations*.

Meditations on First Philosophy

Meditations is Descartes' most famous work. We focus our attention on the text itself, as we did earlier with certain dialogues of Plato. It is a remarkably rich work, and if you come to understand it, you will have mastered many of the concepts and distinctions that philosophers use to this day. So it will repay careful study. I cannot emphasize too much that in this section it is the *text*, the words of Descartes himself, that you must wrestle with. It is he who is your partner in this conversation, and you must make him speak to you and—as far as possible—answer your questions. What I do is offer some commentary on particularly difficult aspects, fill in some background, and ask some questions.

*For a discussion of this problem by the ancient skeptics, see pp. 211–213. For the impact of skepticism nearer to Descartes' time, see pp. 303–306.

Though it is usually known just as the *Meditations*, the full title of the work is *Meditations on First Philosophy in Which the Existence of God and the Distinction of the Soul from the Body Are Demonstrated*. The title gives you some idea what to expect. But as you will see, his experience as a mathematician and physicist is everywhere present. It was first published in 1641.

Although not represented in our text, the *Meditations* are prefaced by a letter to “the Wisest and Most Distinguished Men, the Dean and Doctors of the Faculty of Theology in Paris.” The motivation behind this letter is fairly transparent. It had been just eight years since the condemnation of Galileo's opinions, and, as we have seen, Descartes has allied himself with the basic outlook of Galileo. The Faculty of Theology in Paris had indeed been an illustrious one for some centuries. If he could secure their approval, he could almost certainly escape Galileo's fate. The *Meditations* was examined carefully by one of the theologians, who expressed his approval, but twenty-two years later it was placed on the *Index Librorum Prohibitorum* of books dangerous to read.*

Descartes had also asked one of his close friends, the priest and scientist Mersenne, to circulate the text to some distinguished philosophers, who were then invited to write criticisms of it. These criticisms, including some from his English contemporary Thomas Hobbes, were printed along with Descartes' replies at the end of the volume.†

In the letter to the theologians, Descartes refers to “believers like ourselves.” He professes to be absolutely convinced that it is sufficient in these matters to rely on Scripture. But there is a problem. On the one hand, God's existence, he says, is to be believed because it is taught in Scripture.

*The *Index* was created in 1571 by Pope Pius V, after approval by the Council of Trent; the latter was a general council of the Roman Catholic Church, called to deal with problems created by the Protestant Reformation. It set in motion the Catholic Counter-Reformation, and the *Index* was one of its tools.

†We discuss the views of Hobbes in the next chapter. For his criticisms of the *Meditations*, see the “Third Set of Objections” in Haldane and Ross, *The Philosophical Works of Descartes*, Volume 2.

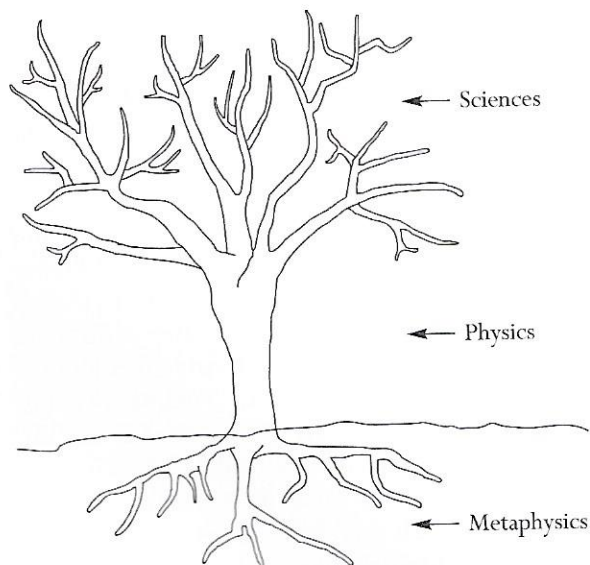
Scripture, on the other hand, is to be believed because God is its source. Now it doesn't take a lot of thought to realize that there is a circle here, a pretty tight circle. It comes down to believing that God exists because you believe that God exists. (Recall skeptics such as Sextus and Montaigne, who maintain that all our claims to know are either involved in such circular thinking or are strung out in an infinite regress.)

To break into the circle, Descartes thinks it necessary to *prove rationally* that God exists and that the soul is distinct from the body. His claim that reason should be able to do this is no innovation; Augustine, Anselm, Aquinas, and others had said as much before. Descartes, however, claims to have proofs superior to any offered by these thinkers.

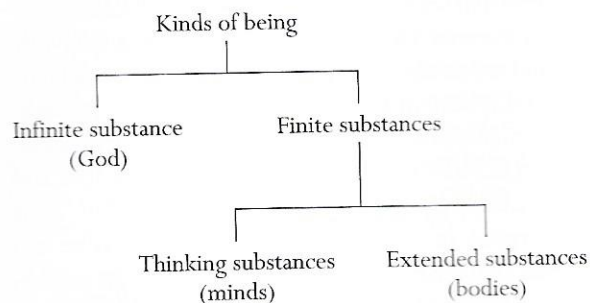
He refers to some thinkers who hold that it is rational to believe the soul perishes with the body. Aristotle seems in the main to think so (though he waffles).^{*} Christian Aristotelians like Thomas Aquinas labor mightily, but inconclusively, to reconcile this view with the tradition of an immortal soul. Descartes thinks he has a proof of the soul that is direct, simple, and conclusive.[†] He claims, in fact, that his proofs will "surpass in certitude and obviousness the demonstrations of geometry." A strong claim indeed! You will have to decide whether you agree.

These are meditations on **first philosophy**. This is a term derived from Aristotle, who means by it a search for the first principles of things. First philosophy is also called *metaphysics*. Descartes uses a memorable image.

Thus the whole of philosophy is like a tree; the roots are metaphysics, the trunk is physics, and the branches that issue from the trunk are all the other sciences.[‡]



Metaphysics, then, is thought to be more fundamental even than physics. Physics and the other sciences give us detailed knowledge of material things; first philosophy inquires whether material things are the only things there are. What Descartes is seeking is a set of concepts that will give us an inventory of the *basic kinds of being*.^{*} As it turns out, his inventory of what there is looks fairly simple. We can diagram it this way:



But by itself this chart isn't very informative. It is time to turn to the *Meditations* themselves, to see how Descartes fills in this schema and why it turns out just that way.

^{*}For Aristotle's view of the soul as "the form of a living human body" see pp. 000–000.

[†]Descartes tends to use the terms "soul," "mind," and "spirit" interchangeably. They are all terms for "the thing that thinks." Some philosophers and theologians make distinctions among them.

^{*}Aristotle calls such fundamental concepts "categories." See p. 159. It is interesting to note that in 1641 all the sciences are still counted as parts of philosophy, the love of wisdom.

The full text of Descartes' *Meditations* is represented here.⁵ After each of the six sections, you will find commentary and questions. Read through each meditation quickly. (They aren't very long.) Then go to the discussion, moving back to the text to check your understanding. Write out brief answers to the questions. Descartes is a careful and clear writer and says exactly what he means. If you proceed in this way, you will not only learn some philosophy but will gain skill in reading a text of some difficulty—a valuable ability.

It may be helpful to have a preview of this dramatic little work. I offer an outline that sketches the progression from the first *Meditation* to the last.

Meditation I. The Problem:

Can anything be known?

Meditations II–VI. The Solution: I can know

- II. that I exist.
- III. that God exists.
- IV. why we make mistakes and how to avoid them.
- V. that material things *might* exist; and again, that God exists.
- VI. that material things *do* exist and are distinct from souls.

Meditation I: On What Can Be Called into Doubt

For several years now, I've been aware that I accepted many falsehoods as true in my youth, that what I built on the foundation of those falsehoods was dubious, and accordingly that once in my life I would need to tear down everything and begin anew from the foundations if I wanted to establish any stable and lasting knowledge. But the task seemed enormous, and I waited until I was so old that no better time for undertaking it would be likely to follow. I have thus delayed so long that it would be wrong for me to waste in indecision the time left for action. Today, then, having rid myself of worries and having arranged for some peace and quiet, I withdraw alone, free at last earnestly and wholeheartedly to overthrow all my beliefs.

To do this, I don't need to show each of them to be false; I may never be able to do that. But, since reason now convinces me that I ought to withhold my assent just as carefully from what isn't obviously certain and indubitable as from what's obviously false, I can

justify the rejection of all my beliefs if in each I can find some ground for doubt. And, to do this, I need not run through my beliefs one by one, which would be an endless task. Since a building collapses when its foundation is cut out from under it, I will go straight to the principles on which all my former beliefs rested.

Of course, whatever I have so far accepted as supremely true I have learned either from the senses or through the senses. But I have occasionally caught the senses deceiving me, and it's prudent never completely to trust those who have cheated us even once.

But, while my senses may deceive me about what is small or far away, there may still be other things that I take in by the senses but that I cannot possibly doubt—like that I am here, sitting before the fire, wearing a dressing gown, touching this paper. And on what grounds might I deny that my hands and the other parts of my body exist?—unless perhaps I liken myself to madmen whose brains are so rattled by the persistent vapors of melancholy that they are sure that they're kings when in fact they are paupers, or that they wear purple robes when in fact they're naked, or that their heads are clay, or that they are gourds, or made of glass. But these people are insane, and I would seem just as crazy if I were to apply what I say about them to myself.

This would be perfectly obvious—if I weren't a man accustomed to sleeping at night whose experiences while asleep are at least as far-fetched as those that madmen have while awake. How often, at night, I've been convinced that I was here, sitting before the fire, wearing my dressing gown, when in fact I was undressed and between the covers of my bed! But now I am looking at this piece of paper with my eyes wide open; the head that I am shaking has not been lulled to sleep; I put my hand out consciously and deliberately and feel. None of this would be as distinct if I were asleep. As if I can't remember having been tricked by similar thoughts while asleep! When I think very carefully about this, I see so plainly that there are no reliable signs by which I can distinguish sleeping from waking that I am stupefied—and my stupor itself suggests that I am asleep!

Suppose, then that I am dreaming. Suppose, in particular, that my eyes are not open, that my head is not moving, and that I have not put out my hand. Suppose that I do not have hands, or even a body. I must still admit that the things I see in sleep are like painted images which must have been patterned after real things and, hence, that things like eyes, heads, hands, and bodies are real rather than imaginary. For, even when painters try to give bizarre shapes to sirens and satyrs, they are

unable to give them completely new natures; they only jumble together the parts of various animals. And, even if they were to come up with something so novel that no one had ever seen anything like it before, something entirely fictitious and unreal, at least there must be real colors from which they composed it. Similarly, while things like eyes, heads, and hands may be imaginary, it must be granted that some simpler and more universal things are real—the “real colors” from which the true and false images in our thoughts are formed.

Things of this sort seem to include general bodily nature and its extension, the shape of extended things, their quantity (that is, their size and number), the place in which they exist, the time through which they endure, and so on.

Perhaps we can correctly infer that, while physics, astronomy, medicine, and other disciplines that require the study of composites are dubious, disciplines like arithmetic and geometry, which deal only with completely simple and universal things without regard to whether they exist in the world, are somehow certain and indubitable. For, whether we are awake or asleep, two plus three is always five, and the square never has more than four sides. It seems impossible even to suspect such obvious truths of falsity.

Nevertheless, the traditional view is fixed in my mind that there is a God who can do anything and by whom I have been made to be as I am. How do I know that He hasn't brought it about that, while there is in fact no earth, no sky, no extended thing, no shape, no magnitude, and no place, all of these things seem to me to exist, just as they do now? I think that other people sometimes err in what they believe themselves to know perfectly well. Mightn't I be deceived when I add two and three, or count the sides of a square, or do even simpler things, if we can even suppose that there is anything simpler? Maybe it will be denied that God deceives me, since He is said to be supremely good. But, if God's being good is incompatible with His having created me so that I am deceived always, it seems just as out of line with His being good that He permits me to be deceived sometimes—as he undeniably does.

Maybe some would rather deny that there is an omnipotent God than believe that everything else is uncertain. Rather than arguing with them, I will grant everything I have said about God to be fiction. But, however these people think I came to be as I now am—whether they say it is by fate, or by accident, or by a continuous series of events, or in some other way—it seems that he who errs and is deceived is somehow imperfect. Hence,

the less power that is attributed to my original creator, the more likely it is that I am always deceived. To these arguments, I have no reply. I'm forced to admit that nothing that I used to believe is beyond legitimate doubt—not because I have been careless or playful, but because I have valid and well-considered grounds for doubt. Hence, I must withhold my assent from my former beliefs as carefully as from obvious falsehoods if I want to arrive at something certain.

But it's not enough to have noticed this: I must also take care to bear it in mind. For my habitual views constantly return to my mind and take control of what I believe as if our long-standing, intimate relationship has given them the right to do so, even against my will. I'll never break the habit of trusting and giving in to these views while I see them for what they are—things somewhat dubious (as I have just shown) but nonetheless probable, things that I have much more reason to believe than to deny. That's why I think it will be good deliberately to turn my will around, to allow myself to be deceived, and to suppose that all my previous beliefs are false and illusory. Eventually, when I have counterbalanced the weight of my prejudices, my bad habits will no longer distort my grasp of things. I know that there is no danger of error here and that I won't overindulge in skepticism, since I'm now concerned, not with action, but only with gaining knowledge.

I will suppose, then, not that there is a supremely good God who is the source of all truth, but that there is an evil demon, supremely powerful and cunning, who works as hard as he can to deceive me. I will say that sky, air, earth, color, shape, sound, and other external things are just dreamed illusions that the demon uses to ensnare my judgment. I will regard myself as not having hands, eyes, flesh, blood, and senses—but as having the false belief that I have all these things. I will obstinately concentrate on this meditation and will thus ensure by mental resolution that, if I do not really have the ability to know the truth, I will at least withhold assent from what is false and from what a deceiver may try to put over on me, however powerful and cunning he may be. But this plan requires effort, and laziness brings me back to my ordinary life. I am like a prisoner who happens to enjoy the illusion of freedom in his dreams, begins to suspect that he is asleep, fears being awakened, and deliberately lets the enticing illusions slip by unchallenged. Thus, I slide back into my old views, afraid to awaken and to find that after my peaceful rest I must toil, not in the light, but in the confusing darkness of the problems just raised.

Commentary and Questions

Note the personal, meditative character of the writing. Descartes is inviting us to join him in thinking certain things through, asking us to mull them over and see whether we agree. He is not making authoritative pronouncements. Just as he reserves the right to be the judge of what *he* should believe, so he puts you on the spot. You will have to be continually asking yourself: Do I agree with this or not? If not, why not? This familiar first-person style is quite different from most of medieval philosophy; it harks back to Augustine's *Confessions* in the late fourth century. Descartes is, as it were, having a conversation with himself, so the structure of *Meditation I* is dialectical: proposal, objection, reply, objection, reply. . . . Try to distinguish the various "voices" in this internal dialogue.

Note that there are three stages in the "tearing down" of opinions, and one principle running throughout. The principle is that we ought to withhold assent from anything uncertain, just as much as from what we see clearly to be false. This is simply a restatement of the first rule of his method but is of the greatest importance.* The three stages concern (1) the **senses**, (2) **dreams**, and (3) the **evil demon** hypothesis.

-
- Q1. Aren't you strongly inclined to think, just like Descartes by the fire, that you can't deny that you are now reading this book, which is "right there" in your hands? Should you doubt it anyway?
- Q2. What do you think of Descartes' rule that we shouldn't completely trust those who have cheated us even *once*? Does this rule apply to the senses?
- Q3. *Could* you be dreaming right now? Explain.
-

*A brief look back at the four rules of the method will be of use at this point. See p. 317. Compare the principle Aquinas notes about big mistakes from small beginnings on p. 269. Once, when a friend of mine stumbled on an unusually high first step of a staircase, I formulated what came jokingly to be known as Norman's First Law: Watch that first step; it's a big one—good advice for appraising philosophical systems. For an alternative to Descartes' view, see the critique by C. S. Peirce on pp. 566–567.

- Q4. What is the argument that even in dreams some things—for example, the truths of mathematics—are not illusory?
- Q5. How does the thought of God, at *this* stage, seem to reinforce skeptical conclusions—even about arithmetic?*
-

"All that we see or seem
Is but a dream within a dream."

Edgar Allan Poe (1809–1849)

Here Descartes avails himself of the techniques of the Pyrrhonists, who set argument against plausible argument until they find themselves no more inclined to judge one way than another. But he acknowledges that this equilibrium or suspension of judgment is difficult to achieve. "Habit" strongly inclines him to believe some of these things as "probable." Like Descartes, you almost certainly take it as *very* probable that you are now looking at a piece of paper, which is located a certain determinate distance before your eyes, that you indeed have eyes, and that 2 plus 3 really does equal 5. And you almost certainly find it very hard *not* to believe these things. You probably find yourself so committed to them that you almost *can't* doubt them. (Ask yourself whether this is the case.) How can we overcome these habits of believing? We now know, if Descartes is right so far, that we *should* doubt them. As a remedy against these habitual believings, Descartes determines *deliberately* (as an act of will) to suppose that all his prior beliefs are false.

- Q6. How does the hypothesis of the evil demon help?
-

Descartes now thinks that he has canvassed every possible reason for doubting. We cannot rely on our senses; we cannot even rely on our rational

*Review the consequences William of Ockham draws from the doctrine of God's omnipotence (pp. 288–290).

faculties for the simplest truths of mathematics, geometry, or logic. All our beliefs, it seems, are dissolved in the acid of skeptical doubt.

- Q7. Before going on to *Meditation II*, ask yourself the question, Is there anything at all that I am so certain of that I could not possibly doubt it? (Meditate on this question awhile.)

Meditation II: On the Nature of the Human Mind, Which Is Better Known Than the Body

Yesterday's meditation has hurled me into doubts so great that I can neither ignore them nor think my way out of them. I am in turmoil, as if I have accidentally fallen into a whirlpool and can neither touch bottom nor swim to the safety of the surface. I will struggle, however, and try to follow the path that I started on yesterday. I will reject whatever is open to the slightest doubt just as though I have found it to be entirely false, and I will continue until I find something certain—or at least until I know for certain that nothing is certain. Archimedes required only one fixed and immovable point to move the whole earth from its place, and I too can hope for great things if I can find even one small thing that is certain and unshakeable.

I will suppose, then, that everything I see is unreal. I will believe that my memory is unreliable and that none of what it presents to me ever happened. I have no senses. Body, shape, extension, motion, and place are fantasies. What then is true? Perhaps just that nothing is certain.

But how do I know that there isn't something different from the things just listed that I do not have the slightest reason to doubt? Isn't there a God, or something like one, who puts my thoughts into me? But why should I say so when I may be the author of those thoughts? Well, isn't it at least the case that I am something? But I now am denying that I have senses and a body. But I stop here. For what follows from these denials? Am I so bound to my body and to my senses that I cannot exist without them? I have convinced myself that there is nothing in the world—no sky, no earth, no minds, no bodies. Doesn't it follow that I don't exist? No, surely I must exist if it's me who is convinced of something. But there is a deceiver, supremely powerful and cunning whose aim is to see that I am always

deceived. But surely I exist, if I am deceived. Let him deceive me all he can, he will never make it the case that I am nothing while I think that I am something. Thus having fully weighed every consideration, I must finally conclude that the statement "I am, I exist" must be true whenever I state it or mentally consider it.

But I do not yet fully understand what this "I" is that must exist. I must guard against inadvertently taking myself to be something other than I am, thereby going wrong even in the knowledge that I put forward as supremely certain and evident. Hence, I will think once again about what I believed myself to be before beginning these meditations. From this conception, I will subtract everything challenged by the reasons for doubt that I produced earlier, until nothing remains except what is certain and indubitable.

What, then, did I formerly take myself to be? A man, of course. But what is a man? Should I say a rational animal? No, because then I would need to ask what an animal is and what it is to be rational. Thus, starting from a single question, I would sink into many that are more difficult, and I do not have the time to waste on such subtleties. Instead, I will look here at the thoughts that occurred to me spontaneously and naturally when I reflected on what I was. This first thought to occur to me was that I have a face, hands, arms, and all the other equipment (also found in corpses) which I call a body. The next thought to occur to me was that I take nourishment, move myself around, sense, and think—that I do things which I trace back to my soul. Either I didn't stop to think about what this soul was, or I imagined it to be a rarified air, or fire, or ether permeating the denser parts of my body. But, about physical objects, I didn't have any doubts whatever: I thought that I distinctly knew their nature. If I had tried to describe my conception of this nature, I might have said this: "When I call something a physical object, I mean that it is capable of being bounded by a shape and limited to a place; that it can fill a space so as to exclude other objects from it; that it can be perceived by touch, sight, hearing, taste, and smell; that it can be moved in various ways, not by itself, but by something else in contact with it." I judged that the powers of self-movement, of sensing, and of thinking did not belong to the nature of physical objects, and, in fact, I marveled that there were some physical objects in which these powers could be found.

But what should I think now, while supposing that a supremely powerful and "evil" deceiver completely devotes himself to deceiving me? Can I say that I have any of the things that I have attributed to the nature of physical objects? I concentrate, think, reconsider—but

nothing comes to me; I grow tired of the pointless repetition. But what about the things that I have assigned to soul? Nutrition and self-movement? Since I have no body, these are merely illusions. Sensing? But I cannot sense without a body, and in sleep I've seemed to sense many things that I later realized I had not really sensed. Thinking? It comes down to this: Thought and thought alone cannot be taken away from me. I am, I exist. That much is certain. But for how long? As long as I think—for it may be that, if I completely stopped thinking, I would completely cease to exist. I am not now admitting anything unless it must be true, and I am therefore not admitting that I am anything at all other than a thinking thing—that is, a mind, soul, understanding, or reason (terms whose meaning I did not previously know). I know that I am a real, existing thing, but what kind of thing? As I have said, a thing that thinks.

What else? I will draw up mental images. I'm not the collection of organs called a human body. Nor am I some rarified gas permeating these organs, or air, or fire, or vapor, or breath—for I have supposed that none of these things exist. Still, I am something. But couldn't it be that these things, which I do not yet know about and which I am therefore supposing to be nonexistent, really aren't distinct from the "I" that I know to exist? I don't know, and I'm not going to argue about it now. I can only form judgments on what I do know. I know that I exist, and I ask what the "I" is that I know to exist. It's obvious that this conception of myself doesn't depend on anything that I do not yet know to exist and, therefore, that it does not depend on anything of which I can draw up a mental image. And the words "draw up" point to my mistake. I would truly be creative if I were to have a mental image of what I am, since to have a mental image is just to contemplate the shape or image of a physical object. I now know with certainty that I exist and at the same time that all images—and, more generally, all things associated with the nature of physical objects—may just be dreams. When I keep this in mind, it seems just as absurd to say "I use mental images to help me understand what I am" as it would to say "Now, while awake, I see something true—but, since I don't yet see it clearly enough, I'll go to sleep and let my dreams present it to me more clearly and truly." Thus I know that none of the things that I can comprehend with the aid of mental images bear on my knowledge of myself. And I must carefully draw my mind away from such things if it is to see its own nature distinctly.

But what then am I? A thinking thing. And what is that? Something that doubts, understands, affirms, denies, wills, refuses, and also senses and has mental images.

That's quite a lot, if I really do all of these things. But don't I? Isn't it me who now doubts nearly everything, understands one thing, affirms this thing, refuses to affirm other things, wants to know much more, refuses to be deceived, has mental images (sometimes involuntarily), and is aware of many things "through his senses"? Even if I am always dreaming, and even if my creator does what he can to deceive me, isn't it just as true that I do all these things as that I exist? Are any of these things distinct from my thought? Can any be said to be separate from me? That it's me who doubts, understands, and wills is so obvious that I don't see how it could be more evident. And it's also me who has mental images. While it may be, as I am supposing, that absolutely nothing of which I have a mental image really exists, the ability to have mental images really does exist and is a part of my thought. Finally, it's me who senses—or who seems to gain awareness of physical objects through the senses. For example, I am now seeing light, hearing a noise, and feeling heat. These things are unreal, since I am dreaming. But it is still certain that I seem to see, to hear, and to feel. This seeming cannot be unreal, and it is what is properly called sensing. Strictly speaking, sensing is just thinking.

From this, I begin to learn a little about what I am. But I still can't stop thinking that I apprehend physical objects, which I picture in mental images and examine with my senses, much more distinctly than I know this unfamiliar "I," of which I cannot form a mental image. I think this, even though it would be astounding if I comprehended things which I've found to be doubtful, unknown, and alien to me more distinctly than the one which I know to be real: my self. But I see what's happening. My mind enjoys wandering, and it won't confine itself to the truth. I will therefore loosen the reigns on my mind for now so that later, when the time is right, I will be able to control it more easily.

Let's consider the things commonly taken to be the most distinctly comprehended: physical objects that we see and touch. Let's not consider physical objects in general, since general conceptions are very often confused. Rather, let's consider one, particular object. Take, for example, this piece of wax. It has just been taken from the honeycomb; it hasn't yet completely lost the taste of honey; it still smells of the flowers from which it was gathered; its color, shape, and size are obvious; it is hard, cold, and easy to touch; it makes a sound when rapped. In short, everything seems to be present in the wax that is required for me to know it as distinctly as possible. But, as I speak, I move the wax toward the fire; it loses what was left of its taste; it gives up its

smell; it changes color; it loses its shape; it gets bigger; it melts; it heats up; it becomes difficult to touch; it no longer makes a sound when struck. Is it still the same piece of wax? We must say that it is: not one denies it or thinks otherwise. Then what was there in the wax that I comprehended so distinctly? Certainly nothing that I reached with my senses—for, while everything having to do with taste, smell, sight, touch, and hearing has changed, the same piece of wax remains.

Perhaps what I distinctly knew was neither the sweetness of honey, nor the fragrance of flowers, nor a sound, but a physical object that once appeared to me one way and now appears differently. But what exactly is it of which I now have a mental image? Let's pay careful attention, remove everything that doesn't belong to the wax, and see what's left. Nothing is left except an extended, flexible, and changeable thing. But what is it for this thing to be flexible and changeable? Is it just that the wax can go from round to square and then to triangular, as I have mentally pictured? Of course not. Since I understand that the wax's shape can change in innumerable ways, and since I can't run through all the changes in my imagination, my comprehension of the wax's flexibility and changeability cannot have been produced by my ability to have mental images. And what about the thing that is extended? Are we also ignorant of its extension? Since the extension of the wax increases when the wax melts, increases again when the wax boils, and increases still more when the wax gets hotter, I will be mistaken about what the wax is unless I believe that it can undergo more changes in extension than I can ever encompass with mental images. I must therefore admit that I do not have an image of what the wax is—that I grasp what it is with only my mind. (While I am saying this about a particular piece of wax, it is even more clearly true about wax in general.) What then is this piece of wax that I grasp only with my mind? It is something that I see, feel, and mentally picture—exactly what I believed it to be at the outset. But it must be noted that, despite the appearances, my grasp of the wax is not visual, tactile, or pictorial. Rather, my grasp of the wax is the result of a purely mental inspection, which can be imperfect and confused, as it was once, or clear and distinct, as it is now, depending on how much attention I pay to the things of which the wax consists.

I'm surprised by how prone my mind is to error. Even when I think to myself non-verbally, language stands in my way, and common usage comes close to deceiving me. For, when the wax is present, we say that we see the wax itself, not that we infer its presence from its color and shape. I'm inclined to leap from

this fact about language to the conclusion that I learn about the wax by eyesight rather than by purely mental inspection. But, if I happen to look out my window and see men walking in the street, I naturally say that I see the men just as I say that I see the wax. What do I really see, however, but hats and coats that could be covering robots? I judge that there are men. Thus I comprehend with my judgment, which is in my mind, objects that I once believed myself to see with my eyes.

One who aspires to wisdom above that of the common man disgraces himself by deriving doubt from common ways of speaking. Let's go on, then, to ask when I most clearly and perfectly grasped what the wax is. Was it when I first looked at the wax and believed my knowledge of it to come from the external senses—or at any rate from the so-called "common sense," the power of having mental images? Or is it now, after I have carefully studied what the wax is and how I come to know it? Doubt would be silly here. For what was distinct in my original conception of the wax? How did that conception differ from that had by animals? When I distinguish the wax from its external forms—when I "undress" it and view it "naked"—there may still be errors in my judgments about it, but I couldn't possibly grasp the wax in this way without a human mind.

What should I say about this mind—or, in other words, about myself? (I am not now admitting that there is anything to me but a mind.) What is this "I" that seems to grasp the wax so distinctly? Don't I know myself much more truly and certainly, and also much more distinctly and plainly, than I know the wax? For, if I base my judgment that the wax exists on the fact that I see it, my seeing it much more obviously implies that I exist. It's possible that what I see is not really wax, and it's even possible that I don't have eyes with which to see—but it clearly is not possible that, when I see (or, what now amounts to the same thing, when I think I see), the "I" that thinks is not a real thing. Similarly, if I base my judgment that the wax exists on the fact that I feel it, the same fact makes it obvious that I exist. If I base my judgment that the wax exists on the fact that I have a mental image of it or on some other fact of this sort, the same thing can obviously be said. And what I've said about the wax applies to everything else that is outside me. Moreover, if I seem to grasp the wax more distinctly when I detect it with several senses than when I detect it with just sight or touch, I must know myself even more distinctly—for every consideration that contributes to my grasp of the piece of wax or to my grasp of any other physical object serves better to reveal the nature of my mind.

Besides, the mind has so much in it by which it can make its conception of itself distinct that what comes to it from physical objects hardly seems to matter.

And now I have brought myself back to where I wanted to be. I now know that physical objects are grasped, not by the senses or the power of having mental images, but by understanding alone. And, since I grasp physical objects in virtue of their being understandable rather than in virtue of their being tangible or visible, I know that I can't grasp anything more easily or plainly than my mind. But, since it takes time to break old habits of thought, I should pause here to allow the length of my contemplation to impress the new thoughts more deeply into my memory.

Commentary and Questions

Descartes seems to have gotten nowhere by doubting. What to do? He resolves to press on, suspecting that the terrors of skepticism can be overcome only by enduring them to the end. The monster in the child's closet will disappear only if the child can muster the courage to look at it directly. If we avert our eyes in fear, we will not conquer.

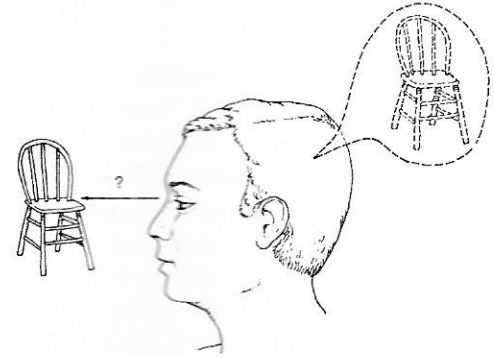
The particular horror, of course, is that all our beliefs might be false—that nowhere would they connect at all with reality. If Descartes has carried us with him to this point, we know that we have lots of ideas and beliefs, but whether any one of them represents something that really *exists* must seem quite uncertain. Perhaps they are just webs of illusion, like those spun by a master magician—or the evil demon.

Descartes here presents a pattern of thought that deserves a name. Let us call it the representational theory of knowledge and perception, or the **representational theory** for short. The basic ideas of this theory are very widely shared in modern philosophy. We can distinguish five points:

1. We have no immediate or direct access to things in the world, only to the world of our ideas.*

*The American philosopher John Searle calls this view that we only perceive our *ideas* of objects "the greatest single disaster in the history of philosophy over the past four centuries." In *Mind: A Brief Introduction* (Oxford: Oxford University Press, 2004), 23.

2. "Ideas" must be understood broadly to include all the contents of the mind, including perceptions, images, memories, concepts, beliefs, intentions, and decisions.
3. These ideas serve as *representations* of things other than themselves.
4. Much of what these ideas represent, they represent as "out there," or "external" to the mind containing them.
5. It is in principle possible for ideas to represent these things correctly, but they may also be false and misleading.



In *Meditation I*, Descartes draws a certain consequence of the representational theory. It seems that mind and world could be disconnected in a perplexing way, that even the most solid ideas might represent things all wrong—or maybe even not represent anything at all! This possibility, foreshadowed by the ancient skeptics and by William of Ockham in his reflections on God's omnipotence, provokes *thinkers* to try to find a remedy. What we need is a **bridge** across the chasm between mind and world, and it is clear that it will have to be built by *inference* and argument. We want *good reasons* to *believe* that our ideas represent the "external" world *truly*. But the good reasons must be of a peculiar sort. We have to start this construction project *while* isolated on one side, restricted in our choice of materials to those available there. It is from the *vantage* point of the mind that we try to stretch the *girders* of our argument across the gulf to the *world*.

We will *examine* Descartes' effort to build such a *rational bridge*. The difficulty of that task is

emphasized in the dramatic rehearsal of skeptical worries about knowledge in *Meditation I*. And we can now see that these worries hover around the representational theory. The gulf between mind and external reality seems immense.* We might remember Archimedes, who says, "Give me a lever long enough, and a place on which to rest it, and I can move the earth." Descartes thinks that if he can find just one certainty, he might, like Archimedes, do marvels. He might just build that bridge.

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- Q8. To what certainty does Descartes' methodical doubt lead? Is he right about that?†
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The principle "I think, therefore I am" is often referred to as the *cogito*, from the Latin "I think" and we will use that shorthand expression from time to time. It is worth emphasizing that in the *cogito* Descartes has an example of *knowledge*, of knowledge about *reality*, and so of *metaphysical* knowledge. He has thrown the first plank of his bridge across the chasm.

Note that Descartes rejects the standard, long-accepted way of answering the question, What am I? (p. 324). According to a tradition that goes back to Socrates (and is codified by Aristotle), the way to answer such a question is to give a *definition*. The traditional way to define something will tell you (a) what *genus* it belongs to and (b) the *difference* between it and other things in that genus. Not surprisingly, this is called *definition by genus and difference*. A human being is said to belong to the *genus animal*; and the difference between a human and other animals is that a human is *rational*. Human beings, Aristotle says, are *rational animals*.

Descartes objects to such a definition because it simply calls for more definitions; you need next

a definition of *animal* and a definition for *rational*. Then, presumably, you will require definitions for the terms used to define *them*. And so on.

This whole process has to come to ground somewhere. There must be some terms, Descartes thinks, that do not need definition of this sort, but whose meaning can just be "seen." These will be the *simple* terms. From them, more complex terms can be built up. We see in Descartes' rejection of the traditional definition procedure an application of the second and third rules of his method. He is searching for something so simple, clear, and distinct that it just presents itself without any need for definition. He is looking for something **self-evident**. If that can be found, he can use it as a foundation on which to build more complex truths.

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- Q9. What, then, does Descartes conclude that he is?
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Note that Descartes briefly considers the view that he may after all *be* a body, or some such thing, even though he does not *know* he is (p. 325).^{*} But he does not try to refute it here; that proof comes in *Meditation VI*. Here he is interested in what he knows that he *is*—not in what he can infer that he *is not*.

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- Q10. Why does Descartes rule out the use of the imagination in answering the question, What am I?
- Q11. What is included in "thinking," as Descartes understands the term? (See p. 325.) Note how broad the term is for him.
- Q12. Suppose I feel certain that I see a cat on the mat. Is it certain that there is a cat on the mat? What, in this situation, *can* I be certain of?
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How difficult it is to stay within the bounds of what I know for certain! As Descartes says, his "mind enjoys wandering." And so it is with us. I, too, keep slipping back into the error of thinking that I know *sensible* things best—this desk, this computer keyboard, this hand. (Do you find that too?)

*Other thinkers after Descartes also wrestle with this problem. Locke recognizes the gulf but papers it over, Berkeley settles down on one side of it, Hume despairs of a solution, Kant redefines the problem so as to make the gulf (partially) disappear, Hegel denies there is a gulf at all, and Kierkegaard opens it up again. The problem is not dead today.

†Descartes' central idea here is anticipated by Augustine in his refutation of the skeptics. See pp. 232–233.

*This is the view that Thomas Hobbes urges against Descartes. See "Minds and Motives" in Chapter 14.

It is to cure this inclination to rely on the senses that Descartes considers the bit of wax. Read that passage once more (pp. 325–326). All the sensible qualities by means of which we recognize the wax can change. But we still judge that it is the same wax. What does that mean?

The distinction between *ordinary perception* and *judgment* is crucial for Descartes. It is illustrated by the hats and coats we see through the window. We say that we *see* men passing, but this is inaccurate, for they may be just robots dressed like men. What is actually happening in ordinary perception is that our intellect is drawing an *inference* on the basis of certain *data* (supplied by the senses) and issuing a judgment. Judging is an activity of the mind—indeed, as we'll see in *Meditation IV*, of the will.

Perceiving, then, is not a purely passive registration by the senses. Implicit in all perception is judgment, or *giving assent*. In ordinary perception, these judgments are apt to be *obscure*, *confused*, and just plain *wrong*. But fortunately they can be corrected by the application of *ideas* that are *clear* and *distinct*. (These points will be crucial in *Meditation IV*, where Descartes explains how it is possible for us to err.)

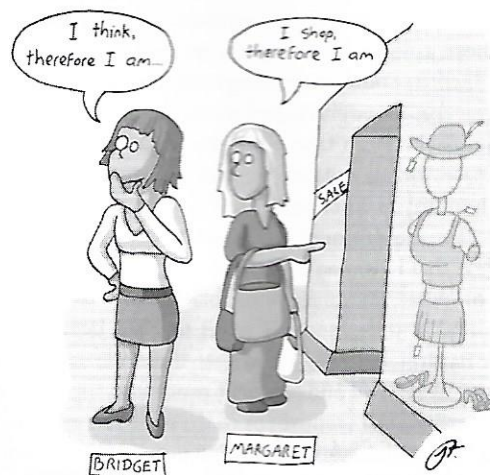
With respect to the *bit of wax*, the moral is that it is “grasped, not by the senses or the power of having mental images, but by the understanding

alone.” When based wholly on sense, our perception is “imperfect and confused.” When directed, however, to “the things of which the wax consists” (the mathematically determinable simples of extension, figure, and motion), knowledge of the wax can be *clear and distinct*.

Now we can understand why Descartes introduces the wax example. If even here knowledge cannot be found in sensation, but only in a “purely mental inspection,” then we should have less difficulty remembering that knowledge of *what we are* must also be approached in this way. Our tendency to think of ourselves as what we can *sense* of ourselves—these hands, this head, these eyes—is considerably undermined. Indeed, I must know myself “much more truly and certainly” even than the wax.

And there follows a remarkable conclusion: “I can’t grasp anything more easily or plainly than my mind.” (What would Freud have said to that?)

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- Q13. What qualities, then, belong to the wax essentially? (Look again at the basic principles of Descartes’ physics on pp. 315–316.)
- Q14. Why is our imagination incapable of grasping these qualities of the wax? By what faculty do we grasp it?
- Q15. How does the wax example help to cure our habitual inclination to trust the senses?
- Q16. How does our language tend to mislead us?
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Both inferences seem to be correct. What reason is there to prefer Bridget's formulation?

Meditation III: On God's Existence

I will now close my eyes, plug my ears, and withdraw all my senses. I will rid my thoughts of the images of physical objects—or, since that's beyond me, I'll write those images off as empty illusions. Talking with myself and looking more deeply into myself, I'll try gradually to come to know myself better. I am a thinking thing—a thing that doubts, affirms, denies, understands a few things, is ignorant of many things, wills, and refuses. I also sense and have mental images. For, as I've noted, even though the things of which I have sensations or mental images may not exist outside me, I'm certain that the modifications of thought called sensations and mental images exist in me insofar as they are just modifications of thought.

That's a summary of all that I really know—or, at any rate, of all that I've so far noticed that I know. I now will examine more carefully whether there are other things in me that I have not yet discovered. I'm certain that I am a thinking thing. Then don't I know what's needed for me to be certain of other things? In this first knowledge, there is nothing but a clear and distinct grasp of what I affirm, and this grasp surely would not suffice to make me certain if it could ever happen that something I grasped so clearly and distinctly was false. Accordingly, I seem to be able to establish the general rule that whatever I clearly and distinctly grasp is true.

But, in the past, I've accepted as completely obvious and certain many thoughts that I later found to be dubious. What were these thoughts about? The earth, the sky, the stars, and other objects of sense. But what did I clearly grasp about these objects? Only that ideas or thoughts of them appeared in my mind. Even now, I don't deny that these ideas occur in me. But there was something else that I used to affirm—something that I used to believe myself to grasp clearly but did not really grasp at all: I affirmed that there were things besides me, that the ideas in me came from these things, and that the ideas perfectly resembled these things. Either I erred here, or I reached a true judgment that wasn't justified by the strength of my understanding.

But what follows? When I considered very simple and easy points of arithmetic or geometry—such as that two and three together make five—didn't I see them clearly enough to affirm their truth? My only reason for judging that I ought to doubt these things was the thought that my God-given nature might deceive me even about what seems most obvious. Whenever I conceive of an all-powerful God, I'm compelled to admit that, if He wants, He can make it the case that I err even about what I take my mind's eye to see most clearly. But, when I turn to the things that I believe myself to grasp very clearly, I'm so convinced by them that I spontaneously burst forth saying, "Whoever may deceive me, he will never bring it about that I am nothing while I think that I am something, or that I have never been when it is now true that I am, or that two plus three is either more or less than five, or that something else in which I recognize an obvious inconsistency is true." And, since I have no reason for thinking that God is a deceiver—indeed since I don't yet know whether God exists—the grounds for doubt that rest on the supposition that God deceives are very weak and "metaphysical." Still, to rid myself of these grounds, I ought

to ask as soon as possible whether there is a God and, if so, whether He can be a deceiver. For it seems that, until I know these two things, I can never be completely certain of anything else.

The structure of my project seems to require, however, that I first categorize my thoughts and ask in which of them truth and falsity really reside. Some of my thoughts are like images of things, and only these can properly be called ideas. I have an idea, for example, when I think of a man, of a chimera, of heaven, of an angel, or of God. But other thoughts have other properties: while I always apprehend something as the object of my thought when I will, fear, affirm, or deny, these thoughts also include a component in addition to the likeness of that thing. Some of these components are called volitions or emotions; others, judgments.

Now, viewed in themselves and without regard to other things, ideas cannot really be false. If I imagine a chimera and a goat, it is just as true that I imagine the chimera as that I imagine the goat. And I needn't worry about falsehoods in volitions or emotions. If I have a perverse desire for something, or if I want something that doesn't exist, it's still true that I want that thing. All that remains, then, are my judgments; it's here that I must be careful not to err. And the first and foremost of the errors that I find in my judgments is that of assuming that the ideas in me have a similarity or conformity to things outside me. For, if I were to regard ideas merely as modifications of thought, they could not really provide me with any opportunity for error.

Of my ideas, some seem to me to be innate, others acquired, and others produced by me. The ideas by which I understand reality, truth, and thought seem to have come from my own nature. Those ideas by which I hear a noise, see the sun, or feel the fire I formerly judged to come from things outside me. And the ideas of sirens, hippogriffs, and so on I have formed in myself. Or maybe I can take all of my ideas to be acquired, all innate, or all created by me: I do not yet clearly see where my ideas come from.

For the moment, the central question is about the ideas that I view as derived from objects existing outside me. What reason is there for thinking that these ideas resemble the objects? I seem to have been taught this by nature. Besides, I find that these ideas are independent of my will and hence of me—for they often appear when I do not want them to do so. For example, I now feel heat whether I want to or not, and I therefore take the idea or sensation of heat to come from something distinct from me: the heat of the fire by which I am now

sitting. And the obvious thing to think is that a thing sends me its own likeness, not something else.

I will now see whether these reasons are good enough. When I say that nature teaches me something, I mean just that I have a spontaneous impulse to believe it, not that the light of nature reveals the thing's truth to me. There is an important difference. When the light of nature reveals something to me (such as that my thinking implies my existing) that thing is completely beyond doubt, since there is no faculty as reliable as the light of nature by means of which I could learn that the thing is not true. But, as for my natural impulses, I have often judged them to have led me astray in choices about what's good, and I don't see why I should regard them as any more reliable on matters concerning truth and falsehood.

Next, while my sensory ideas may not depend on my will, it doesn't follow that they come from outside me. While the natural impulses of which I just spoke are in me, they seem to conflict with my will. Similarly, I may have in me an as yet undiscovered ability to produce the ideas that seem to come from outside me—in the way that I used to think that ideas came to me in dreams.

Finally, even if some of my ideas do come from things distinct from me, it doesn't follow that they are likenesses of these things. Indeed, it often seems to me that an idea differs greatly from its cause. For example, I find in myself two different ideas of the sun. One, which I "take in" through the senses and which I ought therefore to view as a typical acquired idea, makes the sun look very small to me. The other, which I derive from astronomical reasoning (that is, which I make, perhaps by composing it from innate ideas), pictures the sun as many times larger than the earth. It clearly cannot be that both of these are accurate likenesses of a sun that exists outside me, and reason convinces me that the one least like the sun is the one that seems to arise most directly from it.

All that I've said shows that, until now, my belief that there are things outside me that send their ideas or images to me (perhaps through my senses) has rested on blind impulse rather than certain judgment.

Still, it seems to me that there may be a way of telling whether my ideas come from things that exist outside me. Insofar as the ideas of things are just modifications of thought, I find no inequality among them; all seem to arise from me in the same way. But, insofar as different ideas present different things to me, there obviously are great differences among them. The ideas of substances are unquestionably greater—or have more "subjective

reality"—than those of modifications or accidents. Similarly, the idea by which I understand the supreme God—eternal, infinite, omniscient, omnipotent, and creator of all things other than Himself—has more subjective reality in it than the ideas of finite substances.

Now, the light of nature reveals that there is at least as much in a complete efficient cause as in its effect. For where could an effect get its reality if not from its cause? And how could a cause give something unless it had it? It follows both that something cannot come from nothing and that what is more perfect—that is, has more reality in it—cannot come from what is less perfect or has less reality. This obviously holds, not just for those effects whose reality is actual or formal, but also for ideas, whose reality we regard as merely subjective. For example, it's impossible for a non-existent stone to come into existence unless it's produced by something containing, either formally or eminently, everything in the stone. Similarly, heat can only be induced in something that's not already hot by something having at least the same degree of perfection as heat. Also, it's impossible for the *idea* of heat or of stone to be in me unless it's been put there by a cause having at least as much reality as I conceive of in the heat or the stone. For, although the cause doesn't transmit any of its actual or formal reality to the idea, we shouldn't infer that it can be *less real* than the idea; all that we can infer is that by its *nature* the idea doesn't require any formal reality except what it derives from my thought, of which it is a modification. Yet, as the idea contains one particular subjective reality rather than another, it must get this reality from a cause having at least as much formal reality as the idea has subjective reality. For, if we suppose that an idea has something in it that wasn't in its cause, we must suppose that it got this thing from nothing. However imperfect the existence of something that exists *subjectively* in the understanding through an idea, it obviously *is* something, and it therefore cannot come from nothing.

And, although the reality that I'm considering in my ideas is just *subjective*, I ought not to suspect that it can fail to be in an idea's cause formally—that it's enough for it to be *there* subjectively. For, just as the subjective existence of my ideas belongs to the ideas in virtue of their nature, the formal existence of the ideas' causes belongs to those causes—or, at least, to the first and foremost of them—in virtue of the causes' nature. Although one idea may arise from another, this can't go back to infinity; we must eventually arrive at a primary idea whose cause is an "archetype" containing formally

all the reality that the idea contains subjectively. Hence, the light of nature makes it clear to me that the ideas in me are like images that may well fall short of the things from which they derive, but cannot contain anything greater or more perfect.

The more time and care I take in studying this, the more clearly and distinctly I know it to be true. But what follows from it? If I can be sure that the subjective reality of one of my ideas is so great that it isn't in me either formally or eminently and hence that I cannot be the cause of that idea, I can infer that I am not alone in the world—that there exists something else that is the cause of the idea. But, if I can find no such idea in me, I will have no argument at all for the existence of anything other than me—for, having diligently searched for such an argument, I have yet to find one.

Of my ideas—besides my idea of myself, about which there can be no problem here—one presents God, others inanimate physical objects, others angels, others animals, and still others men like me.

As to my idea of other men, of animals, and of angels, it's easy to see that—even if the world contained no men but me, no animals, and no angels—I could have composed these ideas from those that I have of myself, of physical objects, and of God.

And, as to my ideas of physical objects, it seems that nothing in them is so great that it couldn't have come from me. For, if I analyze my ideas of physical objects carefully, taking them one by one as I did yesterday when examining my idea of the piece of wax, I notice that there is very little in them that I grasp clearly and distinctly. What I do grasp clearly and distinctly in these ideas is size (which is extension in length, breadth, and depth), shape (which arises from extension's limits), position (which the differently shaped things have relative to one another), and motion (which is just change of position). To these I can add substance, duration, and number. But my thoughts of other things in physical objects (such as light and color, sound, odor, taste, heat and cold, and tactile qualities) are so confused and obscure that I can't say whether they are true or false—whether my ideas of these things are of something or of nothing. Although, as I noted earlier, that which is properly called falsehood—namely, *formal* falsehood—can only be found in judgments, we can still find falsehood of another sort—namely, *material* falsehood—in an idea when it presents what is not a thing as though it were a thing. For example, the ideas that I have of coldness and heat are so unclear and indistinct that I can't tell from them whether coldness is just the absence of heat, or heat just the absence of coldness, or both are

real qualities, or neither is. And, since every idea is “of something,” the idea that presents coldness to me as something real and positive could justifiably be called false if coldness were just the absence of heat. And the same holds true for other ideas of this sort.

For such ideas, I need not posit a creator distinct from me. I know by the light of nature that, if one of these ideas is false—that is, if it doesn't present a real thing—it comes from nothing—that is, the only cause of its being in me is a deficiency of my nature, which clearly is imperfect. If one of these ideas is true, however, I still see no reason why I couldn't have produced it myself—for these ideas present so little reality to me that I can't even distinguish it from nothing.

Of the things that are clear and distinct in my ideas of physical objects, it seems that I may have borrowed some—such as substance, duration, and number—from my idea of myself. I think of the stone as a substance—that is, as something that can exist on its own—just as I think of myself as a substance. Although I conceive of myself as a thinking and unextended thing and of the stone as an extended and unthinking thing so that the two conceptions are quite different, they are the same in that they both seem to be of substances. And, when I grasp that I exist now while remembering that I existed in the past, or when I count my various thoughts, I get the idea of duration or number, which I can then apply to other things. The other components of my ideas of physical objects—extension, shape, place, and motion—can't be in me formally, since I'm just a thinking thing. But, as these things are just modes of substance, and as I am a substance, it seems that they may be in me eminently.

All that's left is my idea of God. Is there something in this idea of God that couldn't have come from me? By “God” I mean a substance that's infinite, independent, supremely intelligent, and supremely powerful—the thing from which I and everything else that may exist derive our existence. The more I consider these attributes, the less it seems that they could have come from me alone. So I must conclude that God necessarily exists.

While I may have the idea of substance in me by virtue of my being a substance, I who am finite would not have the idea of infinite substance in me unless it came from a substance that really was infinite.

And I shouldn't think that, rather than having a true idea of infinity, I grasp it merely as the absence of limits—in the way that I grasp rest as the absence of motion and darkness as the absence of light. On the contrary, it's clear to me that there is more reality in an infinite than in a finite substance and hence that my grasp of the infinite

must somehow be prior to my grasp of the finite—my understanding of God prior to my understanding of myself. For how could I understand that I doubt and desire, that I am deficient and imperfect, if I didn't have the idea of something more perfect to use as a standard of comparison?

And, unlike the ideas of hot and cold which I just discussed, the idea of God cannot be said to be materially false and hence to come from nothing. On the contrary, since the idea of God is completely clear and distinct and contains more subjective reality than any other idea, no idea is truer *per se* and none less open to the suspicion of falsity. The idea of a supremely perfect and infinite entity is, I maintain, completely true. For, while I may be able to suppose that there is no such entity, I can't even suppose (as I did about the idea of coldness) that my idea of God fails to show me something real. This idea is maximally clear and distinct, for it contains everything that I grasp clearly and distinctly, everything real and true, everything with any perfection. It doesn't matter that I can't fully comprehend the infinite—that there are innumerable things in God which I can't comprehend fully or even reach with thought. Because of the nature of the infinite, I who am finite cannot comprehend it. It's enough that I think about the infinite and judge that, if I grasp something clearly and distinctly and know it to have some perfection, it's present either formally or eminently—perhaps along with innumerable other things of which I am ignorant—in God. If I do this, then of all my ideas the idea of God will be most true and most clear and distinct.

But maybe I am greater than I have assumed; maybe all the perfections that I attributed to God are in me potentially, still unreal and unactualized. I have already seen my knowledge gradually increase, and I don't see anything to prevent its becoming greater and greater to infinity. Nor do I see why, by means of such increased knowledge, I couldn't get all the rest of God's perfections. Finally, if the potential for these perfections is in me, I don't see why that potential couldn't account for the production of the ideas of these perfections in me.

None of this is possible. First, while it's true that my knowledge gradually increases and that I have many as yet unactualized potentialities, none of this fits with my idea of God, in whom absolutely nothing is potential; indeed, the gradual increase in my knowledge shows that I am *imperfect*. Besides, I see that, even if my knowledge were continually to become greater and greater, it would never become actually infinite, since it would never become so great as to be unable to increase. But I judge God to be actually infinite so that nothing can

be added to his perfection. Finally, I see that an idea's subjective being must be produced, not by mere potentiality (which, strictly speaking, is nothing), but by what is actual or formal.

When I pay attention to these things, the light of nature makes all of them obvious. But, when I attend less carefully and the images of sensible things blind my mind's eye, it's not easy for me to remember why the idea of an entity more perfect than I am must come from an entity that really is more perfect. That's why I'll go on to ask whether I, who have the idea of a perfect entity, could exist if no such entity existed.

From what might I derive my existence if not from God? Either from myself, or from my parents, or from something else less perfect than God—for nothing more perfect than God, or even as perfect as Him, can be thought of or imagined.

But, if I derived my existence from myself, I wouldn't doubt, or want, or lack anything. I would have given myself every perfection of which I have an idea, and thus I myself would be God. And I shouldn't think that it might be harder to give myself what I lack than what I already have. On the contrary, it would obviously be much harder for me, a thinking thing or substance, to emerge from nothing than for me to give myself knowledge of the many things of which I am ignorant, which is just an attribute of substance. But surely, if I had given myself that which is harder to get, I wouldn't have denied myself complete knowledge, which would have been easier to get. Indeed, I wouldn't have denied myself *any* of the perfections that I grasp in the idea of God. None of these perfections seems harder to get than existence. But, if I had given myself everything that I now have, these perfections would have seemed harder to get than existence if they were harder to get—for in creating myself I would have discovered the limits of my power.

I can't avoid the force of this argument by supposing that, since I've always existed as I do now, there's no point in looking for my creator. Since my lifetime can be divided into innumerable parts each of which is independent of the others, the fact that I existed a little while ago does not entail that I exist now, unless a cause "recreates" me—or, in other words, preserves me—at this moment. For, when we attend to the nature of time, it's obvious that exactly the same power and action are required to preserve a thing at each moment through which it endures as would be required to create it anew if it had never existed. Hence, one of the things revealed by the light of nature is that preservation and creation differ only in the way we think of them.

I ought to ask myself, then, whether I have the power to ensure that I, who now am, will exist in a little while. Since I am nothing but a thinking thing—or, at any rate, since I am now focusing on the part of me that thinks—I would surely be aware of this power if it were in me. But I find no such power. And from this I clearly see that there is an entity distinct from me on whom I depend.

But maybe this entity isn't God. Maybe I am the product of my parents or of some other cause less perfect than God. No. As I've said, there must be at least as much in a cause as in its effect. Hence, since I am a thinking thing with the idea of God in me, my cause, whatever it may be, must be a thinking thing having in it the idea of every perfection that I attribute to God. And we can go on to ask whether this thing gets its existence from itself or from something else. If it gets its existence from itself, it's obvious from what I've said that it must be God—for it would have the power to exist on its own and hence the power actually to give itself every perfection of which it has an idea, including every perfection that I conceive of in God. But, if my cause gets its existence from some other thing, we can go on to ask whether this other thing gets its existence from itself or from something else. Eventually, we will come to the ultimate cause, which will be God.

It's clear enough that there can't be an infinite regress here—especially since I am concerned, not so much with the cause that originally produced me, as with the one that preserves me at the present moment.

And I can't suppose that several partial causes combined to make me or that I get the ideas of the various perfections that I attribute to God from different causes so that, while each of these perfections can be found somewhere in the universe, there is no God in whom they all come together. On the contrary, one of the chief perfections that I understand God to have is unity, simplicity, inseparability from everything in Him. Surely the idea of the unity of all God's perfections can only have been put in me by a cause that gives me the ideas of all the other perfections—for nothing could make me aware of the unbreakable connection of God's perfections unless it made me aware of what those perfections are.

Finally, even if everything that I used to believe about my parents is true, it's clear that they don't preserve me. Insofar as I am a thinking thing, they did not even take part in creating me. They simply formed the matter in which I used to think that I (that is, my mind, which is all I am now taking myself to be) resided. There can therefore be no problem about my parents.

And I am driven to this conclusion: The fact that I exist and have an idea in me of a perfect entity—that is, God—conclusively entails that God does in fact exist.

All that's left is to explain how I have gotten my idea of God from Him. I have not taken it in through my senses; it has never come to me unexpectedly as the ideas of sensible things do when those things affect (or seem to affect) my external organs of sense. Nor have I made the idea myself; I can't subtract from it or add to it. The only other possibility is that the idea is innate in me, like my idea of myself.

It's not at all surprising that in creating me God put this idea into me, impressing it on His work like a craftsman's mark (which needn't be distinct from the work itself). The very fact that it was God who created me confirms that I have somehow been made in His image or likeness and that I grasp this likeness, which contains the idea of God, in the same way that I grasp myself. Thus, when I turn my mind's eye on myself, I understand, not just that I am an incomplete and dependent thing which constantly strives for bigger and better things, but also that He on whom I depend has all these things in Himself as infinite reality rather than just as vague potentiality and hence that He must be God. The whole argument comes down to this: I know that I could not exist with my present nature—that is, that I could not exist with the idea of God in me—unless there really were a God. This must be the very God whose idea is in me, the thing having all of the perfections that I can't fully comprehend but can somehow reach with thought, who clearly cannot have any defects. From this, it's obvious that He can't deceive—for, as the natural light reveals, fraud and deception arise from defect.

But before examining this more carefully and investigating its consequences, I want to dwell for a moment in the contemplation of God, to ponder His attributes, to see and admire and adore the beauty of His boundless light, insofar as my clouded insight allows. As I have faith that the supreme happiness of the next life consists wholly of the contemplation of divine greatness, I now find that contemplation of the same sort, though less perfect, affords the greatest joy available in this life.

Commentary and Questions

In the first paragraphs, Descartes resolves to explore more carefully his own mind. But then what alternative does he have, now that he has resolved to consider everything else "as empty illusions"?

A momentous step is taken: He *solves* (or at least he thinks he solves) the problem of the criterion! Here are the steps.

1. He is certain that he exists as a **thinking thing**.
2. He asks himself, What is it about this proposition that accounts for my certainty that it is true?
3. He answers, The fact that I grasp it so clearly and distinctly that I perceive it could not possibly be false.
4. He concludes, Let this then be a general principle (a *criterion*): Whatever I grasp with *like clarity and distinctness* must also be true.

He then reviews (yet again) the things he had at one time thought were true and reminds himself that no matter how sure he feels about them, he can't be absolutely certain.

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- Q17. Why does he feel a need to inquire about the existence and nature of God?
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Descartes now tries to make clear a crucial distinction between **ideas** on the one hand and **volitions, emotions, and judgments** on the other (pp. 330–331). This distinction is embedded in an inventory of the varied contents of the mind (which is all that we can so far be certain of). You will find a schematic representation of that inventory below.

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- Q18. What is the key difference between ideas and judgments?

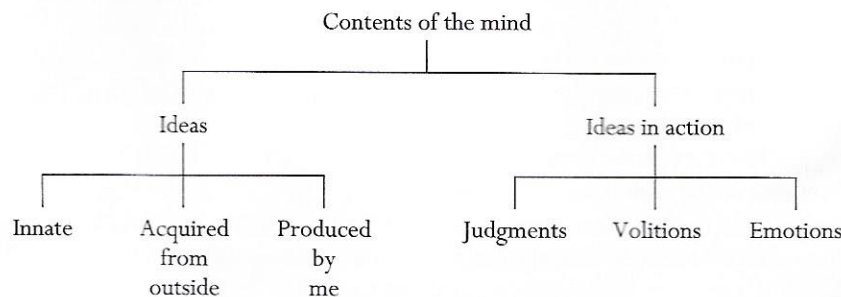
- Q19. What is the key difference between judgments on the one hand, and volitions and emotions on the other?
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- Q20. What question arises with respect to the ideas that seem to be acquired from outside myself?
- Q21. What (provisional) examples does Descartes give of each class of ideas?
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We need to comment on the notion of **innate ideas**. In calling them “innate,” Descartes does not mean to imply that they are to be found in babies and mentally defective adults, as some of his critics suppose. He merely means that there are some ideas we would have even if nothing existed but ourselves. These ideas do not require external causes for their existence in us; every developed rational mind will possess them from its own resources. Thus, the idea of a *thing* can originate with the *cogito*, which gives me the certainty that I exist as a thing that thinks—even if nothing else exists. Perhaps my idea of an antelope is caused in me by seeing antelopes in a zoo (though this remains to be proved). But we would have the ideas of thing, thought, and truth in any case.

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- Q22. Why do you think Descartes believes that the ideas of truth and thought are innate?
- Q23. Why is he inclined to believe that some ideas do originate from objects outside himself? He gives two reasons (p. 330).
- Q24. Are these two reasons conclusive?
- Q25. What is the difference between being taught “by nature” and being taught “by the light of nature”? (See p. 331.) What is the **light of nature**?
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We come now to a point of terminology. Descartes distinguishes **subjective reality** on the one hand from **formal** and **eminent reality** on the



other. If we are going to understand Descartes' argument, we must be clear about how he uses these terms and keep his use firmly in mind.

It is easier to begin with formal reality. Something has formal reality if it is, in our terms, actual or existing. If there really are giraffes and angels, then giraffes and angels have formal reality. You also, because you exist, have formal reality. And when you form an image of a giraffe in your mind, that image also has formal reality—that is, it actually exists *as an image* in your mind. So any idea actually present in a mind is formally real. This means that (if there are giraffes) both the idea of a giraffe (when being thought) and the giraffe you are thinking of are formally real. They are distinct realities, but related: The one *represents* the other.

What you are thinking about when you entertain an idea has subjective reality, reality “for you.” Giraffes and angels have subjective reality whenever you think of them, but there are ideas whose objects have *only* subjective reality: the tooth fairy, for instance, or unicorns. These, of course, are examples of ideas “produced by us.” But if we look carefully, we can see that they have not been invented out of nothing. The idea of a unicorn comes from the ideas of a horse and a single horn. And (though Descartes has not proved it yet) it may be that horses and horns are formally real. Already he remarks (p. 331) that although one idea may be derived from others, this cannot go on to infinity: There must eventually be a cause for these ideas; and the reality of that cause must be more than “merely subjective.” If this were not so, we would have gotten something “from nothing.” And the light of nature assures us that this is impossible. There is an old Latin saying: *ex nihilo nihil fit*, or “from nothing, nothing comes.”

Descartes does not, of course, make these distinctions for *their own sake*. There is a problem he is trying to solve: Given that I can be certain that I exist (together with all my ideas), can I be certain of the *formal* existence of anything else? Although thoroughgoing skepticism may have been refuted (we do know something in the *cogito*), we have not got beyond solipsism. **Solipsism** is a view that each of you (if there is anyone out there!) must

state for yourself in this way: “I am the only thing that actually (formally) exists; everything else is only real for me.”

Another step in solving that problem is to note that there are *degrees of reality*: some things have more reality than others. This is the cardinal principle of the Great Chain of Being.* Descartes gives two examples, framed in terms of subjective reality (p. 331), though the same is true for formal reality, as well.

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- Q26. Why does the idea of *substance* contain more subjective reality than that of *modification* or *accident*? (Think of a fender and the dent in it.)†
- Q27. Why does the idea of infinite substance have more subjective reality than that of finite substance?
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On the basis of these distinctions, Descartes formulates a *causal principle*: There must be at least as much reality in the cause as there is in the effect. A cause is said to be *formally real* when it has the same degree of reality as the effect it produces; it is said to be *eminently real* when it has even more reality than its effect.

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- Q28. What examples does Descartes offer to illustrate this causal principle?
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Once more Descartes canvasses the various kinds of ideas he finds in himself as a thinking thing. He is looking for some idea of which he himself could not possibly be the cause. Such an idea must have a *cause* (since nothing comes from nothing). If (1) he is not the cause, and (2) there is a cause, then (3) he knows that he is not alone in the universe. Something else exists!

Descartes thinks his meditations to this point give him the materials with which to prove that

*See pp. 235–237.

†I owe this nice example to Ronald Rubin, the translator of these *Meditations*.

God exists. Let us see what the argument looks like:

1. I have an idea of an infinitely perfect substance.
2. Such an idea must have a cause.
3. *Ex nihilo nihil fit*.
4. So the cause of an idea must have at least as much *formal* reality as there is *subjective* reality in the idea.
5. Though I am a substance, I am not infinitely perfect.
6. So I could not be the cause of this idea.
7. So there must be a formal reality that is an infinitely perfect substance.
8. So God exists.

Q29. Is this argument valid?

Q30. Are there premises in the argument that are less than certainly true?

Meditation III contains two separate arguments for God's existence. The first one, which we have now examined, begins with the fact that each of us has an *idea* of God. The second one begins (on p. 333) with the fact that I exist. The argument then addresses whether I could exist if God does not. It is an argument by exclusion; it considers the other plausible candidates for the cause of my existence and shows in each case that it won't do. Note that both of these arguments are *causal* arguments. The first inquires about the cause of my *idea* of God, the second about the cause of my *existence*. Both make use of the causal principle Descartes has formulated.

Let us sketch the principal steps in this argument.

1. I exist.
2. There must be a cause for my existence.
3. The cause must be one of the following: (a) myself, (b) my always having existed, (c) my parents, (d) something else less perfect than God, or (e) God.
4. Not a, or I would have given myself perfections I now lack—because creating the properties of a substance is not as hard as creating the substance itself.

5. Not b, because my existing now does not *follow* from my having existed in the past.
6. Not c, for this leads to an infinite regress.
7. Not d, for this couldn't account for the unity of the idea of God that I have.
8. So e, and God exists.

Q31. Is there a weak point in this argument? Is there more than one?

Q32. Why does Descartes think his idea of God must be innate?

Q33. Explain why Descartes says we cannot "comprehend" God but can "reach" him in thought. (Compare touching an elephant and wrapping your arms around it.)*

At the end of the third *Meditation*, Descartes feels he has achieved his aim. He now knows that he is not alone. In addition to himself there is at least one other *being*—a substance infinite in intelligence and *power*, and perfect in every way. This latter fact will prove to be of very great significance, for Descartes will use it to defeat the hypothesis of the evil demon; a perfect being could not be a deceiver. Thus he thinks he can overcome the deepest ground for skepticism about knowledge of the *external* world. But that is a line of argument pursued in the remaining meditations.

Meditation IV: On Truth and Falsity

In the last few days, I've gotten used to drawing my mind away from my senses. I've carefully noted that I really grasp *very* little about physical objects, that I know much *more* about the human mind, and that I know even *more* about God. Thus, I no longer find it hard to turn my thoughts away from things of which I can have *mental* images and toward things completely separate from *matter*, which I can only understand. Indeed, I have a much more distinct idea of the human mind, insofar as it is just a thinking thing that isn't extended in *length*, breadth, or depth and doesn't share anything else with physical objects, than I have of physical objects. And, when I note that I doubt or that I am incomplete and dependent, I have a clear and distinct

*Compare the similar thought by Aquinas, p. 275.

idea of a complete and independent entity: God. From the fact that this idea is in me and that I who have the idea exist, I can clearly infer both that God exists and that I am completely dependent on Him for my existence from moment to moment. This is so obvious that I'm sure that people can't know anything more evidently or certainly. And it now seems to me that, from the contemplation of the true God in whom are hidden all treasures of knowledge and wisdom, there is a way to derive knowledge of other things.

In the first place, I know that it's impossible for Him ever to deceive me. Wherever there is fraud and deception, there is imperfection, and, while the ability to deceive may seem a sign of cunning or power, the desire to deceive reveals malice or weakness and hence is inconsistent with God's nature.

Next, I find in myself an ability to judge which, like everything else in me, I've gotten from God. Since He doesn't want to deceive me, He certainly hasn't given me an ability which will lead me wrong when properly used.

There can be no doubt about this—except that it may seem to imply that I don't err at all. For, if I've gotten everything in me from God and He hasn't given me the ability to err, it doesn't seem possible for me ever to err. Thus, as long as I think only of God and devote all my attention to Him, I can't find any cause for error and falsity. When I turn my attention back to myself, however, I find that I can make innumerable errors. In looking for the cause of these errors, I find before me, not just the real and positive idea of God, but also the negative idea of "nothingness"—the idea of that which is completely devoid of perfection. I find that I am "intermediate" between God and nothingness, between the supreme entity and nonentity. Insofar as I am the creation of the supreme entity, there's nothing in me to account for my being deceived or led into error, but, insofar as I somehow participate in nothingness or the nonentity—that is, insofar as I am distinct from the supreme entity itself and lack many things—it's not surprising that I go wrong. I thus understand that, in itself, error is a lack, rather than a real thing dependent on God. Hence, I understand that I can err without God's having given me a special ability to do so. Rather, I fall into error because my God-given ability to judge the truth is not infinite.

But there's still something to be explained. Error is not just an absence, but a deprivation—the lack of knowledge that somehow ought to be in me. But, when I attend to God's nature, it seems impossible that He's given me an ability that is an imperfect thing of

its kind—an ability lacking a perfection that it ought to have. The greater the craftsman's skill, the more perfect his product. Then how can the supreme creator of all things have made something that isn't absolutely perfect? There's no doubt that God could have made me so that I never err and that He always wants what's best. Then is it better for me to err than not to err?

When I pay more careful attention, I realize that I shouldn't be surprised at God's doing things that I can't explain. I shouldn't doubt His existence just because I find that I sometimes can't understand why or how He has made something. I know that my nature is weak and limited and that God's is limitless, incomprehensible, and infinite, and, from this, I can infer that He can do innumerable things whose reasons are unknown to me. On this ground alone, I regard the common practice of explaining things in terms of their purposes to be useless in physics: it would be foolhardy of me to think that I can discover God's purposes.

It also seems to me that, when asking whether God's works are perfect, I ought to look at all of them together, not at one in isolation. For something that seems imperfect when viewed alone might seem completely perfect when regarded as having a place in the world. Of course, since calling everything into doubt, I haven't established that anything exists besides me and God. But, when I consider God's immense power, I can't deny that He has made—or, in any case, that He could have made—many other things, and I must therefore view myself as having a place in a universe.

Next, turning to myself and investigating the nature of my errors (which are all that show me to be imperfect), I notice that these errors depend on two concurrent causes: my ability to know and my ability to choose freely—that is, my understanding and my will. But, with my understanding, I just grasp the ideas about which I form judgments, and error therefore cannot properly be said to arise from the understanding itself. While there may be innumerable things of which I have no idea, I can't say that I am deprived of these ideas, but only that I happen to lack them—for I don't have any reason to think that God ought to have given me a greater ability to know than He has. And, while I understand God to be a supremely skilled craftsman, I don't go on to think that He ought to endow each of his works with all the perfections that He can put in the others.

Nor can I complain about the scope or perfection of my God-given freedom of will—for I find that my will doesn't seem to me to be restricted in any way. Indeed, it seems well worth noting that nothing in

me other than my will is so great and perfect that it couldn't conceivably be bigger or better. If I think about my ability to understand, for example, I realize that it is very small and restricted and I immediately form the idea of something much greater—indeed, of something supremely perfect and infinite. And, from the fact that I can form the idea of this thing, I infer that it is present in God's nature. Similarly, if I consider my other abilities, like the abilities to remember and to imagine, I clearly see that they all are weak and limited in me, but boundless in God. My will or freedom of choice is the only thing I find to be so great in me that I can't conceive of anything greater. In fact, it's largely for this reason that I regard myself as an image or likeness of God. God's will is incomparably greater than mine, of course, in virtue of the associated knowledge and power that make it stronger and more effective, and also in virtue of all its greater range of objects. Yet, viewed in itself as a will, God's will seems no greater than mine. For having a will just amounts to being able either to do or not to do (affirm or deny, seek or avoid)—or, better, to being inclined to affirm or deny, seek or shun what the understanding offers, without any sense of being driven by external forces. To be free, I don't need to be inclined towards both alternatives. On the contrary, the more I lean towards one alternative—either because I understand the truth or goodness in it, or because God has so arranged my deepest thoughts—the more freely I choose it. Neither divine grace nor knowledge of nature ever diminishes my freedom; they increase and strengthen it. But the indifference that I experience when no consideration impels me towards one alternative over another is freedom of the lowest sort, whose presence reveals a defect or an absence of knowledge rather than a perfection. For, if I always knew what was good or true, I wouldn't ever deliberate about what to do or choose, and thus, though completely free, I would never be indifferent.

From this I see that my God-given ability to will is not itself the cause of my errors—for my will is great, a perfect thing of its kind. Neither is my power of understanding the cause of my errors; whenever I understand something, I understand it correctly and without the possibility of error, since my understanding comes from God. What then is the source of my errors? It is just that, while my will has a broader scope than my understanding, I don't keep it within the same bounds, but extend it to that which I don't understand. Being indifferent to these things, my will is easily led away from truth and goodness, and thus I am led into error and sin.

For example, I've asked for the last few days whether anything exists in the world, and I've noted that, from the fact that I ask this, it follows that I exist. I couldn't fail to judge that which I so clearly understood to be true. This wasn't because a force outside me compelled me to believe, but because an intense light in my understanding produced a strong inclination of my will. And, to the extent that I wasn't indifferent, I believed spontaneously and freely. However, while I now know that I exist insofar as I am a thinking thing, I notice in myself an idea of what it is to be a physical object and I come to wonder whether the thinking nature that's in me—or, rather, that *is* me—differs from this bodily nature or is identical to it. Nothing occurs to my reason (I am supposing) to convince me of one alternative rather than the other. Accordingly, I am completely indifferent to affirming either view, to denying either view, and even to suspending judgment.

And indifference of this sort is not limited to things of which the understanding is completely ignorant. It extends to everything about which the will deliberates in the absence of a sufficiently clear understanding. For, however strong the force with which plausible conjectures draw me towards one alternative, the knowledge that they are conjectures rather than assertions backed by certain and indubitable arguments is enough to push my assent the other way. The past few days have provided me with ample experience of this—for I am now supposing each of my former beliefs to be false just because I've found a way to call them into doubt.

If I suspend judgment when I don't clearly and distinctly grasp what's true, I obviously do right and am not deceived. But, if I either affirm or deny in a case of this sort, I misuse my freedom of choice. If I affirm what is false, I clearly err, and, if I stumble onto the truth, I'm still blameworthy since the light of nature reveals that a perception of the understanding should always precede a decision of the will. In these misuses of freedom of choice lies the deprivation that accounts for error. And this deprivation, I maintain, lies in the working of the will insofar as it comes from me—not in my God-given ability to will, or even in the will's operation insofar as it derives from Him.

I have no reason to complain that God hasn't given me a more perfect understanding or a greater natural light than He has. It's in the nature of a finite understanding that there are many things it can't understand, and it's in the nature of created understanding that it's finite. Indeed, I ought to be grateful to Him who owes me absolutely nothing for what He has bestowed, rather

than taking myself to be deprived or robbed of what God hasn't given me.

And I have no reason to complain about God's having given me a will whose scope is greater than my understanding's. The will is like a unity made of inseparable parts; its nature apparently will not allow anything to be taken away from it. And, really, the wider the scope of my will, the more grateful I ought to be to Him who gave it to me.

Finally, I ought not to complain that God concurs in bringing about the acts of will and judgment in which I err. Insofar as these acts derive from God, they are completely true and good, and I am more perfect with the ability to perform these acts than I would be without it. And, the deprivation that is the real ground of falsity and error doesn't need God's concurrence, since it's not a thing. When we regard God as its cause, we should say that it is an absence rather than a deprivation. For it clearly is no imperfection in God that He has given me the freedom to assent or not to assent to things of which He hasn't given me a clear and distinct grasp. Rather, it is undoubtedly an imperfection in me that I misuse this freedom by passing judgment on things that I don't properly understand. I see, of course, that God could easily have brought it about that, while I remain free and limited in knowledge, I never err: He could have implanted in me a clear and distinct understanding of everything about which I was ever going to make a choice, or He could have indelibly impressed on my memory that I must never pass judgment on something that I don't clearly and distinctly understand. And I also understand that, regarded in isolation from everything else, I would have been more perfect if God had made me so that I never err. But I can't deny that, because some things are immune to error while others are not, the universe is more perfect than it would have been if all its parts were alike. And I have no right to complain about God's wanting me to hold a place in the world other than the greatest and most perfect.

Besides, if I can't avoid error by having a clear grasp of every matter on which I make a choice, I can avoid it in the other way, which only requires remembering that I must not pass judgment on matters whose truth isn't apparent. For, although I find myself too weak to fix my attention permanently on this single thought, I can—by careful and frequent meditation—ensure that I call it to mind whenever it's needed and thus that I acquire the habit of avoiding error.

Since the first and foremost perfection of man lies in avoiding error, I've profited from today's meditation, in which I've investigated the cause of error and falsity.

Clearly, the only possible cause of error is the one I have described. When I limit my will's range of judgment to the things presented clearly and distinctly to my understanding, I obviously cannot err—for everything that I clearly and distinctly grasp is something and hence must come, not from nothing, but from God—God, I say, who is supremely perfect and who cannot possibly deceive. Therefore, what I clearly and distinctly grasp is unquestionably true. Today, then, I have learned what to avoid in order not to err and also what to do to reach the truth. I surely will reach the truth if I just attend to the things that I understand perfectly and distinguish them from those that I grasp more obscurely and confusedly. And that's what I'll take care to do from now on.

Commentary and Questions

Note the transitional character of the first paragraph. Descartes sums up the argument so far, expresses his confidence that God's existence is more certain than anything else (except the *cogito*), and looks forward to further progress.

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- Q34. Is Descartes' assertion (p. 338) that deception is an evidence of weakness rather than power plausible? Explain your answer.
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Before God's existence was proved, it was unclear whether any of our beliefs were true. Now there is a new puzzle: How can any of them be false? (Do you see why this puzzle arises?) So Descartes has to provide an explanation of the obvious fact that we can and do make mistakes.

For the basic framework he depends again on the idea of the Great Chain of Being. He finds that he is an "intermediate" between God and nothingness, having less reality than God, whose perfection excludes error, but more reality than sheer nonbeing. Error, in any case, is not a positive reality; it is only a defect, as weakness is only the absence of strength and cold the absence of heat. So it should not be too surprising that Descartes, and we, too, should be susceptible to error.

Two points he makes in passing are worth noting.

1. Why did God create me so that I could make mistakes? I don't know, he says, but if I could see

the world as God sees it, it is quite possible that I would judge it to be for the best.*

Q35. How does recognizing that I am only a part of a larger whole help answer this question?

2. Among the many things we do not know are God's purposes. It follows that Aristotelian final causes—the what for—are not appropriate in the explanations given by physics. Thus Descartes buttresses the mechanistic character of his (and the modern world's) scientific work. We can come to know *how* things happen, but not *why*.

A more detailed analysis of error can be given. It depends on another distinction: that between entertaining a belief, or having it in mind (which is the function of the **understanding**), and assenting to that belief, or accepting it (which is the function of the **will**).

Q36. How does this distinction between *understanding* and *will* explain the possibility of error?

Q37. In what way is the will more perfect than the understanding?

Q38. Can God be blamed for our errors?

Q39. How can we avoid error?

Meditation V: On the Essence of Material Objects and More on God's Existence

Many questions remain about God's attributes and the nature of my self or mind. I may return to these questions later. But now, having found what to do and what to avoid in order to attain truth, I regard nothing as

*Here is one expression of that attitude expressed in Leibniz and other later writers to the effect that "this is the best of all possible worlds." It is this optimism that Voltaire caricatures so savagely in *Candide*. These reflections of Descartes form part of a project known as *theodicy*—the justification of the ways of God to man. For another attempt at theodicy, see Hegel (pp. 478–481). You might also review the Stoic notion that evil does not exist in the world, but only in our perception of it (p. 205).

more pressing than to work my way out of the doubts that I raised the other day and to see whether I can find anything certain about material objects.

But, before asking whether any such objects exist outside me, I ought to consider the ideas of these objects as they exist in my thoughts and see which are clear and which confused.

I have a distinct mental image of the quantity that philosophers commonly call continuous. That is, I have a distinct mental image of the 'extension of this quantity—or rather of the quantified thing—in length, breadth, and depth. I can distinguish various parts of this thing. I can ascribe various sizes, shapes, places, and motions to these parts and various durations to the motions.

In addition to having a thorough knowledge of extension in general, I grasp innumerable particulars about things like shape, number, and motion, when I pay careful attention. The truth of these particulars is so obvious and so consonant with my nature that, when I first think of one of these things, I seem not so much to be learning something novel as to be remembering something that I already knew—or noticing for the first time something that had long been in me without my having turned my mind's eye toward it.

What's important here, I think, is that I find in myself innumerable ideas of things which, though they may not exist outside me, can't be said to be nothing. While I have some control over my thoughts of these things, I do not make the things up: they have their own real and immutable natures. Suppose, for example, that I have a mental image of a triangle. While it may be that no figure of this sort does exist or ever has existed outside my thought, the figure has a fixed nature (essence or form), immutable and eternal, which hasn't been produced by me and isn't dependent on my mind. The proof is that I can demonstrate various propositions about the triangle, such as that its angles equal two right angles and that its greatest side subtends its greatest angle. Even though I didn't think of these propositions at all when I first imagined the triangle, I now clearly see their truth whether I want to or not, and it follows that I didn't make them up.

It isn't relevant that, having seen triangular physical objects, I may have gotten the idea of the triangle from external objects through my organs of sense. For I can think of innumerable other figures whose ideas I could not conceivably have gotten through my senses, and I can demonstrate facts about these other figures just as I can about the triangle. Since I know these facts clearly, they must be true, and they therefore must be

something rather than nothing. For it's obvious that everything true is something, and, as I have shown, everything that I know clearly and distinctly is true. But, even if I hadn't shown this, the nature of my mind would have made it impossible for me to withhold my assent from these things, at least when I clearly and distinctly grasped them. As I recall, even when I clung most tightly to objects of sense, I regarded truths about shape and number—truths of arithmetic, geometry, and pure mathematics—as more certain than any others.

But, if anything whose idea I can draw from my thought must in fact have everything that I clearly and distinctly grasp it to have, can't I derive from this a proof of God's existence? Surely, I find the idea of God, a supremely perfect being, in me no less clearly than I find the ideas of figures and numbers. And I understand as clearly and distinctly that eternal existence belongs to His nature as that the things which I demonstrate of a figure or number belong to the nature of the figure or number. Accordingly, even if what I have thought up in the past few days hasn't been entirely true, I ought to be at least as certain of God's existence as I used to be of the truths of pure mathematics.

At first, this reasoning may seem unclear and fallacious. Since I'm accustomed to distinguishing existence from essence in other cases, I find it easy to convince myself that I can separate God's existence from His essence and hence that I can think of God as nonexistent. But, when I pay more careful attention, it's clear that I can no more separate God's existence from His essence than a triangle's angles equaling two right angles from the essence of the triangle, or the idea of a valley from the idea of a mountain. It's no less impossible to think that God (the supremely perfect being) lacks existence (a perfection) than to think that a mountain lacks a valley.

Well, suppose that I can't think of God without existence, just as I can't think of a mountain without a valley. From the fact that I can think of a mountain with a valley, it doesn't follow that a mountain exists in the world. Similarly, from the fact that I can think of God as existing, it doesn't seem to follow that He exists. For my thought doesn't impose any necessity on things. It may be that, just as I can imagine a winged horse when no such horse exists, I can ascribe existence to God when no God exists.

No, there is a fallacy here. From the fact that I can't think of a mountain without a valley it follows, not that the mountain and valley exist, but only that whether they exist or not they can't be separated from one another. But, from the fact that I can't think of God without

existence, it follows that existence is inseparable from Him and hence that He really exists. It's not that my thoughts make it so or impose a necessity on things. On the contrary, it's the fact that God does exist that necessitates my thinking of Him as I do. For I am not free to think of God without existence—of the supremely perfect being without supreme perfection—as I am free to think of a horse with or without wings.

Now someone might say this: "If I take God to have all perfections, and if I take existence to be a perfection, I must take God to exist, but I needn't accept the premise that God has all perfections. Similarly, if I accept the premise that every quadrilateral can be inscribed in a circle, I'm forced to the patently false view that every rhombus can be inscribed in a circle, but I need not accept the premise." But this should not be said. For, while it's not necessary that the idea of God occurs to me, it is necessary that, whenever I think of the primary and supreme entity and bring the idea of Him out of my mind's "treasury," I attribute all perfections to Him, even if I don't enumerate them or consider them individually. And this necessity ensures that, when I do notice that existence is a perfection, I can rightly conclude that the primary and supreme being exists. Similarly, while it's not necessary that I ever imagine a triangle, it is necessary that, when I do choose to consider a rectilinear figure having exactly three angles, I attribute to it properties from which I can rightly infer that its angles are no more than two right angles, perhaps without noticing that I am doing so. But, when I consider which shapes can be inscribed in the circle, there's absolutely no necessity for my thinking that all quadrilaterals are among them. Indeed, I can't even think that all quadrilaterals are among them, since I've resolved to accept only what I clearly and distinctly understand. Thus my false suppositions differ greatly from the true ideas implanted in me, the first and foremost of which is my idea of God. In many ways, I see that this idea is not a figment of my thought, but the image of a real and immutable nature. For one thing, God is the only thing that I can think of whose existence belongs to its essence. For another thing, I can't conceive of there being two or more such Gods, and, having supposed that one God now exists, I see that He has necessarily existed from all eternity and will continue to exist into eternity. And I also perceive many other things in God that I can't diminish or alter.

But, whatever proof I offer, it always comes back to the fact that I am only convinced of what I grasp clearly and distinctly. Of the things that I grasp in this way, some are obvious to everyone. Some are discovered

only by those who examine things more closely and search more carefully, but, once these things have been discovered, they are regarded as no less certain than the others. That the square on the hypotenuse of a right triangle equals the sum of the squares on the other sides is not as readily apparent as that the hypotenuse subtends the greatest angle, but, once it has been seen, it is believed just as firmly. And, when I'm not overwhelmed by prejudices and my thoughts aren't besieged by images of sensible things, there surely is nothing that I know earlier or more easily than facts about God. For what is more self-evident than there is a supreme entity—that God, the only thing whose existence belongs to His essence, exists?

While I need to pay careful attention in order to grasp this, I'm now as certain of it as of anything that seems most certain. In addition, I now see that the certainty of everything else so depends on it that, if I weren't certain of it, I couldn't know anything perfectly.

Of course, my nature is such that, when I grasp something clearly and distinctly, I can't fail to believe it. But my nature is also such that I can't permanently fix my attention on a single thing so as always to grasp it clearly, and memories of previous judgments often come to me when I am no longer attending to the grounds on which I originally made them. Accordingly, if I were ignorant of God, arguments could be produced that would easily overthrow my opinions, and I therefore would have unstable and changing opinions rather than true and certain knowledge. For example, when I consider the nature of the triangle, it seems plain to me—steeped as I am in the principles of geometry—that its three angles equal two right angles: I can't fail to believe this as long as I pay attention to its demonstration. But, if I were ignorant of God, I might come to doubt its truth as soon as my mind's eye turned away from its demonstration, even if I recalled having once grasped it clearly. For I could convince myself that I've been so constructed by nature that I sometimes err about what I believe myself to grasp most plainly—especially if I remember that, having taken many things to be true and certain, I had later found grounds on which to judge them false.

But now I grasp that God exists, and I understand both that everything else depends on Him and that He's not a deceiver. From this, I infer that everything I clearly and distinctly grasp must be true. Even if I no longer pay attention to the grounds on which I judged God to exist, my recollection that I once clearly and distinctly knew Him to exist ensures that no contrary

ground can be produced to push me towards doubt. About God's existence, I have true and certain knowledge. And I have such knowledge, not just about this one thing, but about everything else that I remember having proven, like the theorems of geometry. For what can now be said against my believing these things? That I am so constructed that I always err? But I now know that I can't err about what I clearly understand. That much of what I took to be true and certain I later found to be false? But I didn't grasp any of these things clearly and distinctly; ignorant of the true standard of truth, I based my belief on grounds that I later found to be unsound. Then what can be said? What about the objection (which I recently used against myself) that I may be dreaming and that the things I'm now experiencing may be as unreal as those that occur to me in sleep? No, even this is irrelevant. For, even if I am dreaming, everything that is evident to my understanding must be true.

Thus I plainly see that the certainty and truth of all my knowledge derives from one thing: my thought of the true God. Before I knew Him, I couldn't know anything else perfectly. But now I can plainly and certainly know innumerable things, not only about God and other mental beings, but also about the nature of physical objects, insofar as it is the subject-matter of pure mathematics.

Commentary and Questions

This brief meditation is a transition to the more important sixth meditation. Though Descartes says at the beginning that he wants to investigate whether anything can be known about material things (so far, only God and the soul are known), he doesn't solve that problem here. But he does take a significant step toward its solution. And, along the way, he discovers a third proof that God exists.

Again we find the typical Cartesian strategy at work. He wants to know whether **material things** exist independently of himself. How can he proceed? He can't just look to see because he has put the testimony of the senses in doubt. So he must consider more carefully the *idea* of material things, which is all that is available to him. And again he finds that some of these ideas are confused and obscure, while others are clear and distinct. The latter are those of extension, duration, and movement—the qualities that can be treated geometrically or mathematically. Material things, if

there are any, are essentially extended volumes.* Once we are clear about their *essence*, it makes sense to inquire about their *existence*; and that is the subject of *Meditation VI*.

Note that these mathematical ideas are not just imaginary inventions. I cannot put them together any way I like, as I can construct fantastic creatures by combining heads, bodies, and hides at will. I may not yet know whether there are any triangular things outside myself, but the idea of a triangle "can't be said to be nothing" (p. 341). It has a *nature* that is "immutable and eternal." This nature does not depend on me.

The point can be put in this way. Suppose you imagine a creature with wings covered with scales, a long furry tail, six legs, and an elephantlike nose covered with spikes. Then I ask you, does this creature have a liver? You will have to *invent* the answer. You cannot discover it. But if you imagine a triangle and I ask you whether the interior angles equal two right angles, you do not have to invent an answer. Even if you had never thought about that question before, you could investigate and discover that the answer is yes. With respect to these geometrical properties, there are *truths*.† And these, remember, are the very properties that determine the essence of material things.

Since the idea of a material thing is the idea of something extended, and since extended things can be treated geometrically, it follows that the *idea* of a material thing is clear and distinct. Material substances have an essence or nature that would make a *science* of them a possibility—if only we could be assured that they exist. And we know that such a science is a possibility merely from an examination

of their ideas. So, provided we can discover a proof that some *formal* reality corresponds to the *subjective* reality of our ideas of material things, we can have a science of material things. In this way, then, he hopes to give a metaphysical foundation to his mechanistic physics.

The discovery that certain ideas have a nature or essence of their own, quite independent of our inventions, also supplies Descartes with material for a third proof of God's existence.* If we simply pay close attention to what is necessarily involved in our idea of *what* God is (his essence or nature), we can discover, Descartes argues, *that* God is (that he exists). God's existence is included in his essence. Notice that, unlike the first two arguments, this is not a *causal* proof. In its bare essentials, it looks like this:

1. God, by definition, is a being of infinite perfection.
2. Existence is a perfection (that is, no being could be perfect that lacked it).
3. So God exists.

Q40. Is the argument valid?

Q41. Can the premises be questioned?

This last proof of God's existence allows Descartes to lay to rest a final worry that has been tormenting him. You really cannot help believing, he suggests, that your clear and distinct thoughts are true—while you are thinking them. But later you may not be so sure! You may then think you were dreaming what earlier seemed so certain. But now this worry can be dealt with. And *Meditation V* closes on a note of reassurance.

Q42. How are the dream and demon worries finally disposed of?

Q43. Can an atheist do science? (See the last paragraph.)

*Review the discussion of the bit of wax in *Meditation II* and on p. 329.

†Socrates thinks that we can never be taught anything other than what we in some sense already know; what we call "learning" is in fact just remembering. (See p. 141.) Descartes alludes to this doctrine here; in discovering the properties of a triangle I am "noticing for the first time something that had long been in me without my having turned my mind's eye towards it." Descartes is not, however, committed to the Socratic doctrine of the preexistence of the soul as an explanation of this phenomenon, since he thinks God's creation of a soul possessing certain innate ideas will suffice.

*This proof is a version of the ontological argument first worked out by Anselm of Canterbury in the eleventh century. See Chapter 11.

Meditation VI: On the Existence of Material Objects and the Real Distinction of Mind from Body

It remains for me to examine whether material objects exist. Insofar as they are the subject of pure mathematics, I now know at least that they can exist, because I grasp them clearly and distinctly. For God can undoubtedly make whatever I can grasp in this way, and I never judge that something is impossible for Him to make unless there would be a contradiction in my grasping the thing distinctly. Also, the fact that I find myself having mental images when I turn my attention to physical objects seems to imply that these objects really do exist. For, when I pay careful attention to what it is to have a mental image, it seems to me that it's just the application of my power of thought to a certain body which is immediately present to it and which must therefore exist.

To clarify this, I'll examine the difference between having a mental image and having a pure understanding. When I have a mental image of a triangle, for example, I don't just understand that it is a figure bounded by three lines; I also "look at" the lines as though they were present to my mind's eye. And this is what I call having a mental image. When I want to think of a chiliagon, I understand that it is a figure with a thousand sides as well as I understand that a triangle is a figure with three, but I can't imagine its sides or "look" at them as though they were present. Being accustomed to using images when I think about physical objects, I may confusedly picture some figure to myself, but this figure obviously is not a chiliagon—for it in no way differs from what I present to myself when thinking about a myriagon or any other many sided figure, and it doesn't help me to discern the properties that distinguish chiliagons from other polygons. If it's a pentagon that is in question, I can understand its shape, as I can that of the chiliagon, without the aid of mental images. But I can also get a mental image of the pentagon by directing my mind's eye to its five lines and to the area that they bound. And it's obvious to me that getting this mental image requires a special mental effort different from that needed for understanding—a special effort which clearly reveals the difference between having a mental image and having a pure understanding.

It also seems to me that my power of having mental images, being distinct from my power of understanding, is not essential to my self or, in other words, to my mind—for, if I were to lose this ability, I would

surely remain the same thing that I now am. And it seems to follow that this ability depends on something distinct from me. If we suppose that there is a body so associated with my mind that the mind can "look into" it at will, it's easy to understand how my mind might get mental images of physical objects by means of my body. If there were such a body, the mode of thinking that we call imagination would differ from pure understanding in only one way: when the mind understood something, it would turn "inward" and view an idea that it found in itself, but, when it had mental images, it would turn to the body and look at something there which resembled an idea that it had understood by itself or had grasped by sense. As I've said, then, it's easy to see how I get mental images, if we supposed that my body exists. And, since I don't have in mind any other equally plausible explanation of my ability to have mental images, I conjecture that physical objects probably do exist. But this conjecture is only probable. Despite my careful and thorough investigation, the distinct idea of bodily nature that I get from mental images does not seem to have anything in it from which the conclusion that physical objects exist validly follows.

Besides having a mental image of the bodily nature that is the subject-matter of pure mathematics, I have mental images of things which are not so distinct—things like colors, sounds, flavors, and pains. But I seem to grasp these things better by sense, from which they seem to come (with the aid of memory) to the understanding. Thus, to deal with these things more fully, I must examine the senses and see whether there is anything in the mode of awareness that I call sensation from which I can draw a conclusive argument for the existence of physical objects.

First, I'll remind myself of the things that I believed really to be as I perceived them and of the grounds for my belief. Next, I'll set out the grounds on which I later called this belief into doubt. And, finally, I'll consider what I ought to think now.

To begin with, I sensed that I had a head, hands, feet, and the other members that make up a human body. I viewed this body as part, or maybe even as all, of me. I sensed that it was influenced by other physical objects whose effects could be either beneficial or harmful. I judged these effects to be beneficial to the extent that I felt pleasant sensations and harmful to the extent that I felt pain. And, in addition to sensations of pain and pleasure, I sensed hunger, thirst, and other such desires—and also bodily inclinations towards cheerfulness, sadness, and other emotions. Outside me, I sensed, not just extension, shape, and motion,

but also hardness, hotness, and other qualities detected by touch. I also sensed light, color, odor, taste, and sound—qualities by whose variation I distinguished such things as the sky, earth, and sea from one another.

In view of these ideas of qualities (which presented themselves to my thought and were all that I really sensed directly), I had some reason for believing that I sensed objects distinct from my thought—physical objects from which the ideas came. For I found that these ideas came to me independently of my desires so that, however much I tried, I couldn't sense an object when it wasn't present to an organ of sense or fail to sense one when it was present. And, since the ideas that I grasped by sense were much livelier, more explicit, and (in their own way) more distinct than those I deliberately created or found impressed in my memory, it seemed that these ideas could not have come from me and thus that they came from something else. Having no conception of these things other than that suggested by my sensory ideas, I could only think that the things resembled the ideas. Indeed, since I remembered using my senses before my reason, since I found the ideas that I created in myself to be less explicit than those grasped by sense, and since I found the ideas that I created to be composed largely of those that I had grasped by sense, I easily convinced myself that I didn't understand anything at all unless I had first sensed it.

I also had some reason for supposing that a certain physical object, which I viewed as belonging to me in a special way, was related to me more closely than any other. I couldn't be separated from it as I could from other physical objects; I felt all of my emotions and desires in it and because of it; and I was aware of pains and pleasant feelings in it but in nothing else. I didn't know why sadness goes with the sensation of pain or why joy goes with sensory stimulation. I didn't know why the stomach twittings that I call hunger warn me that I need to eat or why dryness in my throat warns me that I need to drink. Seeing no connection between stomach twittings and the desire to eat or between the sensation of a pain-producing thing and the consequent awareness of sadness, I could only say that I had been taught the connection by nature. And nature seems also to have taught me everything else that I knew about the objects of sensation—for I convinced myself that the sensations came to me in a certain way before having found grounds on which to prove that they did.

But, since then, many experiences have shaken my faith in the senses. Towers that seemed round from a distance sometimes looked square from close up, and huge statues on pediments sometimes didn't look

big when seen from the ground. In innumerable such cases, I found the judgments of the external senses to be wrong. And the same holds for the internal senses. What is felt more inwardly than pain? Yet I had heard that people with amputated arms and legs sometimes seem to feel pain in the missing limb, and it therefore didn't seem perfectly certain to me that the limb in which I feel a pain is always the one that hurts. And, to these grounds for doubt, I've recently added two that are very general: First, since I didn't believe myself to sense anything while awake that I couldn't also take myself to sense in a dream, and since I didn't believe that what I sense in sleep comes from objects outside me, I didn't see why I should believe what I sense while awake comes from such objects. Second, since I didn't yet know my creator (or, rather, since I supposed that I didn't know Him), I saw nothing to rule out my having been so designed by nature that I'm deceived even in what seems most obviously true to me.

And I could easily refute the reasoning by which I convinced myself of the reality of sensible things. Since my nature seemed to impel me toward many things that my reason rejected, I didn't believe that I ought to have much faith in nature's teachings. And, while my will didn't control my sense perceptions, I didn't believe it to follow that these perceptions came from outside me, since I thought that the ability to produce these ideas might be in me without my being aware of it.

Now that I've begun to know myself and my creator better, I still believe that I oughtn't blindly to accept everything that I seem to get from the senses. Yet I no longer believe that I ought to call it all into doubt.

In the first place, I know that everything that I clearly and distinctly understand can be made by God to be exactly as I understand it. The fact that I can clearly and distinctly understand one thing apart from another is therefore enough to make me certain that it is distinct from the other, since the things could be separated by God if not by something else. (I judge the things to be distinct regardless of the power needed to make them exist separately.) Accordingly, from the fact that I have gained knowledge of my existence without noticing anything about my nature or essence except that I am a thinking thing, I can rightly conclude that my essence consists solely in the fact that I am a thinking thing. It's possible (or, as I will say later, it's certain) that I have a body which is very tightly bound to me. But, on the one hand, I have a clear and distinct idea of myself insofar as I am just a thinking and unextended thing, and, on the other hand, I have a distinct idea of my body insofar as it is just an extended and unthinking thing. It's certain,

then, that I am really distinct from my body and can exist without it.

In addition, I find in myself abilities for special modes of awareness, like the abilities to have mental images and to sense. I can clearly and distinctly conceive of my whole self as something that lacks these abilities, but I can't conceive of the abilities' existing without me, or without an understanding substance in which to reside. Since the conception of these abilities includes the conception of something that understands, I see that these abilities are distinct from me in the way that a thing's properties are distinct from the thing itself.

I recognize other abilities in me, like the ability to move around and to assume various postures. These abilities can't be understood to exist apart from a substance in which they reside any more than the abilities to imagine and sense, and they therefore cannot exist without such a substance. But it's obvious that, if these abilities do exist, the substance in which they reside must be a body or extended substance rather than an understanding one—for the clear and distinct conceptions of these abilities contain extension but not understanding.

There is also in me, however, a passive ability to sense—to receive and recognize ideas of sensible things. But, I wouldn't be able to put this ability to use if there weren't, either in me or in something else, an active power to produce or make sensory ideas. Since this active power doesn't presuppose understanding, and since it often produces ideas in me without my cooperation and even against my will, it cannot exist in me. Therefore, this power must exist in a substance distinct from me. And, for reasons that I've noted, this substance must contain, either formally or eminently, all the reality that is contained subjectively in the ideas that the power produces. Either this substance is a physical object (a thing of bodily nature that contains formally the reality that the idea contains subjectively), or it is God or one of His creations that is higher than a physical object (something that contains this reality eminently). But, since God isn't a deceiver, it's completely obvious that He doesn't send these ideas to me directly or by means of a creation that contains their reality eminently rather than formally. For, since He has not given me any ability to recognize that these ideas are sent by Him or by creations other than physical objects, and since He has given me a strong inclination to believe that the ideas come from physical objects, I see no way to avoid the conclusion that He deceives me if the ideas are sent to me by anything other than physical objects. It follows that physical objects exist. These objects

may not exist exactly as I comprehend them by sense; in many ways, sensory comprehension is obscure and confused. But these objects must at least have in them everything that I clearly and distinctly understand them to have—every general property within the scope of pure mathematics.

But what about particular properties, such as the size and shape of the sun? And what about things that I understand less clearly than mathematical properties, like light, sound, and pain? These are open to doubt. But, since God isn't a deceiver, and since I therefore have the God-given ability to correct any falsity that may be in my beliefs, I have high hopes of finding the truth about even these things. There is undoubtedly some truth in everything I have been taught by nature—for, when I use the term "nature" in its general sense, I refer to God Himself or to the order that He has established in the created world, and, when I apply the term specifically to *my* nature, I refer to the collection of everything that God has given *me*.

Nature teaches me nothing more explicitly, however, than that I have a body which is hurt when I feel pain, which needs food or drink when I experience hunger or thirst, and so on. Accordingly, I ought not to doubt that there is some truth to this.

Through sensations like pain, hunger, and thirst, nature also teaches me that I am not present in my body in the way that a sailor is present in his ship. Rather, I am very tightly bound to my body and so "mixed up" with it that we form a single thing. If this weren't so, I—who am just a thinking thing—wouldn't feel pain when my body was injured; I would perceive the injury by pure understanding in the way that a sailor sees the leaks in his ship with his eyes. And, when my body needed food or drink, I would explicitly understand that the need existed without having the confused sensations of hunger and thirst. For the sensations of thirst, hunger, and pain are just confused modifications of thought arising from the union and "mixture" of mind and body.

Also, nature teaches me that there are other physical objects around my body—some that I ought to seek and others that I ought to avoid. From the fact that I sense things like colors, sound, odors, flavors, temperatures, and hardnesses, I correctly infer that sense perceptions come from physical objects that vary as widely (though perhaps not in the same way) as the perceptions do. And, from the fact that some of these perceptions are pleasant while others are unpleasant, I infer with certainty that my body—or, rather, my whole self which consists of a body and a mind—can be benefited and harmed by the physical objects around it.

There are many other things that I seem to have been taught by nature but that I have really accepted out of a habit of thoughtless judgment. These things may well be false. Among them are the judgments that a space is empty if nothing in it happens to affect my senses; that a hot physical object has something in it resembling my idea of heat; that a white or green thing has in it the same whiteness or greenness that I sense; that a bitter or sweet thing has in it the same flavor that I taste; that stars, towers, and other physical objects have the same size and shape that they present to my senses; and so on.

If I am to avoid accepting what is indistinct in these cases, I must more carefully explain my use of the phrase "taught by nature." In particular, I should say that I am now using the term "nature" in a narrower sense than when I took it to refer to the whole complex of what God has given me. This complex includes much having to do with my mind alone (such as my grasp of the fact that what is done cannot be undone and of the rest of what I know by the light of nature) which does not bear on what I am now saying. And the complex also includes much having to do with my body alone (such as its tendency to go downward) with which I am not dealing now. I'm now using the term "nature" to refer only to what God has given me insofar as I am a composite of mind and body. It is this nature that teaches me to avoid that which occasions painful sensations, to seek that which occasions pleasant sensations, and so on. But this nature seems not to teach me to draw conclusions about external objects from sense perceptions without first having examined the matter with my understanding—for true knowledge of external things seems to belong to the mind alone, not to the composite of mind and body.

Thus, while a star has no more effect on my eye than a flame, this does not really produce a positive inclination to believe that the star is as small as the flame; for my youthful judgment about the size of the flame, I had no real grounds. And, while I feel heat when I approach a fire and pain when I draw nearer, I have absolutely no reason for believing that something in the fire resembles the heat, just as I have no reason for believing that something in the fire resembles the pain; I only have reason for believing that there is something or other in the fire that produces the feelings of heat and pain. And, although there may be nothing in a given region of space that affects my senses, it doesn't follow that there aren't any physical objects in that space. Rather I now see that, on these matters and others, I used to pervert the natural order of things. For, while nature has given sense perceptions to my mind for the sole purpose of indicating what is beneficial and what harmful to the composite

of which my mind is a part, and while the perceptions are sufficiently clear and distinct for that purpose, I used these perceptions as standards for identifying the essence of physical objects—an essence which they only reveal obscurely and confusedly.

I've already explained how it can be that, despite God's goodness, my judgments can be false. But a new difficulty arises here—one having to do with the things that nature presents to me as desirable or undesirable and also with the errors that I seem to have found in my internal sensations. One of these errors seems to be committed, for example, when a man is fooled by some food's pleasant taste into eating poison hidden in that food. But surely, in this case, what the man's nature impels him to eat is the good tasting food, not the poison of which he knows nothing. We can draw no conclusion except that his nature isn't omniscient, and this conclusion isn't surprising. Since a man is a limited thing, he can only have limited perfections.

Still, we often err in cases in which nature does impel us. This happens, for example, when sick people want food or drink that would quickly harm them. To say that these people err as a result of the corruption of their nature does not solve the problem—for a sick man is no less a creation of God than a well one, and it seems as absurd to suppose that God has given him a deceptive nature. A clock made of wheels and weights follows the natural laws just as precisely when it is poorly made and inaccurate as when it does everything that its maker wants. Thus, if I regard a human body as a machine made up of bones, nerves, muscles, veins, blood, and skin such that even without a mind it would do just what it does now (except for things that require a mind because they are controlled by the will), it's easy to see that what happens to a sick man is no less "natural" than what happens to a well one. For instance, if a body suffers from dropsy, it has a dry throat of the sort that regularly brings the sensation of thirst to the mind, the dryness disposes the nerves and other organs to drink, and the drinking makes the illness worse. But this is just as natural as when a similar dryness of throat moves a person who is perfectly healthy to take a drink that is beneficial. Bearing in mind my conception of a clock's use, I might say that an inaccurate clock departs from its nature, and, similarly, viewing the machine of the human body as designed for its usual motions, I can say that it drifts away from its nature if it has a dry throat when drinking will not help to maintain it. I should note, however, that the sense in which I am now using the term "nature" differs from that in which I used it before. For, as I have just used the term "nature," the nature of a man (or clock) is something that depends on my thinking of the difference

between a sick and a well man (or of the difference between a poorly made and a well-made clock)—something regarded as extrinsic to the things. But, when I used “nature” before, I referred to something which is in things and which therefore has some reality.

It may be that we just offer an extrinsic description of a body suffering from dropsy when, noting that it has a dry throat but doesn’t need to drink, we say that its nature is corrupted. Still, the description is not purely extrinsic when we say that a composite or union of mind and body has a corrupted nature. There is a real fault in the composite’s nature, for it is thirsty when drinking would be harmful. It therefore remains to be asked why God’s goodness doesn’t prevent *this* nature’s being deceptive.

To begin the answer, I’ll note that mind differs importantly from body in that body is by its nature divisible while mind is indivisible. When I think about my mind—or, in other words, about myself insofar as I am just a thinking thing—I can’t distinguish any parts in me; I understand myself to be a single, unified thing. Although my whole mind seems united to my whole body, I know that cutting off a foot, arm, or other limb would not take anything away from my mind. The abilities to will, sense, understand, and so on can’t be called parts, since it’s one and the same mind that wills, senses, and understands. On the other hand, whenever I think of a physical or extended thing, I can mentally divide it, and I therefore understand that the object is divisible. This single fact would be enough to teach me that my mind and body are distinct, if I hadn’t already learned that in another way.

Next, I notice that the mind isn’t directly affected by all parts of the body, but only by the brain—or maybe just by the small part of the brain containing the so-called “common sense.” Whenever this part of the brain is in a given state, it presents the same thing to the mind, regardless of what is happening in the rest of the body (as is shown by innumerable experiments that I need not review here).

In addition, I notice that the nature of body is such that, if a first part can be moved by a second that is far away, the first part can be moved in exactly the same way by something between the first and second without the second part’s being affected. For example, if A, B, C, and D are points on a cord, and if the first point (A) can be moved in a certain way by a pull on the last point (D), then A can be moved in the same way by a pull on one of the middle points (B or C) without D’s being moved. Similarly, science teaches me that, when my foot hurts, the sensation of pain is produced by nerves distributed throughout the foot which extend like cords

from there to the brain. When pulled in the foot, these nerves pull the central parts of the brain to which they are attached, moving those parts in ways designated by nature to present the mind with the sensation of a pain “in the foot.” But, since these nerves pass through the shins, thighs, hips, back, and neck on their way from foot to brain, it can happen that their being touched in the middle, rather than at the end of the foot, produces the same motion in the brain as when the foot is hurt and, hence, that the mind feels the same pain “in the foot.” And the point holds for other sensations as well.

Finally, I notice that, since only one sensation can be produced by a given motion of the part of the brain that directly affects the mind, the best conceivable sensation for it to produce is the one that is most often useful for the maintenance of the healthy man. Experience teaches that all the sensations put in us by nature are of this sort and therefore that everything in our sensations testifies to God’s power and goodness. For example, when the nerves in the foot are moved with unusual violence, the motion is communicated through the middle of the spine to the center of the brain, where it signals the mind to sense a pain “in the foot.” This urges the mind to view the pain’s cause as harmful to the foot and to do what it can to remove that cause. Of course, God could have so designed man’s nature that the same motion of the brain presented something else to the mind, like the motion in the brain, or the motion in the foot, or a motion somewhere between the brain and foot. But no alternative to the way things are would be as conducive to the maintenance of the body. Similarly, when we need drink, the throat becomes dry, the dryness moves the nerves of the throat thereby moving the center of the brain, and the brain’s movements cause the sensation of thirst in the mind. It’s the sensation of thirst that is produced, because no information about our condition is more useful to us than that we need to get something to drink in order to remain healthy. And the same is true in other cases.

This makes it completely obvious that, despite God’s immense goodness, the nature of man (whom we now view as a composite of mind and body) cannot fail to be deceptive. For, if something produces the movement usually associated with an injured foot in the nerve running from foot to brain or in the brain itself rather than in the foot, a pain is felt as if “in the foot.” Here the senses are deceived by their nature. Since this motion in the brain must always bring the same sensation to mind, and since the motion’s cause is something hurting the foot more often than something elsewhere, it’s in accordance with reason that the motion always presents the mind a pain in the foot rather than elsewhere.

And, if dryness of the throat arises, not (as usual) from drink's being conducive to the body's health, but (as happens in dropsy) from some other cause, it's much better that we are deceived on this occasion than that we are generally deceived when our bodies are sound. And the same holds for other cases.

In addition to helping me to be aware of the errors to which my nature is subject, these reflections help me readily to correct or avoid these errors. I know that sensory indications of what is good for my body are more often true than false; I can almost always examine a given thing with several senses; and I can also use my memory (which connects the present to the past) and my understanding (which has now examined all the causes of error). Hence, I need no longer fear that what the senses daily show me is unreal. I should reject the exaggerated doubts of the past few days as ridiculous. This is especially true of the chief ground for these doubts—namely, my inability to distinguish dreaming from being awake. For I now notice that dreaming and being awake are importantly different: the events in dreams are not linked by memory to the rest of my life like those that happen while I am awake. If, while I'm awake, someone were suddenly to appear and then immediately to disappear without my seeing where he came from or went to (as happens in dreams), I would justifiably judge that he was not a real man but a ghost—or, better an apparition created in my brain. But, if I distinctly observe something's source, its place, and the time at which I learn about it, and if I grasp an unbroken connection between it and the rest of my life, I'm quite sure that it is something in my waking life rather than in a dream. And I ought not to have the slightest doubt about the reality of such things if I have examined them with all my senses, my memory, and my understanding without finding any conflicting evidence. For, from the fact that God is not a deceiver, it follows that I am not deceived in any case of this sort. Since the need to act does not always allow time for such a careful examination, however, we must admit the likelihood of men's erring about particular things and acknowledge the weakness of our nature.

Commentary and Questions

We now know what the essence of material things is: To be such a thing is to be extended in space in three dimensions, to have shape and size, to endure, and to be movable and changeable in these dimensions. This is what a material thing would be—if there were any. At last we face the haunting question: Are there any?

The first thing to note is that they *can* exist.

Q44. What is Descartes' reason for thinking this?

If, moreover, we examine our *images* of material things, it seems that the imagination produces these images by turning "to the body" and looking "at something there" (p. 345). It is as though a representation of a triangle were physically stored in the body (or brain); and imagination is looking, not at a real triangular thing, but at that stored representation. Because we can undoubtedly form mental images, it certainly seems as though some material things exist—namely, our bodies.

But to make this clearer, Descartes draws a sharp distinction between **imagining** something and **conceiving** it.

Q45. How does the example comparing the triangle with the chiliagon help to clarify this distinction? (See p. 345.)

We still have no proof, of course, that there are any bodies. But again, progress has been made; for we now have an account of how one of the faculties of the mind works—on the assumption that there really are bodies. If we can find a proof of this assumption, it will "fit" with what we know about our mental capacities.

Descartes now turns from imagining to sensing. On pages 345–346, he reviews again his reasons for confidence in the senses and then his reasons for doubt.* At the end of this review he concludes

*In the course of this review he paraphrases one of the basic principles of Thomas Aquinas, who derives it from Aristotle: There is no idea in the intellect, which was not previously in the senses. This is, for instance, the foundation for Aquinas' rejection of the ontological argument (see p. 270). Descartes allows that this principle is superficially plausible, but in the light of his skeptical doubts he considers it naive. Not only do we know that we have ideas before we know we have senses, we know that some of these ideas must be innate—that is, they could not plausibly be derived from sensible experience. Such are the ideas of thing, thought, truth, and God.

again that what he is taught "by nature" does not deserve much credence.

However, the situation is now very different from that of the first *Meditation*. For now he knows that God exists and is not a deceiver. And in short order Descartes offers proofs that the soul is distinct from the body and that material things exist. Both of these depend on clear ideas of the essence of material things, which he arrived at in the fifth *Meditation*.

Here, in outline, is his proof for the distinctness of soul from body.

1. God can create anything that I can clearly and distinctly conceive—there being no impossibility in it.
2. If God can create one thing independently of another, the first thing is distinct from the second.
3. I have a clear and distinct idea of my essence as a thinking thing.
4. So God can create a thinking thing (a soul) independently of a body.
5. I also have a clear and distinct idea of my body as an extended thing—its essence.
6. So God can create a body independently of a soul.
7. So my soul is a reality distinct from my body.
8. So I, as a thinking thing (soul), can exist without my body.

Q46. How sound is this argument? What are the weak points, if any?

Q47. Is there a tension between the conclusion of this argument and Descartes' assertion (p. 347) that I am *not* in my body the way a sailor is in his ship?*

Descartes' proof for the reality of material things goes roughly like this:

1. I have a "strong inclination" to believe in the reality of the material (extended) things that I seem to sense. (To put it another way, their independent reality seems to be one of the things I am "taught by nature.")

*Compare the use that Aquinas makes of this same image, p. 279.

2. God must have created me with this inclination.
3. If material things do not exist independently, then God is a deceiver.
4. But God is not a deceiver.
5. So material things exist with those properties I conceive to be essential to them.

Q48. Evaluate the soundness of this argument.

At this point, Descartes has, he thinks, achieved his main objectives. Skepticism and solipsism have been defeated. The basic structure of reality has been delineated: God, souls, and material things. Reality, then, is composed of infinite substance and two kinds of finite substances—thinking and extended. The bridge has been built. Knowledge has been shown to be possible. Physics has been supplied with a foundation in metaphysics. And all this with a certainty that rivals that of geometry!

The rest of *Meditation VI* attends to a few details that are still left.

Q49. Compare what Descartes says on p. 348 with Galileo's view of "secondary qualities" (pp. 310–311).

Q50. If the senses present external things in such an inadequate way, what use are they?

Q51. How are we to account for certain errors the senses seem to lead us to—such as the pain in an amputated limb or the desire of a person with dropsy (edema) to drink?

Q52. What is the final disposition of the problem arising from dreams?

What Has Descartes Done?

It is possible to argue whether Descartes is the last of the medievals or the first of the moderns. Like most such arguments about transitional figures, there is truth on both sides. But that both philosophy and our general view of the world have been different ever since is indisputable. Descartes develops a philosophy that reflects the newly developing sciences and, in turn, gives them a legitimacy

they otherwise lack. A measure of his lasting influence is the fact that a significant part of philosophy since World War I has been devoted to showing that he was crucially wrong about some basic things (which would not be worth doing unless his influence was still powerfully felt).^{*} Descartes is our ancestor.

Let us sum up several key features of his thought and then indicate where certain problems crop up.

A NEW IDEAL FOR KNOWLEDGE

One commentator says of the Cartesian revolution that it "stands for the substitution of free inquiry for submission to authority, for the rejection of Faith without reason for faith in reason, and the replacement of Faith by Demonstration."⁶ Though Descartes is far from trying to reject religious belief (indeed, he thinks he can rationally justify its two most important parts, God and the soul), in the last analysis everything comes down to what the rational mind finds clear and distinct enough to be indubitable. Nothing else will be accepted, regardless of its antiquity or traditional claims to authority. We each contain within ourselves the criterion for truth and knowledge. This radical individualism is qualified only by the conviction that rationality is the same for every individual (just as mathematics is the same for all). No longer can we put the responsibility for deciding what to believe on someone else, whether priest, pope, or king. It lies squarely on each of us.

Moreover, the ideal for such belief is the clarity and certainty of mathematics. Probability or plausibility is not enough. Being vaguely right is not enough. The habits of thought developed in us by nature are not enough. By analysis we can resolve problems into their simple elements; by intuition we can see their truth; and by demonstration we can move to necessary consequences. Knowledge has the structure of an axiomatic system. All this is possible. Anything less is unacceptable. To be faithful to this ideal is to free oneself from error and to attain truth.

^{*}Among the critics are C. S. Peirce, Martin Heidegger, Ludwig Wittgenstein, Willard Quine, Richard Rorty, and Daniel Dennett. See the chapters on their philosophies.

In all this Descartes deserves his reputation as Prince of the Rationalists.^{*} The ultimate court of appeal is reason—the light of nature. We ought to rely on intellect rather than sense, on intuition and deduction rather than imagination; "for true knowledge of external things seems to belong to the mind alone, not the composite of mind and body" (p. 348).

A NEW VISION OF REALITY

Descartes' metaphysics makes explicit and complete the worldview that was emerging already in the work of Copernicus, Kepler, and Galileo. Our world is a giant mechanism, not unlike a clock (see Descartes' analogy on p. 348). It was, to be sure, created by God. But now it runs on the principles of mechanics, and our science is mechanistic in principle. If we abstract from the fact of creation, the entire material universe, including the human body, is just a complex machine. The world has become a secular world. What happens can be explained and predicted without reference to any purposes or intentions of the creator. We are, we might say, worlds away from the intrinsically purposive, inherently value-laden, God-directed world of the medieval. Dante now begins to look like a fairy tale or, at best, a moral allegory with no literal truth value at all. It is, perhaps, no great surprise that the *Meditations* ends up on the index of forbidden books.

There are, to be sure, human minds or souls, and they are not caught up in the mechanism of the material world. They are, in fact, radically free. Even God does not have more freedom than a soul (see *Meditation IV*). But as we'll see, this disparity between soul and body is not so much the solution to a problem as it is a problem in itself.

PROBLEMS

Great as Descartes' achievement is, he bequeaths to his successors a legacy of unsolved problems.

^{*}Though (almost) all philosophers try to reach their conclusions rationally, a rationalist is one who emphasizes the exclusive role of reason in the formation of knowledge. For one of Descartes' most distinguished predecessors in this tradition, see the discussion of the pre-Socratic thinker, Parmenides, in Chapter 2.

There are those who refuse to accept his radical beginning point and remain true to a more traditional approach, usually Aristotelian. But his methodological doubt has been powerfully persuasive to many, and the continued progress of physics seems to be evidence that his basic view of the world is correct. For the next hundred and fifty years, Cartesianism, together with its variants, will be the dominating philosophy on the European continent. As we'll see, different assumptions are at work in Britain, but even here the Cartesian spirit of independence is pervasive. Still, there are nagging worries. Let us note three of them.

The Place of Humans in the World of Nature

Descartes is intent on legitimizing the new science. And this he does. But what place is there for us in the universe of the new physics? Is it plausible to think that we, too, are just cogs in this universal machine? We assume that we have purposes and act to realize certain values. But where is there room for purposes and values in this mechanistic world? Is our assumption just an illusion? We assume that we can make a difference in the outcome of physical processes. But if the world is a closed mechanism, how can this be? We experience ourselves as conscious beings, aware of ourselves and the world around us. But can a machine be conscious? These are very contemporary questions, the sort cognitive science aims to sort out and solve.

All these questions force themselves on us once we take Descartes' vision of the universe seriously. Descartes is not unaware of them. His basic strategy for dealing with them consists in the radical split that he makes between mind and body. Bodies, he holds, are parts of the mechanical universe; minds are not. Physics can deal with the body, but not with the mind. We know that we are not merely automata because (1) we can use language, and (2) we are flexible and adaptable in a way no machine could be; reason, Descartes says, "is a universal instrument which can be used in all kinds of situations." It is quite possible, he says, that we could construct a machine that utters words—even one that utters words corresponding

to movements of its body. But it is not possible, he thinks, for a machine to "give an appropriately meaningful answer to whatever is said in its presence, as the dullest of men can do" (*DM* 6.56–57, p. 120).*

But merely dividing mind from body does not completely solve the problem. The question arises, How are they related?

The Mind and the Body

Descartes concludes that the mind is one thing and the body another; each is so independent of the other that either could exist without the other. They are, moreover, of a radically different character. The essence of a mind is thinking; minds are in no sense extended objects. The essence of a material thing is extension; but extended things such as bodies cannot think. Still, he says, mind and body are so intimately related as to form "a single unified thing" (p. 347).

But how can I be two things and yet one single thing? No explanation is given. Clearly he must insist that what happens to the body affects the mind, as when I get hungry, or am hurt, or open my eyes to a blue wall in daylight. And what the mind decides, the body may do, as when I choose to walk or eat an ice cream cone. There seems to be a two-way causal relation between mind and body. This view is called **interactionism**.



"What is matter?—Never mind.

What is mind?—No matter."

Punch

Yet it is completely puzzling how this can be. How can something that is not extended reach into the closed system of the mechanical world and work a change there, where all changes are governed by mechanical principles? And how can an alteration in the shape or position of certain material particles cause us to feel sad or think of Cleveland?

*This, of course, is precisely the aim of research on artificial intelligence. Will it be successful? Descartes bets not.

No explanation is forthcoming. It seems entirely mysterious. To save the integrity of his physics, Descartes pushes the mental out of the physical world entirely. But then it is inexplicable how physics itself can be done at all, since it seems to depend on interactions between nonphysical minds and physical bodies. Here is the problem that Schopenhauer would later call "the world knot." It is safe to say that a philosophy that does not solve the mind-body problem cannot be considered entirely acceptable.

God and the Problem of Skepticism

As we have seen, Descartes takes the skeptical problem *very seriously*. He pushes skeptical arguments about as far as they can be pushed, and he thinks that in the *cogito* he has found the key to overcoming skepticism. But even if we grant that each of us knows, by virtue of the *cogito*, that we exist, knowledge of the *world* depends on the fact that God is not a deceiver. And that depends on the proofs for the existence of God.

What if those proofs are faulty? Then I am back again in solipsism, without a guarantee that anything exists beyond myself. Are the proofs—or at least one of them—satisfactory? Descartes is quite clear that everything depends on that question; "the certainty and truth of all my knowledge derives from one thing: my thought of the true God" (p. 343). He is sure that the proofs are as secure as the theorems of geometry. But is he right about that?

THE PREEMINENCE OF EPISTEMOLOGY

In earlier philosophies there are many problems—the one and the many, the nature of reality, explaining change, the soul, the existence of God—and the problem of knowledge is just one among the rest. Descartes' radical skepticism *changes* that. After Descartes and until very recent times most philosophers have thought that epistemological problems are absolutely foundational. Among these problems of knowledge, the problem about knowing the external world is the sharpest and

most dangerous. Can we know anything at all beyond the contents of our minds? Unless this skeptical question can be satisfactorily answered, nothing else can be done. Epistemology is, for better or worse, the heart of philosophy for the next several hundred years.

These are problems that Descartes' successors wrestle with, as we'll see. Next, however, we want to look at a figure who is often neglected in the history of modern philosophy: Thomas Hobbes. Hobbes is more interesting to us than to previous generations, perhaps, because he presents an alternative response to the new science. Some recent thought about the mind—that associated with artificial intelligence—can be regarded as a *struggle to replace the paradigm of Descartes with that of Hobbes*.

FOR FURTHER THOUGHT

Descartes argues that there is no way you could tell that your ideas about the external world were correct unless there were a nondeceptive God to guarantee their basic rightness. Can you think of any way you might be able to know there is a world corresponding to your ideas? Try to construct a view that provides this reassurance without depending on God.

KEY WORDS

Descartes
rules of method
clear and distinct
analysis
insight
deduction
first philosophy
senses
dreams
evil demon
representational theory
cogito
genus and difference
self-evident
thinking thing
ideas

volitions
emotions
judgments
innate ideas
light of nature
subjective reality
formal reality
eminent reality
ex nihilo nihil fit
solipsism
understanding
will
material things
imagining
conceiving
interactionism

NOTES

1. Quoted in S. V. Keeling, *Descartes* (London: Oxford University Press, 1968).
2. Quotations from René Descartes' *Discourse on the Method of Rightly Conducting One's Reason and Seeking the Truth in the Sciences*, in *The Philosophical Writings of Descartes*, ed. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1985), are cited in the text using the abbreviation *DM*. References are to part numbers and page numbers in the classic French edition, followed by page numbers in this edition.
3. Quotations from René Descartes, *The Principles of Philosophy*, in *The Philosophical Works of Descartes*, vol. 1, ed. Elisabeth S. Haldane and G. R. T. Ross (n.p.: Dover Publications, 1955), are cited in the text using the abbreviation *PP*. References are to the classic French edition, followed by the page numbers in this edition.
4. Quoted by Martin Heidegger in *The Way Back into the Ground of Metaphysics*, reprinted in *Existentialism from Dostoevsky to Sartre*, ed. Walter Kaufmann (New York: Merchant Books, 1957).
5. Trans. Ronald Rubin, *Meditations on First Philosophy* (Claremont, CA: Areté Press, 1641/1986).
6. Keeling, *Descartes*, 252.